August 14, 1936

To the Committee on Graduate Study:

I submit herewith a thesis written by Mr. Selmer Reinhart Neskaug and entitled "Agricultural and Social Aspects of the Swiss Settlement in Grundy County, Tennessee", and recommend that it be accepted for eighteen quarter hours credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Economics.

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Major Professor

At the request of the
Committee on Graduate Study,
we have read this thesis,
and recommend its acceptance.

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Accepted by the Committee

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Chairman

AGRICULTURAL AND SOCIAL ASPECTS OF THE SWISS SETTLEMENT

IN

GRUNDY COUNTY, TENNESSEE

-oo-

A THESIS

Submitted to the Graduate Committee
of
The University of Tennessee
in
Partial Fulfillment of the Requirements
for the degree of
Master of Science

By

SELMER REINHART NESKAUG

August, 1936

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CONTENTS

Page

Introduction xi

PART I
AGRICULTURAL ASPECTS OF THE SETTLEMENT

Chapter I. Some Characteristics of Swiss Agriculture in Grundy County 1

General Land Use 1
Farm Layouts 2
Farm Buildings 6
Size of the Farm Business. 7
Size of Farms 7
Investment 8
Labor Income and Size of Business. 9
Roads and Markets 11

Chapter II. Soil Resources and Their Improvement. 12

Early Attempts to Improve the Soil 13
Recent Soil Improvement Practices. 17
Manure. 18
Fertilizers 21
Lime 26
Green Manure. 28
Grass 29
Crop Rotation 30

Chapter III. Field Crops and Fruits 32

Adaptation of Soil to Crops. 32
Crop Yields. 32
Crop Index. 32
Cropping System. 33
Hay 33
Major Field and Truck Crops. 35
Corn. 35
Irish Potatoes. 37
Sweet Potatoes. 39
Minor Truck Crops. 42
Cabbage 42
Turnips 43
Tomatoes and Onions 44
Miscellaneous 44
Fruit. 44
Climate and Soil. 44
Pruning 45
Grafting. 45
Spraying. 46
Apples and Grapes 46
Varieties of Apples 48
Varieties of Grapes 48
Minor Fruits. 48

Page

Chapter IV. Livestock 50

Importance of Livestock 50
Cattle 52
Breeds of Cattle. 54
Sires 57
Swine. 59
Breeds of Hogs. 61
Chickens 61
Breeds of Chickens. 62
Sheep. 63
Interest in Livestock. 64
Feeding Practices. 65

Chapter V. Labor and Machinery. 68

Labor. 68
Attitude and Labor. 68
Measuring Work. 70
Man Labor 70
Man Labor Supply. 72
Horse Labor 73
Machinery and Equipment. 75

Chapter VI. Efficiency in Farm Organization on Swiss Farms. 80

Size of Business 80
Man Work Units. 80
Volume of Receipts. 81
Qaulity of Business. 81
Grade of Livestock and Receipts per Animal Unit 81
Crop Receipts Per Man Work Unit 81
Crop Yields 83
Use of Capital 83
Total Receipts and Investment 83
Working Capital and Total Capital 85
Diversity 86

Chapter VII. Family Living From the Farm. 88

Chapter VIII. Summary and Conclusions 91

PART II

SOCIAL ASPECTS OF THE SETTLEMENT

Chapter I. Origin of the Colony 94

Chapter II. The Settlement of the Colony. 97

Page

Chapter III. Movement from the Colony 102

Martin Marugg 102
Sam Werner 103
John J. Greeter 103
John Baggenstoss, Sr. 104
K. A. Banholzer 104
Henry and Victor Flury 105
Leonard van Rohr 105
Will Jossi 105
Fred Summerman 106
Kasper Kniess 106
Joe Stocker 106
John Rychen 106

Chapter IV. Community Life in the Colony 108

Habits and Customs 108
Educational Interests 108
Religious Interests 110
Language 112

Bibliography 114

Appendix A. Farm Management Survey Schedule 116

Appendix B. Poster Advertising East Tennessee 117

Appendix C. Excerpts from the Protokoll of the Dutch Reformed Church 124

Appendix D. A "Follow Up" Report of the Gruetli Colony 141

Appendix E. Minutes of the Landwirtschaftsverein 153

Appendix F. Brief Sketch of Peter Staub 183

TABLES

No.		Page
I.	Classification of Farm Land According to Use, 1935	1
II.	Average Size of 16 Swiss Farms Compared with the Average in Grundy County and Tennessee, 1935	7
III.	Average Investment of 16 Swiss Farms in Land, Improvements, Livestock, and Machinery Compared with Averages of Grundy County and Tennessee, 1935	8
IV.	Average Labor Incomes of the 5 Lowest and 5 Highest Compared With Acres in Farm, Acres in Crops, Acres in Pasture, and Total Investment	10
V.	High and Low Labor Incomes Compared with Investment in Land, Improvements, Livestock, Machinery, and Feed and Supplies. . .	10
VI.	Tons of Manure Produced on 16 Swiss Farms Compared with Animal Units, Acres in Cultivation, Acres per Animal Unit, and Tons Manure per Acre.	19
VII.	Amounts and Kinds of Fertilizers Bought by the 16 Swiss Farmers, 1935	24
VIII.	Fertilizers Application for Corn and Irish Potatoes Practiced by 6 Swiss Farmers, 1935.	24
IX.	1935 Retail Prices of Fertilizers Computed to Show Price per Pound of Nitrogen, Phosphorus, and Potassium.	25
X.	Number of Swiss Farmers Using the Various Grasses and Legumes in Their Mixtures, and Total Acres, 1935	29
XI.	Number of Years Grass Occupies Crop Land on 14 Swiss Farms, 1935.	31
XIII.	Acres, Production, and Yield of Hay on 16 Swiss Farms, 1935. . .	33
XIV.	Kinds of Hay Grown on 16 Swiss Farms in Per Cent of All Hay, 1935.	35
XV.	Average Number of Acres, Average Production, and Yield of Corn on 16 Swiss Farms Compared with Grundy County and Tennessee, 1935.	36
XVI.	Corn; Average Acres and Production per Farm, and Yield per Acre on 16 Swiss Farms, 1935..	36

No.		Page
XVII.	A Comparison of Swiss Farms in Acres, Production, and Yield of Corn by Labor Income Groups, 1935.	37
XVIII.	Irish Potatoes: Comparison of Acres and Production Per Farm on 16 Swiss Farms, Grundy County and Tennessee, 1935	38
XIX.	Irish Potatoes: Production and Sales on 16 Swiss Farms, 1935 .	39
XX.	Irish Potatoes: Comparison of High and Low Labor Income Groups of Farms in Production and Sales, Swiss Farms, 1935 .	39
XX(a).	Sweet Potatoes: Average Production per Farm in 16 Swiss Farms Compared With Grundy County and Tennessee, 1935, . . .	40
XXI.	Sweet Potatoes: Production and Sales on Each of 16 Swiss Farms (Gruetli), 1935.	41
XXII.	Sweet Potatoes: Average Acres, Production, Yield, and Receipts of 3 of the 5 Swiss Farmers Having Lowest Labor Incomes with the 5 Farmers Having Highest Labor Incomes, 1935. . . .	42
XXIII.	Production and Sales of Cabbage Grown on 5 out of 16 Swiss Farms at Gruetli, 1935.	43
XXIV.	The Production and Sale of Turnips Grown on 4 out of 16 Swiss Farms at Gruetli, 1935.	43
XXV.	Total Sales of Minor Truck Crops on 9 Swiss Farms (Gruetli), 1935.	44
XXVI.	Number of Apple Trees and Grape Vines, and the Receipts from Fruit and Fruit Juices Compared with Labor Incomes on 16 Swiss Farms, 1935.	47
XXVII.	Receipts From Fruits and Fruit Juices on Swiss Farms Compared with Labor Income by Groups, 1935..	47
XXVIII.	Number of Peach, Plum, Pear, and Cherry Trees Grown on Swiss Farms, 1935.	48
XXIX.	Animal Units Compared With Acres in Crops on 16 Swiss Farms, 1935.	51
XXX.	Livestock Receipts Compared with Other Receipts on Swiss Farms (Averages), 1935.	551
XXXI.	Number of Animal Units by Classes of Livestock on 16 Swiss Farms, 1935.	52

No.		Page
XXXII.	Number of Cows, All Cattle Receipts, Receipts Per Cattle Unit, and Dairy Receipts on 16 Swiss Farms Compared With Their Labor Income, 1935.	53
XXXIII.	Breeds of Cattle Kept by 16 Swiss Farmers, 1935.	55
XXXIV.	Breed of Sires and Dams in 16 Swiss Herds, 1935.	58
XXXVI.	Swine: Animal Units in Hogs, and Hog Receipts Compared with Labor Income on 16 Swiss Farms, 1935	60
XXXVII.	Swine: A comparison of Labor Income Groups in Hog Receipts on Swiss Farms, 1935.	61
XXXVIII.	Breeds of Hogs: Number of Farmers Raising, Number of Sows, and Total Number of Hogs on Swiss Farms..	61
XL.	Relation of Labor Income with Receipts from and Size of Chicken Flock, Swiss Farms at Gruetli, 1935.	62
XLI.	Breeds of Chickens: The Number of Swiss Farmers Raising the Respective Breeds Compared with Number of Hens and Their Per Cent of the Total, 1935.	63
XLII.	Sheep: Number of Ewes Kept on Swiss Farms Compared with Receipts and Receipts Per Unit, 1935..	64
XLIII.	Tons of Roughage Required by the Livestock on the Average Swiss Farm, 1935.	66
XLIV.	Man Work Units: Relation of Man Work Units Devoted to Crops and Livestock to Labor Incomes on 16 Swiss Farms, 1935.	71
XLV.	Labor Income Groups Compared with Man Work Units on Swiss Farms, 1935.	72
XLVI.	Relation of Labor Income to Productive Man Work Man-Equivalents, and Size of Family on 16 Swiss Farms, 1935.	73
XLVII.	Acres Crop Land Harvested Per Head of Workstock on Swiss Farms Compared with Average of 20 T.V.A. Demonstration Farms in Grundy County, and Tennessee, 1935.	74
XLVIII.	Important Machinery and Equipment Found on 16 Farms at Gruetli, 1935.	76
XLIX.	Less Important Machinery and Equipment Found on 16 Swiss Farms at Gruetli, 1935,.	78

No. Page

L. Quality of Business as Shown by Comparison of Livestock Receipts Per Animal Unit and Labor Income (Averages by Groups) on Swiss Farms at Gruetli, 1935. 82

LI. Quality of Business as Shown by Comparison of Crop Receipts per Man Work Unit and Labor Income (Averages by Groups) on Swiss Farms at Gruetli, 1935. 82

LII. Quality of Business as Shown by Yield Per Acre of Various Crops Compared with Labor Income Groups, (Averages), Gruetli, 1935. 82

LIII. Efficiency in Use of Capital: A Comparison of Labor Income in Per Cent Total Receipts is of Total Capital on Swiss Farms at Gruetli, 1935. 84

LIV. Efficiency in Use of Capital: A Comparison of Labor Income in Per Cent Working Capital is of Total Capital on Swiss Farms at Gruetli, 1935,. 85

LV. Diversity as Shown by Number of Important Sources of Income, by Individual Farms, and by Groups on Swiss Farms, Gruetli, 1935. 86

LVI. Quantity and Value of Farm Products Furnished the Farm Family on 16 Swiss Farms at Gruetli, Tennessee, 1935 . . . 89

FIGURES

No.		Page
1.	Location of the Swiss Settlement in Grundy County	xii
2.	Layout of an Outstanding Swiss Farm	5
3.	A Typical Swiss Farm	5
4.	Layout of a Typical Swiss Farm	25
5.	Leaves Hauled for Bedding	20
6.	Manure Pit	20
7.	A Swiss Farmer Turning Crimson Clover	28
8.	A Swiss Farmer Cutting Hay	34
9.	Cattle Receipts on Swiss Farms Compared with All Other Livestock Receipts	53
10.	Beef and Dairy Animals as to Number and Receipts on Swiss Farms, 1935	55
11.	A Herd of Grade Polled Hereford Cattle (Owned by Farmer No. 9)	56
12.	Young Hereford Bull Owned by a Swiss Farmer at Gruetli	58
13.	Captain Eugen H. Plumacher	95
14.	The Poster (Brochure) Advertising East Tennessee	118
15.	The Bridge in Gruetli	137
16.	Formerly Angst Hall	157

INTRODUCTION

This is a report of a study made of the German-Swiss Colony located at Gruetli, in Grundy County, Tennessee. The principal objectives were to determine the farm organization and farm practices of these Swiss farmers and their social interests and activities. A study of the historical development of the colony has been helpful in understanding the present economic and social conditions in the colony.

Public attention has been called to the independent existence of these people when so many of their neighbors are on the Relief rolls. From them certain lessons might be learned which will be of use to others.

The farm organization and farm practice phase of this study was based mainly on farm management records taken on 16 Swiss farms in 1935. (See Appendix A for description of field schedule.)

A study of the history of the colony was made by Miss Frances Helen Jackson of Vanderbilt University in 1933. This has been briefly summarized and supplemented. Two important documents extant in the colony, the Protokol of the Swiss Reformed Church and the minutes of the Landwirtchafts-verein, which she quotes mostly in German, have been checked against the original and translated, some from German script. The former document is now in the possession of Miss Kate Wicher, and the latter is in the hands of its last secretary, Mr. Ernest Stampfli. Both reside in Gruetli. A 16-page pamphlet was loaned the writer by Mrs. Katherine Siegrist of Gruetli. A translation of this document reveals that it is a "follow up" of the settlement by the Swiss Consul about three years after the founding of the colony.

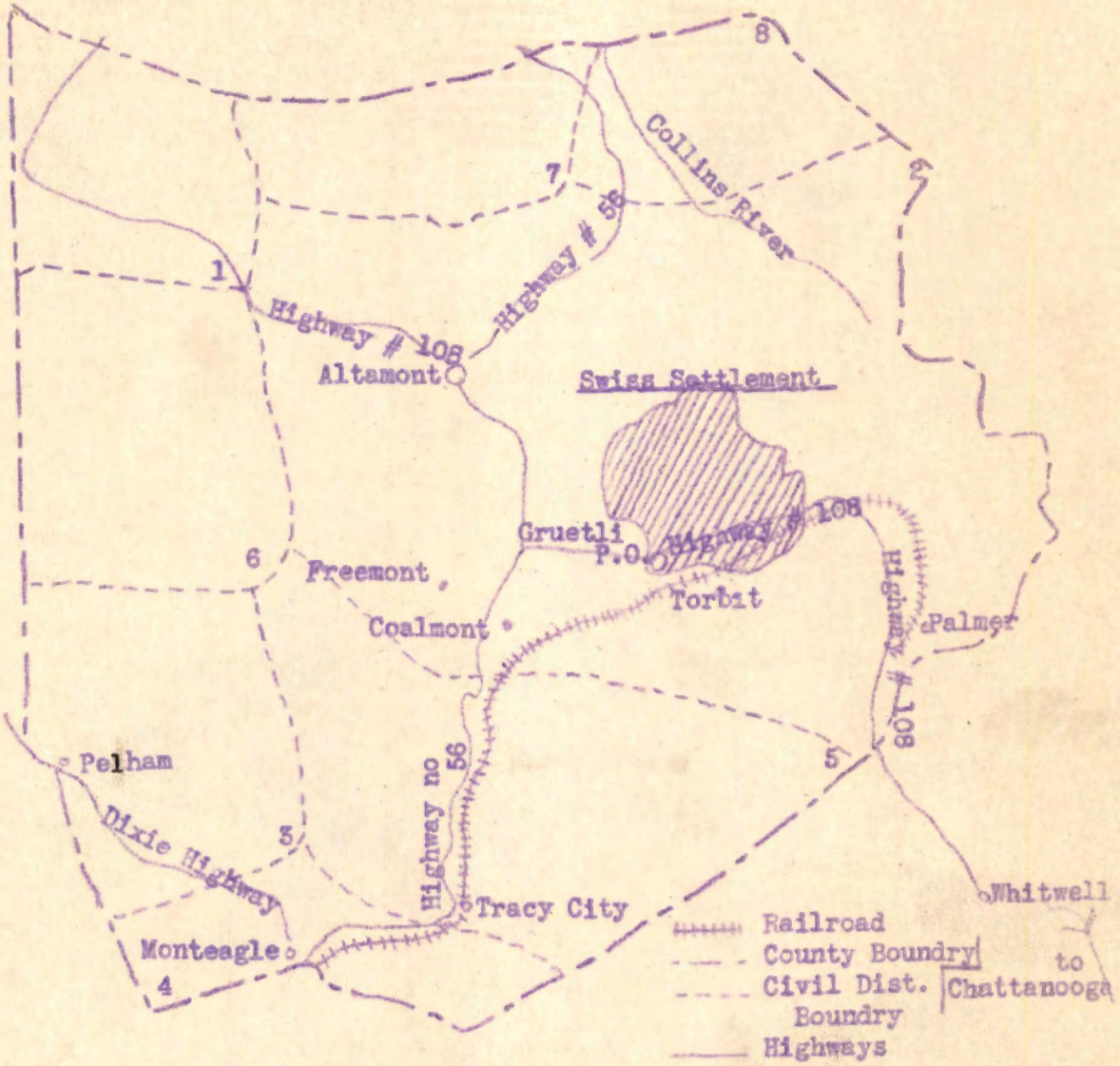

Figure 1. Location of the Swiss Settlement in Grundy County.

Source: Adapted from Grundy County, Relief in a Coal Mining County, Report no. 9. Tennessee Agricultural Experiment Station., Knoxville, Page 5 A.

Part of this study is based on personal interviews with a number of the Swiss settlers and business men, and also with neighboring non-Swiss who have observed the members of the colony in their business and social relationships. Other sources of material are newspaper articles, the Agricultural Census, and various books and bulletins on the history, geology and agriculture of that region.

The Swiss settlement on the Cumberland Plateau is located at Gruetli, in Grundy County, Tennessee. As shown in figure 1, this settlement is located in the east central portion of the county, being about 50 miles northeast of Chattanooga.

An early map of the colony indicates that approximately 100 families were living there in 1872. When considering that each tract contained 100 acres or more, including school grounds and roads, the total area then exceeded 10,000 acres. At the present time there are only 25 Swiss families residing in the settlement, and their land holdings total approximately 3,500 acres.

The 12 days spent in the Swiss community brought the writer into close contact with their home and community life. They may well point with pride to their ancestry for it has exerted a devout religious influence, favored democratic principles in government, and encouraged frugal habits of living. No one can live among the Swiss without feeling these influences. Whether the people are devoting their time to their respective enterprises, or are taking part in religious or recreational activities, the same zeal and fervor is the governing impulse. They speak intelligently to their visitors and take pride in showing them about.

In the following pages the writer has tried to truthfully portray this interesting group of people, who have so indelibly impressed themselves upon the hearts of their American neighbors.

PART I

AGRICULTURAL ASPECTS OF THE SETTLEMENT

CHAPTER I

SOME CHARACTERISTICS OF SWISS AGRICULTURE IN GRUNDY COUNTY

General Land Use

The Swiss farms have a much larger proportion of the area in woodland not pastured than either the average of Grundy County or the State; but a smaller proportion in crops and all pasture. For instance, 76 per cent of the Swiss farms are in woodland not pastured compared with 41 per cent and 30 per cent in Grundy County and Tennessee, respectively (Table I). However, the Swiss have little need of woodland pasture in farms because the free range about them offers an abundance of grazing during the grazing period. Their crop land harvested is only 11 per cent of the farm

TABLE I. CLASSIFICATION OF FARM LAND ACCORDING TO USE, 1935

Type of Farm Land	Swiss at Gruetli	Grundy County	Tennessee
	%	%	%
Woodland not pastured	76.03	41.27	30.19
Crop land harvested	11.11	34.88	42.59
Crop land idle or fallow	1.12	5.46	0.06
Plowable pasture	0.56	0.52	1.05
Woodland pasture		9.64	11.56
Other pasture	6.49	4.19	6.13
Crop failure		0.65	0.07
All other land in farms	4.69	3.40	8.35
Total	100.00	100.00	100.00

Source: Census of Agriculture, 1935
Field Survey of 16 Swiss farms (Gruetli), 1935.

land, as compared with 34 per cent and 42 per cent, respectively, for the county and the State.

Farm Layouts

No set rule can be laid down in regard to the arrangement of farms in the Swiss settlement. In most instances, the farmstead is located near enough to the center of the farm to provide accessibility to the fields, yet allow for suitable outlets. Fruit trees do not have a definite place, but are scattered around the farmstead and in the adjoining fields. Some farms have rows of fruit trees placed far enough apart so that the area between the rows constitute a field. Figure 2 shows the layout of the most progressive Swiss farmer at Gruetli. The farmstead is conveniently located from the standpoint of accessibility to fields, being almost centrally located in the farm. Suitable outlets to the range are provided for the cattle. The house and barn are located in opposite corners of the farmstead, with the other buildings placed so as to form a court between them. The garden is in the back of this court, and around the garden fence is a grape arbor consisting of 100 vines.

The farm lies on a ridge which slopes gradually north and south. This farmer has 200 acres of land, 18 1/4 of which are in crops. Fields are small and range in size from 1/2 to 2 3/4 acres. The fact that 10 arres are sown with a mixture of grasses is a good indication that thought is given to crop rotation. Hay is an important and profitable crop under this management. Two clippings made from the grass fields, and one from the two fields where cowpeas were drilled in potatoes, produced a total

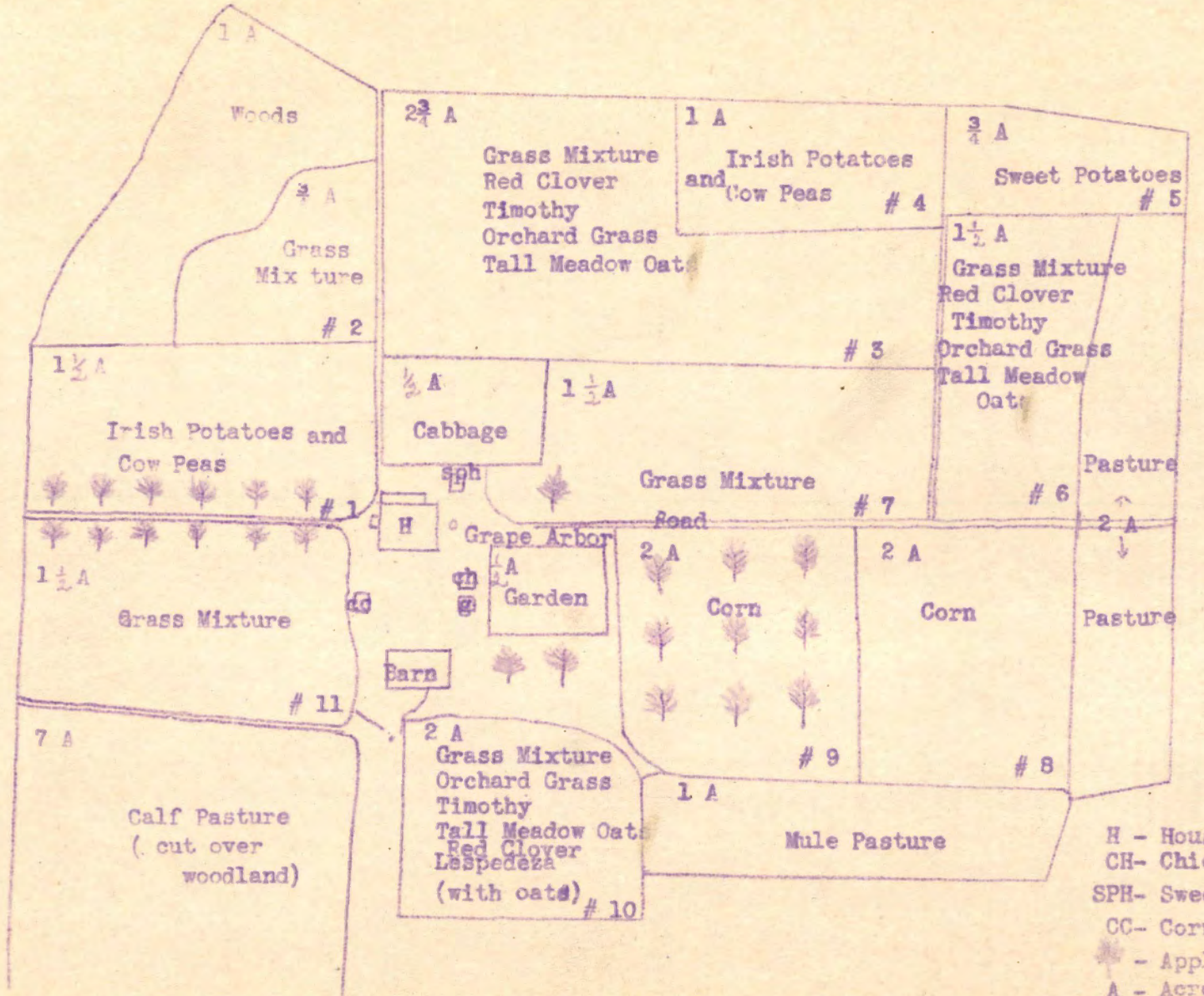

Figure 2. LAYOUT OF AN OUTSTANDING SWISS FARM.

Note: The plot is not drawn to scale. Field Boundries are a little more irregular than indicated.

of 27 tons of hay -- a yield of 2.2 tons per acre. Incidentally, fields Nos. 9 and 10 were tested for calcium and results showed pH values of 5 and 6.5, respectively, for the two fields.(1) (Field No. 10 had received an application of 2 1/2 tons of finely crushed limestone to the acre.) The 4 acres in corn, 2 1/2 acres in Irish potatoes, 3/4 acre in sweet potatoes, and 1/2 acre in cabbage constitute the cultivated field crops. Three acres in permanent pasture and 7 acres in cut-over woodland provide grazing for the young calves and a team of work stock.

There are 63 apple trees scattered over the farm. Some of these are in the farmstead, others spaced far apart in the field behind the garden, and a row is placed on each side of the entrance leading to the house.

Figure 4 shows the layout of a typical Swiss farm. The accompanying photograph, Figure 5, illustrates a few of its features. It will be noted that the topography ranged from rolling to level. The dwelling is situated upon a knoll which offers good drainage. All buildings are well covered, and are in good repair, with the exception of the need for a new coat of paint on the house. The barn is situated in the rear of the farmstead. A tool shed just back of the dwelling contains a gasoline engine, grist mill, shingle saw, and other tools. Other buildings consist of a smokehouse, sweet potato house, and chicken house. A cellar under the house offers storage for Irish potatoes and other vegetables. Typical of the Swiss, this farmer has well kept fences and clean fence rows.

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(1) pH - Relation of hydrogen ions to OH ions. A pH of 5 is acid, 6 is less acid, and 7 is neutral. Clover bacteria will survive with a pH condition of 6.5



Figure 3. A Typical Swiss Farm.

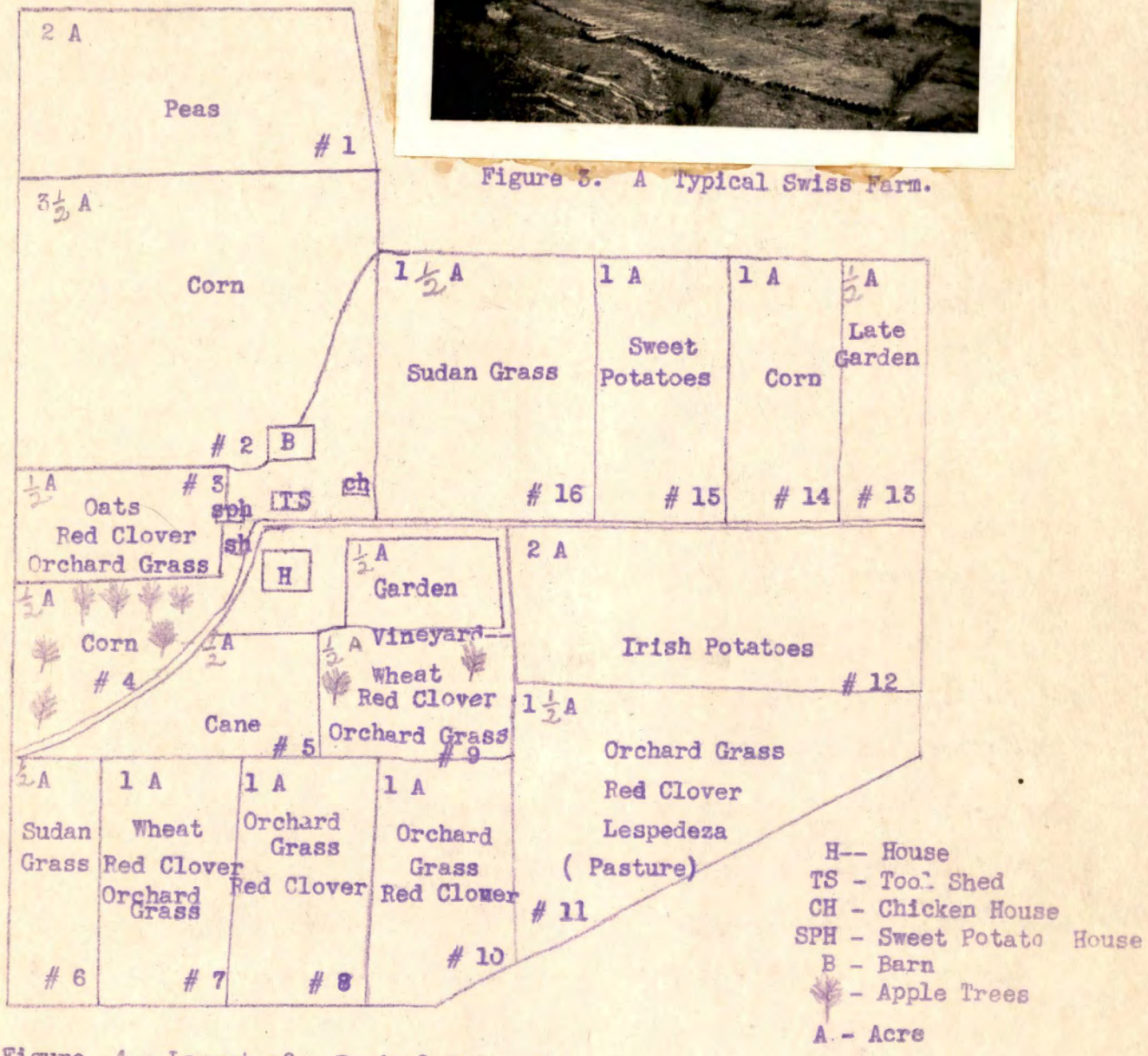

Figure 4. Layout of a Typical Swiss Farm.

Note: The plot is not drawn to scale. Corners of fields are more irregular than indicated.

Crops listed for the fields in Figure 4 are those growing now (June 1936), and as a result, they will not correspond to those seen in the photograph taken four months earlier. This farmer owns 70 acres of land, 19 of which are in crops. The crop land is divided into 17 fields, including garden, and these range from 1/2 to 3 1/2 acres in size. Nine and one-half acres are used for cultivated crops, 5 of which are in corn, 2 in Irish potatoes, 1 in sweet potatoes, 1/2 in cane, and 1/2 in late garden or truck patch. The remaining 9 1/2 acres of crop land are devoted to grass and hay. The two annual hay crops are Sudan grass and cowpeas, two acres of each being seeded. The remaining 5 1/2 acres of hay land are sown with a mixture of red clover and orchard grass, 1 1/2 acres also including lespedeza.

Fifteen apple trees constitute the orchard. These are scattered in fields on both sides of the road leading to the house. The vineyard consists of 50 grape vines placed on one side of the garden.

Neatness is a characteristic of all the Swiss farms. Buildings and fences are kept in good repair, fence rows are clean and no ragged edges are left in the fields. Machinery is returned to sheds after using, and rubbish which so often accumulates, is carefully removed, giving the premises an orderly appearance.

Farm Buildings

The older dwellings are log structures, which in later years have been boarded over with planed lumber, and have had additions made. Homes built recently are frame construction, and a majority of them are painted. Some houses have cellars which are used for storing such products as Irish

potatoes, fruits and vegetables. Some farmers have cellars dug in a nearby hillside. Sweet potato houses are very common. These are built according to government specifications (approximately 10' x 14'), having a concrete floor and a ventilating system. Some are made of logs, others are frame buildings. The frame structures have double walls insulated with paper. Bins are erected in tiers and spaced 6 inches from the walls. Fires are built in the small stoves during the curing process and on cold nights in winter.

The barns are generally made of logs and boarded over with lumber. Sheds built to them serve as convenient storage for machinery. Other farm buildings generally consist of a chicken house, smoke house, and corn crib. Those who own an automobile have a garage.

Size of the Farm Business

Size of Farms. The Swiss farms range in size from 42 to 350 acres, the average size being 139 acres. In comparison, the average farm in

TABLE II. AVERAGE SIZE OF 16 SWISS FARMS COMPARED WITH THE AVERAGE IN GRUNDY COUNTY AND TENNESSEE, 1935

Type of Farm Land	Average of 16 Swiss Farms	Grundy County	Tennessee
	Acres	Acres	Acres
Woodland not pastured	106.06	21.02	16.39
Crop land harvested	15.5	15.51	23.13
Crop land idle or fallow	1.56	2.43	4.69
Plowable pasture	0.78	2.25	11.01
Woodland pasture		1.67	6.27
Other pasture	9.06	.40	3.32
Crop failure		0.29	.35
All other land in farms	6.53	1.83	4.53
Total acres per farm	139.49	45.4	69.69

Sources: (1) U.S. Agricultural Census, 1935
(2) Survey of 16 Swiss farms (Gruetli).

Grundy County and Tennessee, as a whole, has an average of 45 and 69 acres, respectively (Table II). The average area of crop land harvested in both the Swiss Settlement and Grundy County, as a whole, are 15 1/2 acres, but the average of the State is approximately 23 acres.

Investment. The distribution of capital invested in land, buildings, livestock, and machinery varies with type of farming. It requires more capital for livestock farms than for crop farms, so it is advised that those who have a small amount of capital devote more of their capital to growing of crops.(2) The average Swiss farm has a larger total investment than the average for Grundy County, but less than the average for Tennessee. However, they have a considerably smaller proportion of their capital invested in land than either the county or the State. For instance, the average investment in Swiss farms is $2940,(3) whereas the average for Grundy County and Tennessee are $2574 and $4461 respectively. But

TABLE III. AVERAGE INVESTMENT OF 16 SWISS FARMS IN LAND, IMPROVEMENTS, LIVESTOCK, AND MACHINERY COMPARED WITH AVERAGES OF GRUNDY COUNTY AND TENNESSEE, 1935

Type of investment	Swiss		Grundy County		Tennessee	
	Dollars	Pct.	Dollars	Pct.	Dollars	Pct.
Land	1091	37.11	1183	45.95	2781	62.34
Improvements	1106	37.61	769	28.87	1107	22.57
Livestock	548	18.63	453	17.599	471	10.55
Machinery	195	6.63	169	6.56	202	4.52
Total	2940	99.98	2574	99.97	4461	99.98

Source: U. S. Agricultural Census, 1935.

(2) Warren, G. F., Farm Management, pp. 294-295.

(3) The average total investment of the Swiss is $3154.86. To make figures comparable with county and state, the $2940 excludes $194 in feed and supplies.

the Swiss have only 37 per cent of their capital invested in land as compared with 46 and 62 per cent, respectively, for the county and the state (Table III). The Swiss invests 37 per cent of their capital in improvements, as compared with 28 and 22 per cent for the county and state, respectively. Since investment in improvements becomes non-productive after a certain point, it appears that they should develop more land.

Labor Income and Size of Business

The labor income(4) has been computed for each of the 16 Swiss farms in order to ascertain the earnings for the operator's management and labor. These incomes ranged from $-346 to $964, averaging $193 for the entire group. Six of the operators had minus labor incomes. The operators with the lowest labor incomes have a larger number of acres in their farms, and also more acres in woodland than those having the highest labor incomes, but their number of acres in pasture and acres in crops, as well as total investment are approximately the same. For instance, the 5 who made an average labor income of $-189 compared with the 5 who made an average labor income of $580 have an average of 196 and 124 acres, respectively, in farms. Both these groups have an average of 16 acres in crops, but the low group has 63 acres more in woodland (Table IV). Since both groups have, approximately, the same average investment ($3530), it appears that those having the lowest labor incomes probably have too much woodland. However, more records may be necessary in order to draw definite conclusions.

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(4) Labor income is the return for the operator's labor and management after deducting current farm expenses and interest on the investment from farm receipts. This is in addition to the annual value of items for family use as products from the farm and the residence.

TABLE IV. AVERAGE LABOR INCOMES OF THE 5 LOWEST AND 5 HIGHEST COMPARED WITH ACRES IN FARM, ACRES IN CROPS, ACRES IN PASTURE, AND TOTAL INVESTMENT

Groups	Labor income	Acres in farm	Acres in crops	Acres in pasture	Acres in woodland	Total investment
Low 5	- $139	196.4	16.0	2	162	$3537
High 5	580	124.0	16.6	3.4	99	3528

Source: Survey of 16 Swiss farms at Gruetli, Tennessee.

We shall now turn to specified kinds of capital investment to see how they compare with labor income. Table V shows the relation of investment in land, improvements, livestock, machinery, and feed and supplies, to the 5 farms having the lowest labor income and the 5 farms having the highest labor income. The group of 5 having the lowest labor income have invested $88 more in land, and $158 more in improvements than those who made the highest labor income, but the latter have invested $246.60, $112.80, and

TABLE V. HIGH AND LOW LABOR INCOMES COMPARED WITH INVESTMENT IN LAND, IMPROVEMENTS, LIVESTOCK, MACHINERY, AND FEED AND SUPPLIES

Groups	Labor income	Investment				
		Land	Improvements	Livestock	Machinery	Feed and supplies
Av. of 5 low	-$139.60	$1310.80	$1356.20	$641.40	$115.80	$153.40
Av. of 5 high	580	1222.60	1198.20	788.00	228.60	298.80

and $145.40 more, respectively, in livestock, machinery, and feed and supplies. From this comparison it appears that the lower labor incomes result from too high an investment in land and improvements in proportion to operating capital in livestock. These operators are not seriously handicapped for lack of machinery, as will be shown later, when we consider

the kinds of implements found on their farms. Neither is their shortage of feed and supplies due to poor crop yields.

Roads and Markets. Roads within the colony are, for the most part, unimproved and are practically impassible in winter. Some of these are now being improved. This improvement will prevent the isolation of the farmers during bad weather. Highway No. 108 from Chattanooga passing through the southern border of the settlement, serves as an outlet. Traders come into this neighborhood with their trucks to buy livestock and potatoes. Sometimes merchants from the nearby towns bring in staple articles to exchange for produce. Even yet, the Swiss peddle their truck products and produce at the nearby towns and coal mining camps. A few travel by automobile, but most of them go by wagon. Such trips are made every week or two. Tracy City was their principal market in the latter quarter of the 19th Century. People are living there now who remember when they would start from Gruetli at four o'clock in the morning with a yoke of oxen and wagon, travel 12 miles of rough road to Tracy City, do their trading and return by dark. At the present time, Palmer is their best local market. This progressive mining village is only 8 miles distant, on highway No. 108. Since these mines operate steadily, the Swiss find there a ready market for their truck products and other farm produce. Their other markets are Altamont, Coalmont, and Tracy City. These towns are 7, 5, and 12 miles distant, respectively.

CHAPTER II

SOIL RESOURCES AND THEIR IMPROVEMENT

The soil of this area is composed of sandstones and sandy shales and its texture is a sandy loam. At the surface it is gray, whereas the subsoil is generally light yellow, but varies to a deep red. In some places it consists largely of sand but in others it contains sufficient clay to give the subsoil considerable coherence.(1) The depth to the rock varies from two and one half to six feet, diminishing in proximity to streams, where erosion is most active. Even though the furrow slice contains a great deal of sand, the subsoil has enough clay to make it retentive of the moisture and nutrients it receives. Not only is the soil slice thin, but it is low in potash and nitrogen, and deficient in phosphorus and lime. The supply of potash is adequate, since it becomes slowly available while the land is being cultivated. Nitrogen is an elusive element but it can be supplied in the form of legumes. Both phosphorus and lime are the limiting elements and would have to be brought in from an outside source.

A large part of this area retains its original forest growth, chiefly of oak, chestnut, and hickory, whereas pines clothe the sides of the stream channels. Those who practice the burning of leaves each fall have prevented the accumulation of vegetable mold and have delayed a just appreciation of the agricultural possibilities of the region.

The soil is well adapted to fruit, potatoes and truck crops. The abundance of free range on the Plateau offers excellent opportunities for livestock raising.

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(1) U. S. Geologic Folio, Sewanee Quadrangle.

Early Attempts to Improve the Soil

Immediately after settling at Gruetli, the Swiss found that the soil was poor. They realized that it was unprofitable to continue to deplete its fertility as the people were already doing on the Plateau. Since the soil was new to them, their aim centered upon a thorough investigation of its requirements. We find that an organization, the "Landwirtshaftsverein" (Agricultural Society) had been formed in the colony about 1870, whose function was to promote agriculture. The minutes of these meetings were recorded in German script and are now in the hands of Ernest Stampfli, the Society's secretary, when it disbanded in 1917. The first 12 pages of this old document are lost due to age and wear of the book. Consequently first minutes now on record begin with the year 1873.

Translations from this protocol indicate that their society consisted, on an average, of about 12 members, and meetings were held the first Sunday of each month. A problem arising spontaneously from their need would be discussed. Articles brought in later on the subject would serve as a guide, when such could be found from their German or English magazines. On the other hand, an article might start their trend of thinking into new channels. Results were stated in only a few instances, but one can read between the lines what was actually taking place.

At this point we shall gather a few details from the minutes of the Landwirtshaftsverein, where they dealt with soil building. These items include fertilizer, manure, lime, green manure crops, and preparation of the land. The first mentioned of any of these occurred at the meeting of May 4, 1889, when an article was read on basic slag as a fertilizer. Six years

later another article was read on commercial fertilizers. Then after 11 years, on December 12, 1906, they concluded that commercial fertilizers would not pay. The best results however were obtained on good land. At the beginning of the next year, there was another discussion on the value of fertilizers, but times were too hard to consider buying any. On October 6, 1907, an article was read on Kainit (a potash fertilizer). At the next meeting, they discussed the deficiency of phosphates, and on March 1, 1908, they talked about buying some fertilizer. At this time, the Swiss had already begun to appreciate the value of fertilizers, but its high price was a serious handicap. December 13, 1908, dates the last entry on this subject. At this time, they had turned their attention to ashes, manure, and green manure. Then it was said that "the soil needs attention in order to produce."

The first article on the use of manure was read from a German magazine, at the meeting of May 7, 1893. Three years later, another article told them how to make compost. Two of the discussions within the next five years dealt with manuring forage, and manuring corn. On April 3, 1904, they read a report on some manuring experiments. In the same year a discussion was made on manuring and robbing the soil. An article was read on manuring in Switzerland. In 1908 and 1909 we find them discussing methods of manuring and applying manure.

Discussion of lime burning began June 4, 1893. Seven years later an article was read on lime. In 1899 they again discussed lime burning, and at that time Mr. Stegman told of his intention to build a lime kiln having a 25 barrel capacity. In this enterprise, the members gave their hearty

support. Four years later another discussion was made on lime burning. On December 2, 1904, they obtained the information from an article that "lime has no value as a fertilizer, but its value lies in loosening the soil". On September 2, 1906, another article was read on the value of lime, in which certain data and results were given. That same year Mr. Berner offered to burn some lime and wanted to know the quantity each member desired. Lime was last mentioned May 5, 1908. At that time each member agreed to buy 3 barrels.

The Swiss had already learned something about the value of bone meal as a fertilizer, for on June 4, 1893, the first discussion recorded on this subject concerned a bone mill. In October and November of that year, they worked about 17 days on such a mill. On March 4, 1894, they discussed making a dam and waterwheel to use as power for the mill. Mill stones were given by Albert Kissling. The mill, evidently, had belonged to Mr. Wirz for on December 6, 1896, he gave it to the Society. There is no evidence recorded that bones were ground on this mill, but one of the Swiss residentw at Gruetli told the writer that all the bones found around the farm were brought to this mill, where the operator of the crusher would take a portion of the bone meal for his work. He estimated that more than a ton of bone meal was ground each year.

Crimson clover was mentioned in the minutes of the Agricultural Society only once (August 7, 1892). A report from the Delaware Experiment Station had given them sufficient incentive to buy 20 bushels of crimson clover seed. A year later an article was read on clover (presumably red clover),

after which one-half bushel of seed was ordered for trial. This seed had arrived a month later, and at the next monthly meeting an article was read on the method of sowing clover seed. Clover was last mentioned October 2, 1903, when they discussed the value of sowing clover in the fall.

Vetch was first mentioned in their minutes of November 6, 1892. A copy of an article written by a Mr. Wagner of Wurtenberg, Germany, was read. The secretary wrote to Mr. Wagner, and after reading his reply, they decided to buy some seed, but there is no record that they did. Two other articles were read on vetch in 1893. This legume was mentioned last on April 3, 1898, when an article was read on vetch, as a land builder. After a long discussion they again decided to buy some vetch seed.

At a meeting on December 2, 1894, an article about cowpeas told of its value as a forage plant and manure crop. They decided to get a bushel of seed for trial.

Rye was not mentioned until May 6, 1905. They supposed that this grain sown after corn in the fall, turned under the following spring, would permit them to use the same ground another year for corn.

Alfalfa was first mentioned March 3, 1901, when the Society ordered a peck of alfalfa seed for $5.00. Nothing more was said of alfalfa until November 1, 1903, when the following prescriptions were made for the establishment of an alfalfa field:

1. Ground should be plowed deep and well prepared.
2. Manuring is recommended to prolong its life.
3. Top dressing with manure is advised.

The subject of plowing and preparing land for crops was first recorded in the minutes June 6, 1897, when an article was read on the subject. Five

years later they discussed plowing of steep land, and preparing ground for sowing seed. An article on fall plowing was read October 6, 1907. Discussions at later meetings dealt with working the soil, and the value of deep and shallow plowing. Deep plowing was advised for fall and shallow plowing for spring. They last mentioned this subject October 3, 1908, when discussions were made on practices for next year's planting.

The first article on soil building was read October 3, 1897. Another article read the same year was followed by a long discussion. Two years elapsed before another article was read on this subject. However, in 1903 this group really began to take soil improvement seriously for they wrote to Washington to obtain the most satisfactory methods. This subject was mentioned last May 1, 1904, when they expressed the opinion that (soy?) beans failed to improve the soil. Their results had varied with different trials. Another trial was decided upon to make sure of their results.

We would expect this serious minded group of farmers to visit some of their best farms. Only two of these tours were recorded. On July 2, 1893 one trip took them over four farms, and their report indicated that "signs of productive labor was evident, by the appearances of: luxuriant wheat and rye, pretty corn, and well-worked potatoes".

Recent Soil Improvement Practices

A crop index[2] of 150 above the state average indicates that the Swiss are capable of producing good yields. We have seen how they approached the soil problem at the turn of the century. While most of the

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(2) Crop index, as used here, expresses the average crop yields on 16 Swiss farms in per cent of the average crop yields in Tennessee. (Tennessee figures are from data computed by Farm Management Section of the Tennessee Agricultural Extension Service.)

details of their experiences were lacking, it is fairly obvious that these farmers began to realize the value of natural fertilizers (barnyard manure, ashes, and green manure).

Manure. Barnyard manure plays an important part in the soil improvement program. It is teeming with bacteria which improves the condition for legumes, and it contains an abundance of humus. During the decomposition of organic matter carbon dioxide is liberated which acts as a solvent for the complex phosphorus and potash compounds already in the soil. The elusive element, nitrogen, is broken down from the proteins by several steps and is fed gradually to growing plants. The humus, also, loosens the soil and increases its water holding capacity. When kept from leaching, manure contains a large amount of potash, but it is deficient in phosphorus. Where there are concrete floors, it might be well to add about 50 pounds of raw rock phosphate to the ton. This not only helps to balance the deficiency in phosphorus, but this element attaches itself to the nitrogen and makes it more stable. A good manure contains about 12 pounds of nitrogen, 5 pounds of phosphoric acid, and 10 pounds of potash to the ton. To produce it requires a large number of livestock, and an abundance of good hay, particularly legumes.

Table VI shows how the tons of manure produced on 16 Swiss farms varies with the number of animal units(3) kept. Farmer No. 11 has only 3.7

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(3) Adams, Farm Management, p. 14, defines an animal unit as an approximate equivalent, from the standpoint of manure produced and feed required, of a mature cow or horse. It is customary to count as an animal unit 2 head of young cattle or colts, 4 calves, 5 mature hogs, 10 pigs or shoats, 7 sheep, 14 lambs, or 100 fowls.

TABLE VI. TONS OF MANURE PRODUCED ON 16 SWISS FARMS COMPARED WITH ANIMAL UNITS, ACRES IN CULTIVATION, ACRES PER ANIMAL UNIT, AND TONS MANURE PER ACRE

Farm no.	Tons manure	Animal units	Acres in cultivation	Acres per animal unit	Tons manure per acre
11	25	5.7	18	4.86	1.39
6	42	6.8	8	1.17	5.25
7	48	7.6	8	1.05	6.00
1	48	7.7	10	1.30	4.80
5	50	8.0	19	2.37	2.52
2	55	8.8	15	1.70	5.66
3	55	9.0	16	1.77	3.43
15	60	10.0	15	1.50	4.00
12	70	12.1	18	1.49	3.88
14	80	13.8	15	1.08	5.33
10	92	16.4	12	0.73	7.66
16	95	17.0	18	1.06	5.27
8	100	17.7	21	1.18	4.75
9	100	18.0	18	1.00	5.55
4	120	21.4	20	1.07	6.25
13	130	23.3	17	0.73	7.64
Av.	73.5	12.59	15.5	1.50	4.83

cow equivalents and produces approximately 25 tons of manure. With 18 acres in cultivation, this makes available 1.39 tons per acre of cultivated land each year. Farmer No. 16 also has 18 acres in cultivation, but with 17 animal units, 95 tons of manure was produced, or enough to cover each cultivated acre with 5 1/2 tons. Farm No. 13 is very heavily stocked with 1 animal unit for each 0.73 acre of cultivated land. Approximately 23 animal units produced 130 tons of manure or an average of 7 2/3 tons per acre of cultivated land. The average of the group of 16 Swiss farms has 15 1/2 acres in cultivation, and 12 1/2 animal units per farm. This



Figure 5. Leaves Hauled for Bedding



Figure 6. Manure Pit

amount of livestock produced an average of 73 1/2 tons of manure per farm, or 4.8 tons per acre of land in cultivation.

Leaves play an important part in the production of manure on these farms. A pile of leaves (Figure 5) may be found at or near every Swiss barn. The leaves are raked in the woods, where the small brush has been cleared, and are hauled with a wagon having high sideboards built up on its bed. The leaves are used for bedding stables heavily. This kind of bedding not only increases the amount of manure by about one-third, but it absorbs the liquid moisture which contains the greatest portion of soluble plant nutrients. One can readily see how malicious it would be for one to fire their woodland.

In their barnyard can also be found a manure pit made of poles (Figure 6). This is an open structure having dimensions of approximately 3 feet in height and 15 feet square. This pit serves as a temporary storage for manure until enough has been produced to justify hitching for the manure spreader, or until time can be had from other enterprises for spreading on the fields.

Fertilizers. Application of commercial fertilizer, especially phosphorus, is necessary to balance manure applied to the soil. A ton of manure contains approximately 12 pounds of nitrogen, 5 pounds of phosphorus, and 10 pounds of potassium. However, only 1/2, 1/6, and 1/2, respectively of the above elements are immediately available.(4) The

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(4) Lyon and Buckman, The Nature and Properties of Soils, p. 386.

ratio of nitrogen to phosphorus should be approximately in the same proportion that plants draw upon them. For example, to produce a bushel of corn requires 1.43 pounds of nitrogen and 0.6 pounds of phosphorus,(5) which ratio is 2.38 to 1. An illustration will be taken from a Swiss farmer who produces 40 bushels of corn to the acre. His soil, by analysis, contains 16 pounds of nitrogen, and 10 pounds of phosphorus per acre which are available to plants. Only 11 bushels of corn could be produced from this amount of nitrogen, although there is enough phosphorus to produce 14 bushels. He applied 5 tons of manure which added 60 pounds of nitrogen and 25 pounds of phosphorus, but only 1/2 of the former and 1/6 of the latter are immediately available.(6) Enough phosphorus was added to increase the yield of corn to 20 bushels per acre, but there would be sufficient nitrogen to have produced 32 bushels. There would still have been a shortage of phosphorus. By a 250 pound application of a 3-8-6(7) fertilizer, this farmer added 7 1/2 pounds of nitrogen and 20 pounds of phosphorus. Such a treatment provided each acre of corn with a total of 53 1/3 pounds of nitrogen, and 34 1/6 pounds of phosphate. From the nitrogen supplied, 37 1/2 bushels of corn could have been produced, but the phosphorus was ample enough to have increased the yield 10 more bushels. In actual practice, the manure continues to give off nitrogen as it decays, so that enough of this element would be available for a 40-bushel yield. On the other hand, it is expected that an acid condition of the soil would

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(5) Lyon and Buckman, op. cit., p. 245, Table XXXIX.
(6) Ibid., p. 386.
(7) 3-8-6 means 3% nitrogen, 8% phosphorus, and 6% potash.

have reverted part of the phosphorus to the unavailable form.

With an excess of nitrogen, the corn plant may have grown luxuriantly, but maturity would have been retarded. The grain, when produced, would contain a large amount of water, and upon drying, it would shrink. The phosphorus acts as a balance upon the nitrogen by making a plump kernel and hastening maturity. Fertilizers can be used to an advantage by supplying the deficiency of manure, but it cannot take its place in providing the proper bacteriological and physiological conditions. They are also expensive, and their general use should be limited to that of a supplement.

In 1935, 14 of the 16 Swiss farmers bought a total of 18.8 tons of fertilizer at an average cost of $25.17 per ton. Sixteen and one-half tons, or 87.7 per cent, were of the formula 3-8-6; 1.8 tons, or 9.6 per cent of acid phosphate; and .5 ton, or 2.7 per cent, of 2-10-2. Thirteen farmers bought from 1/2 to 3 tons of a 3-8-6 fertilizer, averaging 1.27 tons apiece. Four bought from 1/20 to 1 ton of acid phosphate, and two bought 1/4 ton of 2-10-2 (Table VII).

It is surprising that they use so much of the 3-8-6 (a high grade complete fertilizer[8]), and so little of the acid phosphate, when manure is applied heavily, and crimson clover is sown after corn for soil improvement. This practice becomes obvious when we learn that their heaviest fertilization is on potatoes. Table VIII shows the rate of fertilizer

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(8) A complete fertilizer contains two or three of the principal plant nutrients, nitrogen, phosphorus, or potassium.

TABLE VII. AMOUNTS AND KINDS OF FERTILIZERS BOUGHT BY THE 16 SWISS FARMERS, 1935

Farm number	Tons 3-8-6	Tons 2-10-2	Tons 16% acid phosphate
1	1/2	1/4	0
2	1/2	1/4	0
3	1	0	1
4	0	0	0
5	3/4	0	1/4
6	0	0	0
7	0	0	1/20
8	1	0	0
9	1	0	0
10	1	0	0
11	3	0	0
12	2	0	0
13	1	0	0
14	2	0	0
15	3/4	0	1/2
16	2	0	0
Total	16.5	.5	1.8
Per cent	87.76	2.66	9.57

TABLE VIII. FERTILIZER APPLICATION FOR CORN AND IRISH POTATOES PRACTICED BY 6 SWISS FARMERS, 1935

Farm number	For corn			For Irish potatoes
	3-8-6	2-10-2	16% acid phosphate	3-8-6
	lbs.	lbs.	lbs.	lbs.
14	-	-	250	1000
15	200	-	-	1000
16	300	-	-	600
1	-	250	-	500
9	200	-	-	470
2		250	-	400
Average	233.3	250	250	661

application for Irish potatoes and corn used by 6 Swiss farmers. Irish potatoes receive from 400 to 1000 pounds per acre of a 3-8-6 fertilizer, an average of 661 pounds. These same farmers use different kinds of fertilizers for corn. Three apply a 3-8-6 at a rate of from 200 to 300 pounds per acre, averaging 233 pounds, whereas two others apply a 2-10-2 at the rate of 250 pounds per acre, and another applies a 16% acid phosphate at the rate of 250 pounds per acre. For crops other than truck, this soil contains a sufficient amount of potash. Although most of this element is unavailable, it becomes soluble, as the plants have need for it, by application of barnyard manure, organic decay, and crop residues. Irish potatoes draw heavily upon potash so it becomes necessary to apply potassium fertilizers.

The price paid per pound for each of the three principal plant nutrients, nitrogen, phosphorus, and potassium, is a very important consideration in the purchase of fertilizers. From Table IX it will be seen that nitrogen costs twice as much as phosphorus, and three times as much as potassium. It has been explained that in the case of truck

TABLE IX. 1935 RETAIL PRICES OF FERTILIZERS COMPUTED TO SHOW PRICE PER POUND OF NITROGEN, PHOSPHORUS, AND POTASSIUM

Kind of fertilizer	Price per ton	Pounds of element in one ton	Price per pound - cents
16% acid phosphate	$18.95	320 P_2O_5	5.92
50% muriate of potash	42.05	1000 K_2O	4.205
16% nitrate of soda	39.50	320 $NaNo_3$	12.34

Source: Quotations from Lowe-Armstrong Hdwe. Company, and Knoxville Fertilizer Company of Knoxville, Tennessee.

crops, potash would need to be added, but with the above practices, enough of this element would be available for other field crops. Yet, it is economical to add phosphate, because it is lacking in the soil. Heavy applications of this fertilizer is not wasteful, where the soil is kept from washing. On the other hand, it is a good practice under acid conditions, because part of the phosphate reverts itself to the unavailable farm, thus reducing the amount that plants can get. The nitrogen fertilizers, which are the most expensive, should be applied sparingly, and where possible, its source should come from barnyard manure and green manure.

Lime. The Swiss farmers realize the value of agricultural lime, but the cost involved has prevented them from giving it the prominence it deserves. Mr. W. F. Carpenter, former County Agent of Grundy County, has this to say about their lime situation:

> "Mr. J. D. Northcutt, Camp 4 or Collins Station, and a few of the Swiss farmers have used a car or so of lime from the Cager Lime Company at Sherwood, near Cowan. I do not know what it cost them, but the freight was the big item ($3.00). However, there is a limestone rock quarry on the road to Northcutt's Cove, just about one-half mile from the top of the mountain (20 miles distant), that tests about 90%. It is near enough to the settlement that plenty of lime could be produced and delivered on the farm at a very reasonable cost by placing a crusher at this quarry".

The few who have used lime have applied it on one or two fields. Earlier in this study an instance was given where the application of 2 1/2 tons per acre had reduced the sourness of the land from highly acid to a condition which is favorable for the growth of the nitrogen-fixing bacteria of clovers. Since the application of lime is not generally practiced, and the soil condition where no lime has been applied is very

acid, it is surprising that so many Swiss farmers grew clover. Nine farmers out of 16 grew a total of 53 acres with grass mixtures, which include clover in 1935. This fact indicates that their success with clovers may be due to applications of manure. The following quotation is self-explanatory:

> "When the soil is acid and lime cannot be applied, it is practically necessary to top-dress the new seeding to insure a good stand of clover. Manure thus takes the place of lime, in a way, and no doubt alleviates the acidity somewhat, as well as strengthens the crop because of the nitrogen supplied. In many communities a large proportion of manure is applied to the meadows, no doubt for the reasons just suggested." (9)

The addition of lime not only corrects soil acidity but it increases nitrate accumulation; furnishes calcium as a nutrient; removes or neutralizes toxins of either an organic or inorganic nature; retards diseases of plants; increases availability of plant nutrients; and encourages biological activities favorable in a nutritive way to higher plants.(10)

In addition to the nitrogen fixing bacteria on legumes, there is a group of bacteria called azotobacters which are able to incorporate elemental nitrogen from the soil air and adds them to the soil independently of plants, fertilizers, and rainfall. Approximately 15 or 20 pounds of nitrogen are fixed per acre each year in this manner. These organisms are also sensitive to soil reaction, and a condition near the neutral point apparently is most favorable.(11)

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(9) Lyon and Buckman, op. cit., p. 404.
(10) Ibid., pp. 293-294.
(11) Ibid., pp. 230-233.

Green Manure. Crimson clover is most generally used by the Swiss as a cover crop after corn which is turned in the spring for green manure. Observations of the writer corroborated by a letter from their former county agent, indicate that 8 of these 16 Swiss farmers follow this practice. Figure 7 shows one of these farmers turning under a crop of crimson clover. Note the rank growth. The nitrogen in a full crop of



Figure 7. A Swiss Farmer Turning Crimson Clover

this legume ranges from 50 to 200 pounds per acre. It is quite often winter killed, but if it has made a 6-inch growth, the organic matter in such a crop is equivalent to 4 or 5 tons of manure.(12) Fortunately, crimson clover is not sensitive to soil reaction and can be grown on the acid soils of the Plateau. While it is adapted to light soils it requires an ample supply of phosphorus and potassium for its growth.(13)

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(12) Van Slyke, Fertilizers and Crop Production, p. 366.
(13) Ibid., p. 366.

One of these Swiss farmers follows the practice of sowing an acre of crimson clover each year for seed. He claims that a better stand can be obtained from sowing the unthreshed hulls.

Grass. Grass mixtures play a very important part in the Swiss plan of soil improvement and conservation. Of the 150 acres devoted to growing hay crops, 64 acres consist of tame grass mixtures. These are grown by 13 out pf the 16 farmers, averaging 5 acres per farm. The number of grasses and legumes in each mixture ranges from 2 to 6, with an average of 4. From the standpoint of number of acres grown with each, and number of farmers using them (Table X), orchard grass is the most popular, being grown by 10 farmers on 57 1/2 acres.

TABLE X. NUMBER OF SWISS FARMERS USING THE VARIOUS GRASSES AND LEGUMES IN THEIR MIXTURES, AND TOTAL ACRES, 1935

Name of grass or legume	Number farmers using	Acres each
Orchard grass	10	57 1/2
Red clover	8	47
Timothy	8	46
Red top	6	17 1/2
Lespedeza	5	28
Tall meadow oats	5	33 1/2
Rye grass	1	4
Blue grass	1	4
Alsike clover	1	1
Saplin clover	1	12
Herds grass	1	11 1/2

Red clover and timothy are grown by 8 farmers on 47 and 46 acres respectively. Lespedeza is coming more into use. Six farmers have sown it

with their mixtures on 28 acres, but 3 others grow it separately on 9 acres. They boost this legume not only for its yield and value as hay, but also for its importance as a pasture and improvement crop. They claim that the grasses and clovers yield best from the first cutting, which can be made without injuring the tops of lespedeza. The lespedeza then improves and increases their second cutting.

Crop Rotation. A systematic arrangement for growing various crops successively on the same soil is necessary to utilize the plant food in the soil most economically and, at the same time, maintain the soil in such condition as will promote the growth of maximum crops. An effective plan makes it possible to alternate the feeding range of plants, and provides for changes in demand for individual plant food constituents. It will utilize, to an advantage, the remains of preceding crops, provide for an ample supply of nitrogen, and maintain the supply of organic matter in the soil. It will keep the soil in good physical condition, and provide means for utilizing economically both farm manure and commercial fertilizers. It reduces injury caused by toxic substances left in the soil by previous crops, helps to control insects, and keeps the soil occupied most of the time.(14)

The crop rotation scheme followed by the Swiss farmers, at Gruetli, is fairly uniform. Only 3 out of 16 farmers have no grass mixtures, but one of these grow either lespedeza or red top for a sod. The 14 farmers who grow some sort of grass mixture permit this crop to remain on the

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(14) Van Slyke, Fertilizers and Crop Production, pp. 336-337.

land approximately 3 years. Seven of these let their grass remain 2 to 3 years. However, 5 to 10 years is given in one extreme (Table XI). From experience, they report that the amount of manure available for top dressing determines the length of time grass can remain on the land. Irish potatoes follow grass in every instance except two where corn is optional. Corn is the third crop in the rotation. However, some of these farmers may either sow cowpeas, soybeans or put the land back to grass.

TABLE XI. NUMBER OF YEARS GRASS OCCUPIES CROP LAND ON 14 SWISS FARMS, 1935

Number farmers reporting	Number years in grass
7	2 - 3
2	3
2	3 - 4
1	3 - 5
1	4
1	5 - 10

CHAPTER III

FIELD CROPS AND FRUITS

Adaptation of Soil to Crops. Although the Plateau soil is thin and low in native fertility, it responds well to good treatment. A mechanical analysis indicates that this soil ranges from clay to sandy clay. The presence of a large amount of sand makes it well suited to truck crops and fruits, yet enough clay is present to make it retentive of plant nutrients. It was shown in the previous chapter how liberally the Swiss farmers apply barnyard manure and fertilizers. This fertilization, supported by a general practice of sowing soil improvement crops, is in keeping with good soil management. Had lime been more generally used, their crops may have responded better.

Crop Yields

Crop Index.[1] Considering the type of soil, the Swiss crop yields are high. A comparison of yields shows that they are 150 per cent higher than the average for Tennessee. These crop indexes vary with individual farms and range from 88 to 242. A further comparison reveals that those farmers having the lowest labor incomes do not have the lowest crop yields. On the contrary, the 5 having the lowest labor incomes had an average crop

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(1) Crop index is used here to express the average crop yields on the Swiss farms in per cent of the average crop yields of Tennessee.

index of 171 compared with 156 for the 5 having the highest labor income. While the number of farm records is not large enough to warrant definite conclusions, it is not probable that relatively low labor incomes are caused by the comparatively low yields.

Cropping System

Hay. From the standpoint of acres grown, hay is the most important crop grown by the Swiss. They have an average of 9.8 acres in hay per farm compared with 3, 1.8, and 0.7 acres, respectively, in corn, Irish potatoes, and sweet potatoes.

The amount and yield of hay vary with the different farms. The number of acres in hay ranges from 3.7 to 16 per farm, and the production in tons ranges from 4 to 38, averaging 16 1/2 tons per farm. The yield per acre ranges from 0.6 to 2.3 tons, averaging 1.64 tons per acre (Table XIII).

TABLE XIII. ACRES, PRODUCTION, AND YIELD OF HAY ON 16 SWISS FARMS, 1935

Farm number	Acres	Production tons	Yield per acre tons
1	5.8	11	1.9
2	12.0	18	1.5
3	12.8	13	1.0
4	14.0	38	2.7
5	11.5	26	2.3
6	3.7	4	1.0
7	5.0	9	1.8
8	9.0	19	2.1
9	11.5	26	2.3
10	6.5	6	1.0
11	11.0	6	.6
12	9.0	14	1.5
13	16.0	19	1.2
14	8.2	13	1.5
15	9.0	15	1.7
16	12.5	27	2.2
Av.	9.84	16.5	1.64

Their average yield is 0.4 of a ton per acre more than the average for Grundy County.(2) This higher yield may be attributed to top dressing of manure which these fields receive.

The quality of hay can be determined to some extent from the varieties of grasses grown. For example, 48 per cent of the hay acreage is seeded to grass mixtures consisting of red clover, timothy, orchard grass, and tall meadow oats. These mixtures consist, on an average, of 4 kinds of grasses, and most of them also include one or two legumes. Soya beans, lespedeza, and cowpeas constitute an average of 15, 7, and 5 per cent, respectively, of the total hay acreage (Table XIV). This makes



Figure 8. A Swiss Farmer Cutting Hay

a total of 75 per cent of the hay acreage devoted to tame grass mixtures and legumes, the remaining 25 per cent being in wild hay and forage crops.

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(2) United States Agricultural Census, 1935.

A good quality of hay may be produced from these tame grasses and legumes which will not only be more palatable and nutritive but will produce a higher grade of manure.

TABLE XIV. KINDS OF HAY GROWN ON 16 SWISS FARMS IN PER CENT OF ALL HAY, 1935

Kinds of hay	Per cent	Kinds of hay	Per cent
Grass mixtures	48.7	Millet	4.0
Soy beans	15.9	Corn (drilled)	2.0
Red top and wild hay	9.2	Cane	1.7
Lespedeza	7.2	Sudan	.8
Oats	5.7		
Cowpeas	5.0	Total	100.0

Since the Swiss have a comparatively large number of livestock, they feed all of the hay produced on their farms.

Major Field and Truck Crops

Corn. Corn for grain ranks second in number of acres planted on Swiss farms, but occupies only one-third the area devoted to hay. The corn acreage per farm is considerably smaller than for Grundy County and the State, but the yield per acre is higher. For instance, the Swiss grow an average of 3 acres of corn for grain per farm compared with 7 1/2 and 12 acres, respectively, for Grundy County and Tennessee. The average yield is 32.9 bushels per acre, whereas the averages for the county and the State are 22 and 21 bushels, respectively (Table XV). The amount of corn planted varies with the individual farms from 1/2 to 5 1/2 acres. Production per farm ranges from 20 to 175 bushels, and the yield ranges from 12

TABLE XV. AVERAGE NUMBER OF ACRES, AVERAGE PRODUCTION, AND YIELD OF CORN ON 16 SWISS FARMS COMPARED WITH GRUNDY COUNTY AND TENNESSEE, 1935

Item	Swiss	Grundy County	Tennessee
Number acres	3.06	7.56	12.06
Production (bushels)	96.2	168.65	256.64
Yield (bushels)	32.9	22.28	21.2

Sources: U. S. Agricultural Census, 1935
Survey of 16 Swiss Farms (Gruetli), 1935.

to 43 bushels per acre (Table XVI).

On the basis of labor income, it is found that the farmers having the lowest labor incomes plant a smaller number of acres with corn, and as

TABLE XVI. CORN: AVERAGE ACRES AND PRODUCTION PER FARM, AND YIELD PER ACRE ON 16 SWISS FARMS, 1935

Farm number	Acres	Production, bushels	Yield, bushels
1	2.0	60	30
2	2.5	80	32
3	2.0	75	37.5
4	4.0	175	43.7
5	3.5	125	36
6	2.5	85	34
7	.5	20	40
8	5.5	70	12.8
9	3.0	100	33.3
10	1.5	45	30
11	3.0	75	25
12	5.0	100	20
13	2.0	80	40
14	4.0	140	35
15	4.0	150	37.5
16	4.0	160	40
Average	3.06	96.2	32.9

a result, the total production is lower, but their average yield per acre is slightly higher than those having the highest labor incomes (Table XVII). The slightly higher yield produced by the low group may not be

TABLE XVII. A COMPARISON OF SWISS FARMS IN ACRES, PRODUCTION, AND YIELD OF CORN BY LABOR INCOME GROUPS, 1935

Labor income group	Acres per farm	Production per farm, bushels	Yield per acre, bushels
Five lowest	2.8	103	35.8
Five highest	3.8	126	34.5

significant due to the small number of records, but their smaller corn acreage indicates a smaller business.

These farmers try to produce only enough corn for feed and food on the farm. An occasional deficit occurs which makes it necessary to purchase small quantities.

Irish Potatoes. The Swiss devote a larger number of acres to Irish potatoes, and produce a higher yield than either the county or the State. For instance, they had an average of 1.7 acres per farm compared with an average of 0.49 and 0.31 acre, respectively, for Grundy County and Tennessee in 1935. Their average yield is 99 bushels per acre, compared with averages for the county and the State of 94 and 76 bushels, respectively (Table XVIII).

With exception of the enterprise to be listed later as fruits and fruit juices, Irish potatoes ranks first as a cash crop on these farms. Although the number of acres planted varies with the individual farms, the

TABLE XVIII. IRISH POTATOES: COMPARISON OF ACRES AND PRODUCTION PER FARM ON 16 SWISS FARMS, GRUNDY COUNTY AND TENNESSEE, 1935

Irish potatoes	Swiss	Grundy County	Tennessee
Acres per farm	1.79	0.49	0.31
Production (bushels)	184.93	46.68	24.29
Yield (bushels)	99.2	94.0	78.5

Source: United States Agricultural Census, 1935.
Survey of 16 Swiss Farms (Gruetli), 1935.

yield is a greater factor in determining the total production. For instance, the number of acres planted with Irish potatoes per farm varies from 3/4 to 4 acres, whereas the yield varies from 37 to 250 bushels per acre. The total number of bushels produced ranges from 40 to 560, averaging 184 bushels per farm.

The receipts from Irish potatoes averaged $95 per farm, although 5 farmers sold less than $10 each last year. On all the other farms, Irish potato sales ranged from $48 to $420 (Table XIX).

Those who received the lowest labor incomes not only planted less acres in Irish potatoes, but they also had lower production, yield, and receipts. Table XX shows that the group of 5 with lowest labor incomes planted an average of 1.2 acres per farm compared with 1.75 acres for the 5 having the highest labor incomes. The former produced an average of 118 bushels with a yield of 90 bushels per acre, whereas the latter produced an average of 223 bushels with a yield of 132 bushels per acre. These two

TABLE XIX. IRISH POTATOES: PRODUCTION AND SALES ON 16 SWISS FARMS, 1935

Farm number	Acres per farm	Production per farm, bushels	Yield per acre, bushels	Receipts
1	1.25	103	82.4	$63
2	1.50	150	100.0	85
3	.75	48	64	2
4	1.00	40	40	48
5	1.50	250	166.6	64
6	1.00	38	38	4
7	2.00	75	37.5	8
8	2.50	200	80	70
9	1.50	150	100	126
10	2.00	150	75	24
11	4.00	560	140	251
12	1.50	90	69	22
13	1.50	125	83	64
14	2.25	250	111.1	140
15	1.00	250	250	130
16	2.50	400	160	420
Av.	1.79	185	99	$95

groups had average receipts per farm of $52 and $155, respectively.

TABLE XX. IRISH POTATOES: COMPARISON OF HIGH AND LOW LABOR INCOME GROUPS OF FARMS IN PRODUCTION AND SALES, SWISS FARMS, 1935

Labor income groups	Acres	Production, bushels	Yield, bushels	Receipts
Average of 5 lowest	1.2	118.2	90.62	$52.40
Average of 5 highest	1.75	223	132.8	155.20

Sweet Potatoes. Although sweet potatoes is a minor crop from the standpoint of acres planted and receipts from sales, the Swiss plant, on an average, a slightly larger acreage, produce more bushels, and have a

higher yield than the averages of either the county or the State. For instance, these farmers grow an average of 0.7 of an acre in sweet potatoes compared with the averages of 0.25 and 0.41 acres, respectively, for Grundy County and Tennessee. They produce an average of 73 bushels, compared with 27 bushels for the county and 42 bushels for the State. The average yield on these Swiss farms is 111 bushels per acre compared with 106 and 102 bushels, respectively, for the county and the State (Table XX(a).

TABLE XX(a). SWEET POTATOES: AVERAGE PRODUCTION PER FARM IN 16 SWISS FARMS COMPARED WITH GRUNDY COUNTY AND TENNESSEE, 1935

Item	Swiss	Grundy County	Tennessee
Av. number acres	0.7	0.25	0.41
Av. production (bu.)	73.1	27.0	42.8
Av. yield (bu.)	111.8	106.6	102.3

Sources: U. S. Agricultural Census, 1935.
Survey of 16 Swiss Farms (Gruetli), 1935.

Considerable variations occur in acres, production, and yield per acre on the individual Swiss farms. For instance, the number of acres planted ranges from 0.3 to 2.5, whereas the yields range from 80 to 225 bushels per acre. On the other hand, receipts from the sale of sweet potatoes range from $2 to $104 per farm. A comparison of farms having equal acreages in potatoes shows wide variations in production, yield, and value of sales. The 4 farmers who planted 0.3 of an acre had a range in total production from 20 to 75 bushels; and in yields from 75 to 225 bushels per acre

(Table XXI).

The size of crop, indicated by the average number of acres in sweet potatoes, the total production, yield, and receipts, vary directly with the size of the labor income. Table XXII shows that the group with the lowest labor incomes planted an average of only 0.36 acre, whereas

TABLE XXI. SWEET POTATOES: PRODUCTION AND SALES ON EACH OF 16 SWISS FARMS (GRUETLI), 1935

Farm number	Acres per farm	Production per farm, bushel	Yield per acre, bushels	Cash receipts per farm
1	0.3	50	120	$22
2	-	-	-	-
3	-	-	-	-
4	0.3	20	80	6
5	0.5	75	150	40
6	0.8	50	67	2
7	0.5	40	80	8
8	1.5	40	27	18
9	1.0	125	123	66
10	.5	75	150	19
11	0.3	25	75	6
12	1.0	90	90	15
13	1.0	75	75	50
14	2.5	300	120	104
15	0.3	75	225	36
16	0.8	130	173.3	60
Av.	0.7	73	112	$ 28

the group with the highest labor incomes planted an average of 1.12 acres. The high income group produced an average of 86 bushels more than the low income group, and their yield was 35 bushels higher per acre, and their cash receipts an average of $30 more per farm (Table XXII).

TABLE XXII. SWEET POTATOES: AVERAGE ACRES, PRODUCTION, YIELD, AND RECEIPTS OF 5 OF THE 6 SWISS FARMERS HAVING LOWEST LABOR INCOMES COMPARED WITH THE 5 FARMERS HAVING HIGHEST LABOR INCOMES, 1935

Labor Income Groups	Acres per farm	Production per farm, bushels	Yield per acre, bushels	Receipts per farm
Three of 5 low	0.36	48.3	116.6	$22.66
Five high	1.12	134	151.6	53.00
Difference	.76	85.7	35	30.34

Minor Truck Crops

The minor truck crops grown on Swiss farms consist of cabbages, turnips, tomatoes, and onions. Cabbage and turnips were grown in separate truck patches, whereas tomatoes and onions were, for the most part, grown in the gardens. Although the average sales from these crops combined are relatively small, they furnish a good income on some farms.

Cabbage. This crop is grown on only a few of these farms. Although the yields are moderate, a significant amount of receipts is derived from this crop. For instance, only 2 1/2 acres of cabbage are grown by 5 farmers, the acreage ranging from 1/4 to 1 acre, averaging 1/2 acre per farm. Their production ranges from 1200 to 8000 pounds per farm, or an average of 3840 pounds. Approximately 80 percent of the crop is sold, the sales ranging from $15 to $75 per farm, averaging $38 (for the 5 farms). One of these farmers made his entire crop into sauerkraut (Table XXIII).

TABLE XXIII. PRODUCTION AND SALES OF CABBAGE GROWN ON 5 OUT OF 16 SWISS FARMS AT GRUETLI, 1935

Farm number	Acres	Production, pounds	Yield, pounds	Sales, pounds	Amount received
1	1/4	1200	4800	600	$15
2	1/4	1000	4000	-	-
5	1/2	4000	8000	3000	75
8	1	5000	5000	4000	40
16	1/2	8000	16000	8000	60
Total	2.5	19200	37800	15600	190
Av. of 5	.5	3840	7680	3150	38

Turnips. On the few farms where turnips are grown, a comparatively large quantity is produced, but the percentage sold is small. Table XXIV shows that farmers who grew turnips planted from 1/4 to 3/4 acre in this crop last year, averaging 1/2 acre each. From 15 to 100 bushels were produced on each of these farms, or an average of 72.5 bushels per farm. The yield ranged from 60 to 200 bushels per acre. Only 9 per cent of the turnips produced were sold, the largest portion of them being fed to livestock, since there was a poor market for this product. The sales ranged from $3 to $9, averaging $6.87 per farm (Table XXIV).

TABLE XXIV. THE PRODUCTION AND SALE OF TURNIPS GROWN ON 4 OUT OF 16 SWISS FARMS AT GRUETLI, 1935

Farm number	Acres	Production, bushels	Yield, bushels	Sales, bushels	Amount received
2	1/4	15	60	5	$3.00
5	1/2	100	200	10	7.50
8	3/4	75	100	10	5.00
16	1/2	100	200	15	9.00
Total	2	290	560	52	$27.50
Av.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Tomatoes and Onions. These crops, grown commercially, were planted mostly in the gardens. Three farmers sold 58 bushels of tomatoes, receiving a total of $45, and two others sold 21 bushels of onions for $27.

Miscellaneous. The miscellaneous receipts from truck crops on these farms were for such items as turnip greens, green beans, pepper and sweet corn. Such sales amounted to $13. The total sales of minor truck crops are shown in Table XXV. Cabbage receipts were the largest, being 62 per cent of the total. These crops were grown on 9 farms and the sales amounted to $303, averaging $19 for the 16 farms (Table XXV).

TABLE XXV. TOTAL SALES OF MINOR TRUCK CROPS ON 9 SWISS FARMS (GRUETLI), 1935

Crop	Receipts	
	Total	Per cent
Cabbage	$190.00	62.5
Tomatoes	45.40	15.0
Onions	27.80	9.2
Turnips	27.50	9.0
Total	$303.70	100.0
Av. of 9 farms	33.74	
Av. for 16 farms	18.98	

Fruit

Climate and Soil. The climate and soil on the Plateau are favorable for the production of fruit. The high altitude and good air drainage are important factors in the prevention of spring killing by frosts. On the Plateau one often hears that late frosts in the spring makes fruit years uncertain. This is true in most sections of the temperate zone, and the vicinity of the Swiss colony is no exception. Although contrasting

opinions are given, this condition does not appear to be a serious drawback to fruit growing. Quoting Mr. Jeff D. Fults, lawyer at Tracy City, Tennessee:

> "I was reared near the Swiss colony, and it frosts in that section when we have none at Tracy City, eleven miles away. I have known killing frosts in May, and generally they have killing frosts in April. The Swiss colony could not expect a good fruit year, unless smudge pots were used oftener than one year in five. In other sections of the county, I would say, one year in three."

Their former County Agent, Mr. W. F. Carpenter, has this to say about frosts: "To my knowledge, frosts on the mountain is not a serious drawback to growing of crops".

The Plateau soil contains a large amount of sand which makes it easier for roots to spread over a large area, yet it contains enough clay for the trees to get a solid footing. The virgin soil is relatively poor but the Swiss farmers have improved their land so that good yields are obtained.

Pruning. The well-trained fruit trees on these farms indicate that pruning is generally practiced among these Swiss farmers. Where orchards are cultivated the branches are trained upwards to prevent harness injury. When it is necessary to cut large branches, the scars are painted to protect the tree.

Grafting. A large number of these farmers have mastered the art of grafting. One of them told the writer he had 45 varieties of apples trees in his orchard. After moving to his farm he found several varieties of

of apples that he disliked. Branches were cut from these trees and other varieties were grafted on them. This job was done so well that even his Swiss neighbors cannot tell where the grafts were made. He would buy a tree or two from a variety he liked. Cuttings from these would then be grafted to less desirable trees, so that now he has a great number of early to late maturing trees.

Spraying. Spraying is not generally practiced on these farms. As a result, the quality of their fruit is impaired, due to attacks of fungus diseases and insect pests. Spraying fruit would pay big dividends. Not only would it increase the quality and quantity of marketable fruit but it would prolong the life of the trees.

Apples and Grapes. Apples and grapes are the principal fruits grown on Swiss farms. Not only do they have a comparatively large number of apple trees and grape vines, but the receipts from these fruits and fruit juices are larger than from any other enterprise. For instance, the number of apple trees range from 10 to 100, averaging 41 trees per farm. Vineyards are found on all but one of these farms, and the number of vines range from 10 to 100, averaging 44 vines per farm. The receipts from fruits and fruit juices averaged approximately $279 per farm in 1935 (Table XXVI). This amount exceeded the sales from livestock, the second largest source of income, by an average of $22 per farm (Table XXI).

The size of labor income on these farms varies to some degree with the amount of sales from these products. Table XXVI shows that those farmers who received less than $100 from fruits and fruit juices, with the exception of farmer No. 13, made minus labor incomes. Labor incomes did not

TABLE XXVI. NUMBER OF APPLE TREES AND GRAPE VINES, AND THE RECEIPTS FROM FRUIT AND FRUIT JUICES COMPARED WITH LABOR INCOMES ON 16 SWISS FARMS, 1935

Farm number	Number apple trees	Number grape vines	Receipts from fruits and fruit juices*	Labor income
1	15	25	$60	$-348
2	10		0	-235
3	30	25	20	-167
4	20	10	0	-107
5	100	50	0	- 93
6	20	10	80	- 69
7	12	10	100	. 37
8	50	100	400	187
9	50	100	660	297
10	50	100	400	330
11	16	25	484	335
12	15	50	600	376
13	100	50	60	433
14	100	35	200	561
15	15	25	400	566
116	63	100	1000	964
Total	666	715	$4464	$3089
Av.	41.6	44.7	279	193.06

* Note: A portion of these data were collected by Mr. C. Dykes of Knoxville, Tennessee.

vary directly with these receipts. However, the farmer who made the largest fruit sales had the highest labor income. A comparison by labor income groups shows that the 5 lowest received an average of only $16 from this source, whereas the 5 highest received an average of $452 per farm (Table XXVII).

TABLE XXVII. RECEIPTS FROM FRUITS AND FRUIT JUICES ON SWISS FARMS COMPARED WITH LABOR INCOME BY GROUPS, 1935

Labor income groups	Receipts	Labor income
Five lowest	$16	$ - 189.60
Five highest	452	580.00

Varieties of Apples. It is difficult to enumerate all the apple varieties because a number of them are not definitely known. Those who grow a comparatively large number of trees have early to late maturing varieties. The most common ones are: Early June, Striped June, Early Harvest, Winesap, Sweet and Sour Limbertwig, Stark's Delicious, Yellow Transparent, Black Twig, Arkansas Black, Rome Beauty, Ben Davis, Maiden's Blush, and Banana.

Varieties of Grapes. Grape varieties on these farms are few in number. The most common are: Concord, Lutie, Ive's Seedling, and Santa Anna. The minutes of their agricultural society tell of the prevalence of grape diseases, especially grape rot. Grape growing was neglected for a time because they were unable to find disease resistant varieties. At present, the rot appears to be most prevalent on the Concord but it is not very serious. The Ive's Seedling is favored because its tough skin will prevent insect injury to some degree.

Minor Fruits. The less important fruits consist of peaches, plums, pears, and cherries. Not only do a few farmers grow a small number of

TABLE XXVIII. NUMBER OF PEACH, PLUM, PEAR, AND CHERRY TREES GROWN ON SWISS FARMS, 1935

Farm number	Peach trees, number	Plum trees, number	Pear trees, number	Cherry trees, number
1	8	-	-	-
5	2	-	3	2
7	4	-	-	-
8	25	-	-	-
13	3	-	-	-
14	7	5	-	2
15	6	2	-	-
Total	55	7	3	4

trees but all of the fruit is consumed on the farm. Of these, peaches are the most important. Seven farmers have 55 trees, but 25 of these are grown by one farmer. The other fruits are unimportant. Two farmers have 7 plum trees, two others have 4 cherry trees, and one has 3 pear trees. (Table XXVIII)

CHAPTER IV

LIVESTOCK

Importance of Livestock. Productive livestock enterprises are essential in the farm program because they furnish meat and other products, in addition to being a source of cash income. Not only can the feed produced on the farm often be marketed more economically through animals, but the manure, when returned to the fields, assist greatly in maintaining and improving soil fertility. Livestock also improves the farm labor distribution.

The Swiss farmers have learned the importance of livestock. Evidence of this is clearly shown from the relatively large average number of animal units per crop acre, and the average sales per farm. For instance, there is an average of 12 1/2 animal units for every 15 1/2 acres of crops (Table XXXX). This number of animals stocks the land heavily, because every 1 1/4 acres must support one cow-equivalent. A farm with one animal unit for 1 to 3 acres is heavily stocked.(1) On these farms the animal units range from 3.7 to 23.3 (including 2 units of horse stock per farm), and the crop acres per animal unit range from 0.9 to 4.8 (Table XXXX). Later in this chapter it will be shown how so many units of livestock can be kept on such a small cultivated acreage.

In comparing the sources of income on the Swiss farms, livestock

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(1) Warren, G. F., Farm Management, p. 211.

TABLE XXIX. ANIMAL UNITS COMPARED WITH ACRES IN CROPS ON 16 SWISS FARMS, 1935

Farm number	Acres in crops	Animal units	Acres crops per animal unit
1	10	7.7	1.29
2	15	8.8	1.7
3	16	9.0	1.77
4	20	21.4	.93
5	19	8.0	2.37
6	8	6.8	1.17
7	8	7.6	1.05
8	21	17.9	1.17
9	18	18.0	1.00
10	12	16.4	.73
11	18	3.7	4.86
12	18	12.1	1.48
13	17	23.3	.73
14	15	13.8	1.08
15	15	10.0	1.5
16	18	17.0	1.06
Total	248	201.5	23.89
Average	15.5	12.59	1.23

receipts rank a close second to the receipts from fruits. Table XXX shows that the total receipts average $718 per farm and the receipts from livestock average $257 or 35 per cent of the total, compared with 38 per cent from fruit.

TABLE XXX. LIVESTOCK RECEIPTS COMPARED WITH OTHER RECEIPTS ON SWISS FARMS (AVERAGES), 1935

Sources of receipts	Amount	Per cent
Fruits	$279.00	38.8
Livestock	257.00	35.8
Crops	147.43	20.5
Increase inventory (feed)	29.87	4.2
Other sources	4.88	.7
Total	$718.18	100.0

Cattle

Cattle is the most important livestock enterprise on Swiss farms, not only in number of animal units, but also in receipts. For instance, out of an average number of 12.5 animal units[2] per farm, approximately three-fourths are cattle (Table XXXI). Of the total livestock receipts, about four-fifths is derived from cattle (Figure 9).

TABLE XXXI. NUMBER OF ANIMAL UNITS BY CLASSES OF LIVESTOCK ON 16 SWISS FARMS, 1935

Farm number	Cattle	Mules	Hogs	Poultry	Sheep	Total animal units
1	5.8	2	1.2	.7	-	7.7
2	6.5	2	-	.3	-	8.8
3	6.5	2	.2	.3	-	9.0
4	18.0	2	.8	.6	-	21.4
5	4.8	2	.8	.4	-	8.0
6	3.0	2	.8	.3	.7	6.8
7	5.0	2	.2	.4	-	7.6
8	14.0	2	.2	.4	1.3	17.9
9	14.5	2	1.2	.3	-	18.0
10	13.5	2	-	.6	.3	16.4
11	1.0	2	.4	.3	-	3.7
12	9.0	2	.5	.6	-	12.1
13	19.5	3	.3	.4	.1	23.3
14	10.5	2	.4	.9	-	13.8
15	6.8	2	.8	.4	-	10.9
16	14.0	2	.8	.4	-	17.0
Total	150.4	33	9.0	7.0	2.1	201.5
Av.	9.4	2.06	.506	.437	.13	12.59

The farmers with lowest labor incomes have, on an average, fewer cows, less total receipts, and lower receipts per animal unit than the

(2) The animal units were computed on the following basis: cow 1, young cattle (over 1 year) 1/2, young cattle (under one year) 1/4, horse 1, colt (over one year) 1/2, colt (under one year) 1/4, sheep 1/7, lamb 1/14, hog 1/8, pig 1/10, hen 1/100. (Warren, G.F., Farm Management, p. 210)

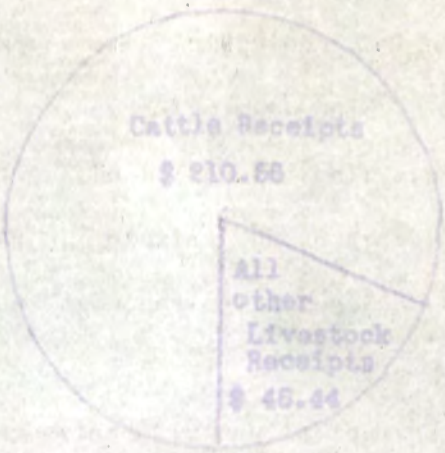

Figure 9. Cattle Receipts on Swiss Farms Compared With All Other Livestock Receipts.

TABLE XXXII. NUMBER OF COWS, ALL CATTLE RECEIPTS, RECEIPTS PER CATTLE UNIT, AND DAIRY RECEIPTS ON 16 SWISS FARMS COMPARED WITH THEIR LABOR INCOME, 1935

Farm Number	Number Cows	Receipts All Cattle	Receipts Per Unit	Dairy Receipts		Labor Income
				Cheese	Butter and Milk	
1	3.0	$65	$17.10	-	-	$-346
2	6.0	35	5.40	-	-	-235
3	6.0	438	67.40	$366.00	-	-167
4	14.0	316	17.60	50.00	-	-107
5	3.0	60	12.50	-	-	- 93
6	1.0	55	18.30	-	-	- 69
7	3.0	43	8.60	13.50	2.50	37
8	10.0	126	9.00	-	-	187
9	9.0	378	22.60	-	10.00	297
10	8.0	192	14.20	-	-	330
11	1.0	36	36.00	-	11.00	355
12	7.0	180	20.00	-	-	376
13	16.0	655	32.60	-	-	433
14	9.0	355	31.90	-	-	561
15	6.0	283	41.60	100.00	-	566
16	12.0	192	13.70	80.00	-	964
Total	114	$3369	-	$610.00	$23.50	$ 308.9
Av.	7.12	210.56	29.55	38.12	1.49	193.06
Av. of 5 with low labor inc.	6.3	182.80	28.56	83.50	-	-189.60
Av. of 5 with high labor inc.	9.9	325.0	33.63	36.00	-	580.90

the highest labor income groups. However, the low income group has the larger receipts from cheese. The number of cows on these farms range from 1 to 16, averaging 7 per farm. Compared with the 5 farmers with the lowest labor incomes, the 5 with the highest labor incomes keep, on an average, 3 more cows per farm, and receive an average of $142 more income from all cattle per farm. Although the average receipt per unit is slightly higher, in the case of the better farmers, attention is called to farmers Nos. 3 and 13. The former, a low labor income farmer, had 6 cows and $438 in total cattle receipts in 1935, of which $366 were from cheese. The latter had 16 cows, and received $655 in cattle receipts, all of which was from the sale of cattle for beef. No. 3 receives $67 per cattle unit, compared with only $32 by farmer No. 13 (Table XXXII).

Breeds of Cattle. The cattle breeds on Swiss farms consist largely of beef types, 75 per cent of the number and 80 per cent of cattle receipts being obtained from this type (Figure 10). For instance, out of a total of 114 cows, 67 are Polled Herefords, 18 are Aberdeen-Angus, and 1 is Durham, making a total of 86 cows having beef characteristics (Table XXXIII).

With the exception of 2 purebred Holstein and about 2 or 3 purebred Jersey cows, the cows on the Swiss farms are grades. The foundation stock is principally of a mixed breeding, but within the last ten years, purebred bulls have been used in these herds, so that by selection and

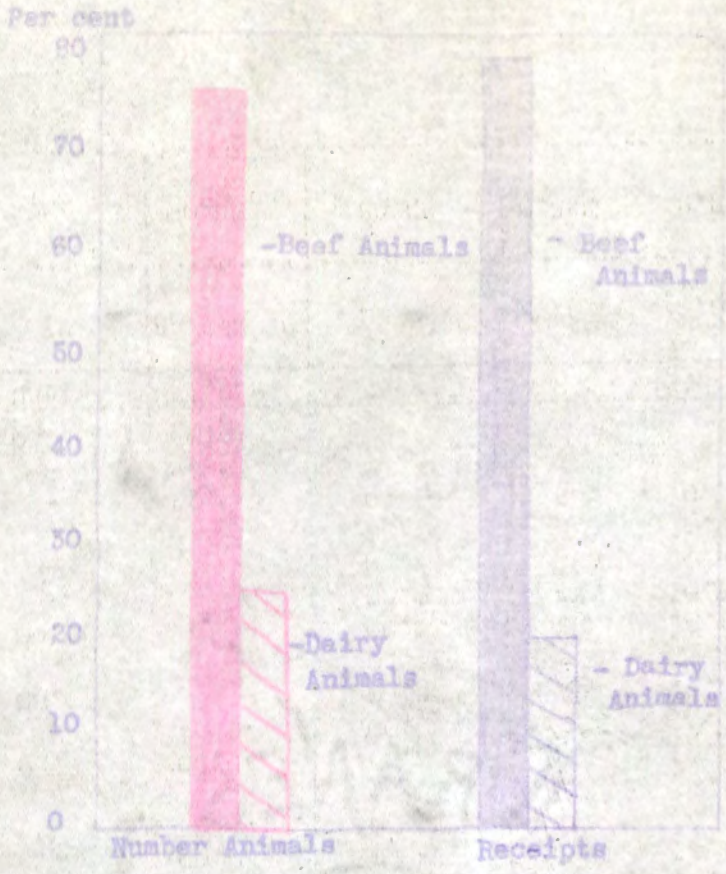

Figure 10. Beef and Dairy Animals as to number and receipts on Swiss Farms, 1935.

TABLE XXXIII. BREEDS OF CATTLE KEPT BY 16 SWISS FARMERS, 1935

Breed of cattle	Number cows each breed	No. farmers who raise them
Polled Hereford	67.5	10
Jersey	25.5	6
Angus	18.0	3
Holstein	2.0	1
Durham	1.0	1
Total	114.0	

breeding a high class of graded animals have been produced. Figure 11 shows a "close-up" picture of one of these herds. Although this photograph was taken in the latter part of February, these animals appear in excellent condition.



Figure 11. A Herd of Grade Polled Herefore Cattle (Owned by Farmer No. 9)

The excellent condition of these animals may be attributed to both breeding and feeding. The breeding is very important for the economical utilization of feed. The chief advantages of good breeding are as follows:

> "Those who had replaced scrub bulls with purebred sires reported an average increase of 48 per cent in returns traceable to the use of purebred sires.
>
> "In comparison with scrubs, wellbred beef cattle have the following advantages: (1) They make more rapid gains and are therefore heavier at a given age; (2) the gains are usually cheaper; (3) the animals mature earlier; (4) they furnish a

> higher percentage of dressed carcass; (5) they produce a greater proportion of the more valuable cuts of meat; (6) their carcasses have less internal fat; and (7) their beef is superior in quality. (3)

Mr. H. B. Bramblett of Hillsboro, Tennessee, has this to say about the Swiss cattle:

> "They (the Swiss) are the best farmers and cattle men I know of for the chance they have. They are strictly reliable, and my very best friends. I have bought their cattle for the last 28 years (since 1907). My father did the same several years before. These people tie each head of cattle around the neck in his separate stall at night in winter, and range them on the commons (mountain range) in spring and summer where the older cattle get very fat on grass. They have improved their grade of cattle very much in late years. They have mostly Hereford sires. Some make hand-made Swiss cheese, which is very fine indeed. (4)

Sires. The only herd bull in the Swiss settlement is a purebred Polled Hereford. The services of bulls owned by non-Swiss farmers are used by many of the farmers in the Swiss settlement. Farmer No. 9 has owned several Hereford bulls. The one he owns now was bought from a breeder at Jonesboro, Tennessee (Fig. 12). This bull may appear to lack somewhat in masculinity but he is less than 2 years old and this defect will become less pronounced as he grows older. Purebred beef sires are used in all the Swiss herds. The Polled Hereford is the predominating breed, being used exclusively as sires on 11 farms. Two farmers use only

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(3) Morrison, Feeds and Feeding, pp. 637-38.
(4) Excerpt from a letter received from Mr. Bramblett. The underscoring is his own.



Figure 12. Young Hereford Bull Owned by a Swiss Farmer at Gruetli

Aberdeen-Angus, whereas two others use both Aberdeen-Angus and Polled Hereford sires. However, another farmer uses sires of two other breeds -- the Shorthorn and Durham (Table XXXIV).

TABLE XXXIV. BREED OF SIRES AND DAMS IN 16 SWISS HERDS, 1935

Farm number	Breed of dams	Breed of sire used*
1	Hereford, Durham, Jersey	Hereford
2	Angus	Angus
3	Holstein, Jersey	Hereford
4	Jersey	Hereford
5	Jersey	Angus
6	Hereford	Hereford
7	Jersey	Hereford
8	Hereford	Hereford
9	Hereford	Hereford
10	Hereford	Hereford
11	Jersey	Shorthorn and Durham
12	Hereford and Angus	Hereford and Angus
13	Hereford and Angus	Hereford and Angus
14	Hereford	Hereford
15	Hereford	Hereford
16	Hereford	Hereford

* Sires are purebred.

Swine

The importance of swine on the Swiss farms cannot, altogether, be appreciated by comparing the number of units kept with the cash receipts without considering the amount of meat furnished the household. Hogs, as a source of family living, however, will be discussed in a later chapter dealing with the value of farm product furnished the farm family.

The number of hogs kept is usually limited to the amount of corn available for their feed. Although some of this grain is essential in the feeding of hogs, a small herd can receive a large portion of their ration from kitchen scraps and acorns and nuts from the range. Hogs are kept on all 16 Swiss farms studied with one exception (Farmer No. 2), as shown from the beginning and end of the year inventories, but this farmer had butchered a hog within the inventory period. In Table XXXVI, the column representing average animal units is an average of the number of units on hand at the beginning and end of the year inventories. A majority of these farmers sold hogs in 1935, and although some of the sales appear to be incidental, a few showed cash incomes of over $40 from this source. The sales in some cases are those of hogs produced between the inventory dates. The number of units ranged from 0.2 to 1.2, averaging one-half animal unit per farm. One-half unit of hogs, when converted to number of head, is equivalent to one fattening hog, and one breed sow with 5 pigs.

TABLE XXXVI. SWINE: ANIMAL UNITS* IN HOGS, AND HOG RECEIPTS COMPARED WITH LABOR INCOME ON 16 SWISS FARMS, 1935

Farm number	Hogs in animal units, average of 2 inventories	Total cash receipts 1935	Labor income
1	1.2	$14	$-346
2	-	-	-235
3	.2	4	-167
4	.8	-	-107
5	.8	5	- 93
6	.8	29	- 69
7	.2	20	57
8	.2	48	187
9	1.2	-	297
10	.6	10	330
11	.4	50	335
12	.5	-	376
13	.3	-	433
14	.4	26	561
15	.8	2	566
16	.6	129	964
Total	9.0	$335	$3089
Average	.506	20.93	193.06

* Note: Five hogs are the equivalent of one animal unit.

Eleven farmers sold hogs. Their receipts ranged from $2 to $129, averaging $30 per farm reporting or $21 average of all farmers (Table XXXVI).

Five of these farmers received more than the average receipts per farm, 4 of them making plus labor incomes. A comparison of the lowest labor income group with the highest labor income group shows a slight difference in receipts from hogs. The lowest group received an average of only $4 from hogs, whereas the highest group received an average of

$31 per farm.

TABLE XXXVII. SWINE: A COMPARISON OF LABOR INCOME GROUPS IN HOG RECEIPTS ON SWISS FARMS, 1935

Labor income groups	Receipts per farm	Labor income
Five lowest	$4.20	$-189.60
Five highest	31.40	580.90

Breed of Hogs. Although 3 breeds of swine are represented on the Swiss farms, the most important breed is Poland China. Table XXXVIII shows that out of a total of 14 sows, 10 were Poland Chinas. Approximately four fifths of all the mature swine equivalent are of this breed. The

TABLE XXXVIII. BREEDS OF HOGS: NUMBER OF FARMERS RAISING, NUMBER OF SOWS, AND TOTAL NUMBER OF HOGS ON SWISS FARMS

Breed of hogs	Number of farmers raising	Number sows	* Head of hogs	
			Number	Per cent
Poland China	13	10	37	82.2
Essex	2	3	7	15.6
Hampshire	1	1	1	2.2
Total	16	14	45	100.0

* Mature hog equivalents.

The Essex and Hampshire are less important breeds, being only 15 and 2 per cent, respectively, of the total number of hogs.

Chickens

All the Swiss farmers at Gruetli raise chickens, although the number of hens vary with the individual farms. A comparison of sales, and value

of chickens and chicken products consumed on the farm indicates that these flocks are kept mainly for home consumption.

There is no correlation between poultry sales and labor incomes (Table XL). However, the highest income group has slightly larger flocks, averaging 54 hens per farm, compared with 46 hens on farms of the low income group. Thus there is no significant difference between the two income groups in this respect as would be expected since chickens are produced mainly for home use.

TABLE XL. RELATION OF LABOR INCOME WITH RECEIPTS FROM AND SIZE OF CHICKEN FLOCK, SWISS FARMS AT GRUETLI, 1935

Labor income groups	Number hens	Receipts	Labor income
Five lowest - average	46	$18.60	$-189.60
Five highest - average	54	18.20	580.90

Breeds of Chickens. There were 4 breeds of poultry kept on the 16 Swiss farms in 1935, namely Plymouth Rock, Rhode Island Red, White Leghorn, and Minorca. Table XLI shows that slightly over half of the hens were Plymouth Rocks. White Leghorns and Rhode Island Reds are about equal in popularity, each being about one-sixth of the total. One out of eight chickens were Minorcas (Table XLI). Approximately 70 per cent of birds kept are of the medium to heavy breeds. The requirements appear to be in favor of a utility flock which will not only lay a comparatively large number of eggs, but also produce larger birds for meat. A number of these farmers discriminate against the White Leghorn because

of their color. They claim that when keeping white birds hawks are more troublesome.

TABLE XLI. BREEDS OF CHICKENS: THE NUMBER OF SWISS FARMERS RAISING THE RESPECTIVE BREEDS COMPARED WITH NUMBER OF HENS AND THEIR PER CENT OF THE TOTAL, 1935

Breeds of poultry	Number farmers raising	Hens	
		Number	Per cent
Plymouth Rock	9	380	53.5
Rhode Island Red	3	100	14.1
White Leghorn	2	110	15.5
Black Minorca	1	90	12.7
White Leghorn and Plymouth Rock	1	30	4.2
Total	16	710	100.0

Sheep

Sheep is not an important enterprise on the Swiss farms. It appears that they overlook the opportunity of adding another source of income to their receipts when such animals might pay big dividends grazing on the abundant free range of the Plateau. On the contrary, these farmers have tried sheep and realize their possibilities. But they limit sheep production mainly because of the menace of dogs, and the malicious rustling by some of their non-Swiss neighbors. Since they do not have time for herding, this enterprise has been dispensed with on most farms. Although only a few of these farmers raise sheep, and their herds are small, the receipts are comparatively large. Table XLII shows that 3 farmers kept a total of 15 ewes in 1935, averaging 5 head per farm. The sales totaled $78, averaging $26 per farm.

TABLE XLII. SHEEP: NUMBER OF EWES KEPT ON SWISS FARMS COMPARED WITH RECEIPTS AND RECEIPTS PER UNIT, 1935

Farm number	Number ewes	Receipts
6	5	$ 9
8	9	69
15	1	-
Total	15	78
Average of 3 farms	5	26

Interest in Livestock

That the Swiss farmers are excellent animal husbandmen cannot be questioned. From treatment given their cattle it appears that the heart and soul of these people are bound closely to them. The virtue of the master is manifested in the kindness shown these animals. In return the cattle are gentle, and will come to the owner when called by name. The interest these farmers have in their livestock may, no doubt, be present in all the other farm enterprises, but here it is most evident. Could more farmers of the State place greater emphasis upon livestock, there is no doubt that the economic condition of the agricultural population would be decidedly improved.

The history of agriculture shows that the soil is maintained in a relatively higher state of fertility where livestock production prevails. A chief advantage of livestock in this State lies in their utilization of roughages that would otherwise not be used [illegible] as profitably or

which is now going to waste on many farms. The corn crop is a good example. An acre will produce more than one ton of fodder, 1 1/2 acres of which is more than enough to produce feed to winter one head of cattle. However, when we consider that more than one-half of the fodder in the state is going to waste each year, every 3 acres of corn would keep an additional unit of livestock.(5)

Feeding Practices

Since there are no silos on the Swiss farms their livestock must be fed dry feed. The succulent feeds most generally used are turnips, potatoes, and pumpkins, but these serve only as supplements to the ration of milk cows. With the roughage is fed a small amount of concentrates consisting of crushed corn, cotton seed meal, or shorts. It is reported by some of these farmers that their cattle come through the winter with a slight gain. This is very unusual on dry feed, because winter losses were sustained in the majority of instances where stocker cattle were fed dry feed in experiments conducted on the Cumberland Plateau under the supervision of the Tennessee Agricultural Experiment Station.(6) It is expected that some losses will occur with dry feeding, but the object is to carry the cattle over winter with a minimum of loss.

The Swiss cattle are grazed on the range from early May to first of November. When first turned on the range, cattle are fed twice a day

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(5) Tennessee Agricultural Experiment Station, Bulletin 114, "Relation of Steer Feeding to Farm Returns", C. A. Willson (1915), pp. 84-85.

(6) Tennessee Agricultural Experiment Station, Bulletin 125, "Stocker Cattle Problems on the Cumberland Plateau", C. A. Willson (1921).

until they can obtain a full feed from the pasture. In the fall, when grass on the range is running short, the cattle are again fed twice each day, until about the first of November when they are fed three times a day. When sold, the cattle are taken off the range without being finished with grain.

From a comparison of feed produced and feed bought on these farms, with the feed requirements, there appeared to be a slight shortage in 1935. For instance, the roughages produced consisted on an average of 16.5 tons of hay and 4 tons of corn stover per farm, amounting to a total of 20.5 tons per farm.(7) This however lacked only 0.5 ton meeting the requirements calculated by the U.S.D.A.(8) for the amount of livestock kept on these farms (Table XLIII). It is recognized that U. S. average requirements are probably greater per unit of livestock than for Tennessee conditions.

TABLE XLIII. TONS OF ROUGHAGE REQUIRED BY THE LIVESTOCK ON THE AVERAGE SWISS FARM, 1935

Kind of animals	Animal units per farm	Roughage required, tons per farm
Cattle	9.4	18.8
Workstock	2.06	2.2
Sheep	.13	.06
Total	11.59	21.06

(7) Their yield of corn stover is approximately 1 1/3 tons per acre, and an average of 3 acres of corn is grown per farm.

(8) Average weighted feed requirements in tons of roughage for livestock in use by the U. S. Department of Agriculture, Division of Crops and Livestock Estimates are as follows: cow, 2 tons; workstock, 1.1 tons; sheep, 0.12 ton.

Concentrates consisting of cotton seed meal and shorts were bought to supplement the crushed corn in the rations for cattle. Twelve of the 16 farmers bought a total of 7 tons of cotton seed meal, and shorts, averaging 880 pounds of each concentrate per farm. Were both these concentrates fed simultaneously 3 times a day for 5 1/2 months (545 feedings), there would be enough to feed each cattle unit 2.8 pounds.

Since each farmer has 2 head of workstock, and were these animals fed 2 bushels of corn each week, more than 100 bushels of grain would be consumed in this way. But these farmers produce an an average only 96 bushels of corn per farm. Some of this corn is used in the household for bread, in addition to feeding an average of 2 1/2 hogs (equivalent of 1/2 animal unit - Table XXXI), and supplying some crushed feed for cattle, and providing part of the ration for chickens.

Contrary to the usual practice of wasting corn stover in feeding, the Swiss farmers feed this roughage with little loss. The stover is chopped with hand feed cutters into 3/4 to 1 inch lengths. The cattle clean the mangers when crushed corn, cotton seed meal, or shorts are spread over this feed.

CHAPTER V

LABOR AND MACHINERY

Labor and machinery go hand in hand. A properly balanced farm business needs a certain amount of machinery to utilize labor most economically. Whether it be a milking machine or a manure spreader, the machine or implement requires a certain amount of "work duty" to justify its investment. Otherwise its depreciation and interest on investment will make it a liability rather than an asset. And conversely, a lack of machinery makes it necessary to use more man labor which will, obviously, raise the cost of that particular enterprise. However, the efficiency of man labor is increased in approximate proportion to the extent that horse labor and machinery are used.

Labor

Attitude and Labor. Farm work for the most tends to be seasonal, and if the farm enterprises and miscellaneous activities are not planned so that labor is properly distributed, the business will become unbalanced insofar as labor distribution is concerned. This is not sufficiently appreciated by a considerable number of farmers, particularly the planning and carrying out of the so-called unproductive work. Inside jobs, such as repairing harnesses, machinery, etc., are suitable for rainy seasons. Although not productive, such tasks prevent the wasting of productive work

during rush seasons. Caring for livestock[1] is a productive enterprise which will make use of idle labor during winter months, thus improving the annual labor distribution. Also farmers should profit by pruning and spraying fruit trees, cleaning fence rows, and burning rubbish. Such practices will not only destroy breeding places for insects but will also add to the general appearance of the farm and otherwise prove productive.

It takes pride in a business to run it well, attention to detail being a qualitative measure. In this respect the Swiss farmers, at Gruetli, are to be commended. They are tillers of the soil, devoting their entire time to farming, there being only two exceptions in 1935. One of these farmers hauled one day with wagon and team, receiving $3, and the other plowed for 30 days, receiving $75 for his work.

It might appear that these farmers would have "time on their hands" operating such small farms, or that they use antiquated methods, but neither of these assumptions can be justified. It will be shown later that they are as adequately equipped as other farms with larger acreages in crops.

To them farming is an honorable occupation and the necessity of performing a task is a duty. They spurn charity and feel it their moral obligation to work out their own living. Their shelves of canned fruits, and storages of grain and vegetables indicate how well they have provided for themselves. A later sketch of the colony's early history will portray the hardships they endured to gain a foothold. Their present heritage, carved out of wild plateau land, is the result of diligent labor. Here is

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(1) This does not include workstock except brood mares which might be used as work animals.

remarkable evidence that willing hands, when guided by a principle, can make a living on the Plateau although the natural soil fertility is comparatively low.

Measuring Work. To obtain the labor efficiency on different farms, labor must be reduced to a comparable unit.(2) Productive work units are used here for this purpose. "A productive work unit or labor unit is the time of one man or horse employed for a 10-hour day at productive work in the growing of a crop or the producing of stock or stock products."(3) Such units are not a measure of how hard men work but of what is accomplished. They are a measure of the amount of productive work done on the farm.(4) Much other work must always be done, such as repairing buildings, fences, and machinery, or caring for work stock, but it is not considered as productive work in calculating labor efficiency.

It is difficult to obtain the exact time consumed in doing the work on a farm unless actual records are kept. Such records have not been kept on the Swiss farms but a comparable basis has been worked out by the Farm Management Department of the Tennessee Agricultural Extension Service, taken from studies made on Arkansas, Georgia, and Kentucky farms. Productive man and horse work units thus computed per acre of crops and per animal unit of livestock have served as a basis for determining the amount of work required to operate the Swiss farms dealt with in this study.

Man Labor. Crops on these farms are more important than livestock from the standpoint of man labor devoted to them, averaging 74 and 59 man

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(2) Warren, Farm Management, p. 351.
(3) Adams, Farm Management, p. 14.
(4) Warren, op. cit., p. 352-53.

labor units, respectively, per farm. The number of man work units in crops range from 33 to 124, whereas those for livestock range from 15 to 72 (Table XLIV).

TABLE XLIV. MAN WORK UNITS: RELATION OF MAN WORK UNITS DEVOTED TO CROPS AND LIVESTOCK TO LABOR INCOMES ON 16 SWISS FARMS, 1935

Farm no.	Crops		Livestock		Total man work units	Labor income
	Man work units	Acres	Man work units	Animal units		
1	48	10	40	7.7	88	$-346
2	56	15	23	8.8	79	-235
3	41	16	25	9.9	66	-187
4	63	20	60	21.4	123	-107
5	109	19	27	8.0	136	- 93
6	33	8	20	6.8	53	- 69
7	48	8	26	7.6	104	37
8	114	21	50	17.9	164	187
9	67	18	70	18.0	137	297
10	63	12	39	16.4	102	330
11	93	18	15	5.7	108	365
12	91	18	38	12.1	129	376
13	89	17	72	23.3	161	433
14	124	15	44	13.8	168	561
15	56	15	30	10.0	86	566
16	101	18	49	17.0	150	964
Total	1196	248	628	201.5	1854	$3089
Av.	75	15.5	39	12.59	115	193

The total man labor units applied to Swiss farms appear to be small when compared with the 20 T.V.A. Plateau demonstration farms in Grundy County.(5) The latter farms are much larger, averaging 80 acres in crops per farm. They apply an average of 242 and 114 man work units, respectively, to crops and livestock, totaling 356 per farm. Running larger businesses,

(5) Taken from survey records compiled by the Farm Management section of the Tennessee Agricultural Extension Service.

they have higher labor incomes, averaging $336 per farm.

A comparison of labor income groups of the Swiss farms with man labor units shows that the farmers with the highest labor incomes devote on an average 40 more work units to both crops and livestock than those with the lowest labor incomes (Table XLV). Although their average number of acres are approximately the same, the highest income group kept 2 animal units more per farm. The higher income group was thus farming more intensively insofar as the crops were concerned.

TABLE XLV. LABOR INCOME GROUPS COMPARED WITH MAN WORK UNITS ON SWISS FARMS, 1935

Labor income groups	Crops		Livestock		Total man work units	Labor income
	Man work units	Acres	Man work units	Animal units		
Five lowest	63.4	16	35.0	10.98	98.4	$-189.60
Five highest	92.2	16.6	46.6	12.7	138.8	580.00

Man Labor Supply. The average number of man work units performed on the 16 Swiss farms in 1935 averaged approximately 116, ranging from 66 to 168. In terms of months of productive work the range was from less than three to about six and one-half (Table XLVI). Very little labor was hired, less than one-third of the farms reporting hired labor. In contrast, approximately three-fourths of the farmers reported family labor. It is apparent from Table XLVI that the hired labor was on farms where the families were the smallest.

In an average the highest labor income farms reported about 40% more productive work units than the lowest group in 1935, approximately 140

units being performed on the former and slightly less than 100 on the latter.

TABLE XLVI. RELATION OF LABOR INCOME TO PRODUCTIVE MAN WORK MAN-EQUIVALENTS, AND SIZE OF FAMILY ON 16 SWISS FARMS, 1935

Farm no.	Productive man-work units	Man equivalents (a)				Number in family	Labor income
		Operator	Family	Hired	Total		
1	88	1	1.	-	2	6	$-346
2	79	1	-	0.41	1.41	1	-235
3	66	1	.08	0.62	1.70	2	-167
4	123	1	-	0.41	1.41	2	-107
5	136	1	1.	-	2.	10	- 93
6	53	1	0.66	-	1.66	4	- 69
7	104	1	0.02	-	1.02	4	37
8	164	1	1.	-	2.	5	187
9	137	1	2.	-	3.	4	297
10	102	1	-	.75	1.75	2	330
11	108	1	-	0.20	1.20	2	355
12	129	1	1.	-	2.	7	376
13	161	1	0.50	-	1.50	4	433
14	168	1	0.83	-	1.83	2	561
15	86	1	1.	-	2.	3	566
16	150	1	1.83	-	2.83	7	964
Total	1854	16	10.92	2.39	29.31	85	$3089
Av.	116	1	0.682	.15	1.83	4.06	193.06
Av. of lowest group	98	1	0.41	.28	1.70	4.2	-346 to -93
Av. of highest group	139	1	1.03	-	2.03	4.4	376 to 964

(a) Equivalent to 1 man working 12 months.

Horse Labor. Productive horse work units are a good measure of the amount of work accomplished, but since these have not been computed for the Swiss farms, the number of acres in crops per head of work stock is used to indicate the amount of work done. However, the fact that the amount of

horse labor varies with the intensity of cultivation and type of farming, limits the usefulness of this measure.

TABLE XLVII. ACRES CROP LAND HARVESTED PER HEAD OF WORKSTOCK ON SWISS FARMS COMPARED WITH AVERAGE OF 20 T.V.A. DEMONSTRATION FARMS IN GRUNDY COUNTY, AND TENNESSEE, 1935

Item	16 Swiss farms	20 T.V.A. Demonstration farms	Grundy County	Tennessee
Number acres crop land harvested per farm	15.5	80	15.5	23.1
Number head of work stock per farm	2.06	3.4	1.07	1.49
Number acres crop land harvested per work animal	7.5	23.5	14.48	15.42

Sources: Survey of 16 Swiss farms, 1935.
Survey of 20 T.V.A. Demonstration farms in Grundy County conducted by the Farm Management Section of the Tennessee Agricultural Extension Service, 1935.
Census of Agriculture, 1935.

It appears that the average number of acres in crops per work animal on these farms is low and a comparison with the averages of Grundy County, 20 T.V.A. Plateau Demonstration farms in Grundy, and the Tennessee average bears out this point. Table XLVII shows that the Swiss farms have an average of only 7.5 acres of crop land harvested per work horse unit, being only half the acreage per unit on the average farm in Grundy County and the State as a whole, and only one-third the average on the 20 T.V.A. Demonstration farms in Grundy County. This does not mean, however, that Swiss work

stock does less work proportionately, because under more intensive farming methods more work is applied per acre.

Machinery and Equipment

The machinery and equipment on Swiss farms differ very little, in some respects, from those found on larger farms. A comparison of these farms with 33 eastern Highland Rim farms having 20-29 acres in crops will show that they are equally as adequately equipped to operate their small acreages.(6) The illustration follows:

Machinery most common on Eastern Highland Rim farms having 20-29 acres in crops	Machinery most common on 16 Swiss farms having 8-24 acres in crops
1 wagon	1 wagon
2 turning plows	2 turning plows
1 spring or spike tooth harrow	1 spring or spike tooth harrow
1 1-H planter	1 1-H cultivator
3 1-H cultivator	1 mower
1 mower	1 rake
1 rake	2 sets of work harness
2 sets of work harness	

A complete list of machinery and equipment found on these farms will help to illustrate their distribution. Table XLVIII shows the items most frequently found on Swiss farms, namely one to 3 wagons, 1 to 4 turning plows, several hoes and forks, and 2 sets of work harnesses. Growing as much hay as these farmers do, makes it necessary to have both a mower and a rake. Eighty per cent owned mowers and 75 per cent owned rakes. Some of these machines are at least 20 or 30 years old, but they have been kept in good

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(6) Worked out from record books by the Farm Management Section of the Tennessee Agricultural Extension Service.

repair, properly oiled, and judiciously sheltered. A considerable number of machines are comparatively new.

TABLE XLVIII. IMPORTANT MACHINERY AND EQUIPMENT FOUND ON 16 FARMS AT GHUETLI, 1935

Farm no.	Wagon	Mower	Rake	Plow	Cultivator	Double shovel	Bull tongue	Harrow	Disc harrow	Hoes and forks	Scythes	Sets of harness
1	2	-	-	2	1	1	1	1	-	x	1	2
2	1	1	-	2	-	1	1	-	1	x	-	2
3	2	1	1	4	1	1	1	1	-	x	3	2
4	1	1	1	2	1	1	1	1	1	x	2	2
5	1	-	-	2	1	1	1	1	-	x	-	2
6	1	1	1	2	1	-	-	1	-	x	-	2
7	1	1	1	2	-	1	1	1	-	x	-	2
8	3	1	1	3	2	2	2	2	1	x	-	2
9	1	1	1	1	-	1	1	1	-	x	-	2
10	2	-	-	1	-	-	1	-	1	x	1	2
11	1	1	1	2	1	1	2	1	1	x	-	2
12	2	1	1	2	1	1	1	1	1	x	1	2
13	1	1	1	2	1	1	1	1	1	x	-	2
14	1	1	1	2	2	1	1	1	1	x	1	2
15	1	1	1	2	1	1	1	1	1	x	1	2
16	2	1	1	3	2	1	1	1	1	x	2	2
Total	23	13	12	34	15	15	17	15	10	x	12	32
Av.	1.4	0.8	0.7	2.1	0.9	0.9	1.06	0.9	0.6	x	0.7	2
Per cent farms rptg.	100	81	75	100	75	85.6	93.7	85.5	62.5	100	50	100
No. per farm rptg.	1.4	1	1	2.1	1.2	1.07	1.1	1.07	10	x	1.5	2

Note: These farms are ranked in ascending order on the basis of size in labor income. It will be noted that with one exception the best farmers own each one of these items.

Cultivators, bull tongues, and double shovels are found, respectively, on 75, 85, and 93 per cent of these farms. All the Swiss farmers have some sort of a drag, spike, or spring tooth harrow but only 85 per cent reported that they owned a section harrow. Sixty two per cent owned a disc harrow and 50 per cent owned scythes. These scythes are the well-known German blades manufactured in Solingen, Germany, and distributed in this country solely by the Mertgg Company, at Tracy City.

The less important machinery and equipment, based upon a smaller number of farmers reporting, serve a very important purpose on some of these farms. Among them, the hand feed cutter is the most prominent, being reported by 43 per cent. The 2 farmers who own a gasoline engine have lightened the task of chopping corn stover by mounting a pulley on their hand feed cutters and running them by the engine. Incidentally, these same 2 farmers own a small "ground hog" thresher, which is approximately 4 feet high and 3 feet long. It consists of an enclosed 15-inch cylinder and a feeding table. A 4-horsepower engine is all the power that is needed to operate this antiquated machine. The straw and grain drop directly on the floor. Separation of grain from the chaff is done with a fanning mill. Fortunately, only a small amount of grain is grown; otherwise such a separation would become a laborious task. Thirty seven per cent of the farmers own a cider mill, and 31 per cent own a manure spreader. Like the mowers and rakes, some of these manure spreaders are very old but they still appear to be in excellent working condition. Twenty-five per cent own a potato digger.

TABLE XLIX. LESS IMPORTANT MACHINERY AND EQUIPMENT FOUND ON 16 SWISS FARMS AT GRUETLI, 1935

Farm no.	Potato digger	Manure spreader	Middle buster	Feed cutter	Hay fork equip.	Cider mill	Acme harrow	Weeder	Small thresher (ground hog)	Gas engine	Fanning mill	Roller	Blacksmith shop	Fert. distributor	Lime sower	Pump	Corn drill	Crusher (corn)
1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
4	-	1	-	1	1	-	1	1	1	1	1	-	1	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	1	-	-	1	-	1	1	-	-	-	-	1	1	-	-	-	-	-
9	2	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	2	-
12	-	1	-	1	-	-	-	-	1	1	1	-	-	-	1	1	1	1
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	1	1	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
15	-	1	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-
16	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Total	5	5	2	7	2	6	2	2	2	2	2	1	3	1	1	1	1	1
Av.	.3	.3	.12	.4	.12	.3	.12	.12	.12	.12	.12	.06	.18	.06	.06	.06	.06	.06
Pct. farms rptg.	25	31.2	12.5	43.7	12.5	37.5	12.5	12.5	12.5	12.5	12.5	6.0	18.5	6.2	6.2	6.2	6.2	6.2
No. per farm rptg.	1.2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

These diggers are similar to a lister, except that the diggers have shaker bars projecting from the mould boards. (Table XLIX).

There are 3 blacksmith shops on these farms, one of which is well equipped. It appears that most of the Swiss are good blacksmiths, and to this fact may be ascribed the excellent state of repair of their machinery.

CHAPTER VI

EFFICIENCY IN FARM ORGANIZATION ON SWISS FARMS

In the analysis of a farm business, it is possible to detect certain characteristics responsible for relative degrees of efficiency in organization. These factors include: size of business, quality of business, use of capital, diversity and volume of business. Having determined the averages for a group we are able to use them as standards for measuring the efficiency of individual farms, or of selected groups. Just as there are normal and healthy men and women in a community, so we may expect to find normally efficient farms. The first thing a physician does in diagnosing a case is to compare his patient's temperature, respiration, and pulse with the standards of a normal man, thus finding a clue to the disease he is to combat. Such a method of detecting the cause of human disease is applicable to the diagnosis of inefficiency in a farm business.(1)

Size of Business

Man Work Units. An earlier comparison of productive man work units on Swiss farms showed a remarkable correlation with size of labor income. The lowest and highest labor income groups devoted an average of 98 and 138 man work units, respectively, per farm. By applying an average of 40 more 10-hour days of productive man work the incomes of the latter group was increased considerably above the incomes of the group with 98 days of productive work (Table XLV). Although the average number of persons in the

(1) Arnold, J. H., Farm Management, p.177.

in the families of the highest group was only 0.2 of a member larger, their man-equivalents were 0.33 greater than the average of the low income group.

Volume of Receipts. Volume of business is shown to be proportionately larger on farms having larger labor incomes. Comparing again the lowest and highest groups, we find that their average receipts were $336 and $1151, respectively. These best farmers had more than 3 times as large farm receipts as the lower income group.

Quality of Business

Grade of Livestock and Receipts per Animal Unit. The grade of livestock kept on all the Swiss farms is good. However, the highest labor income group has larger cash receipts per animal than the low income group. The livestock receipts per animal unit for the lowest and highest groups were $20 and $27, respectively, per farm in 1935. This indicates that the livestock on the best farms are more productive, having an average of $7 more receipts per unit than on the poorest farms (Table L).

Crop Receipts Per Man Work Unit. Man labor is more efficient on highest labor income farms. Table LI shows that the average crop receipts (including receipts from fruits and fruit juices) per unit of man work amounts only $1.61 in the case of the lowest labor income group, compared with $7.50 for the highest labor income group. In other words, the farms in the latter group realize on an average approximately $6 more crop receipts per day of productive work on crops than the farmer group.

TABLE L. QUALITY OF BUSINESS AS SHOWN BY COMPARISON OF LIVESTOCK RECEIPTS PER ANIMAL UNIT AND LABOR INCOME (AVERAGES BY GROUPS) ON SWISS FARMS AT GRUNTLI, 1935

Labor income groups	Livestock receipts	Animal units	Livestock receipts per animal unit	Labor income
Five lowest	$225.60	10.98	$20.54	$ -189.60
Five highest	574.60	12.7	27.92	580.00

TABLE LI. QUALITY OF BUSINESS AS SHOWN BY COMPARISON OF CROP RECEIPTS PER MAN WORK UNIT AND LABOR INCOME (AVERAGES BY GROUPS) ON SWISS FARMS AT GRUNTLI, 1935

Labor income groups	Crop receipts	Productive man work units (crops)	Crop receipts per man work unit	Labor income
Five lowest	$102.20	63.4	$ 1.61	$ -189.60
Five highest	692.20	92.2	7.50	580.00

TABLE LII. QUALITY OF BUSINESS AS SHOWN BY YIELD PER ACRE OF VARIOUS CROPS COMPARED WITH LABOR INCOME GROUPS (AVERAGES), GRUNTLI, 1935

Labor income groups	Corn (bu.)	Hay (tons)	Irish potatoes (bu.)	Sweet potatoes (bu.)	Labor income
Av. of 5 lowest	35.8	1.88	90.62	48.5	$ - 189.60
Av. of 5 highest	34.5	1.62	132.8	134.0	580.00

Crop Yields. General findings point to the fact that highest labor income farmers have a relatively higher crop yield index. On the Swiss farms slightly lower yields were obtained on the highest income farms. The lowest labor income farmers did not apply more fertiliser or manure. A glance at Table VII (labor incomes are ranked in ascending order) indicates that they bought less fertilizer. Table L shows they have fewer animal units than the highest labor income group, thus producing less manure for spreading on fields. They also applied less productive work on crops (Table LI). However, these higher yields were for corn and hay, crops from which no receipts were received. But the highest labor income group had higher yields of Irish and sweet potatoes, which are cash crops (Table LII).

Use of Capital

Total Receipts and Investment. That the best Swiss farmers made more efficient use of capital is illustrated by comparing total capital with total receipts on these farms. The groups of 5 farmers having the lowest and highest labor incomes had an an average approximately the same amount of capital invested but the former had only $536 in total receipts compared with $1131 for the latter. A ratio of total receipts to total capital shows the average for the first group to be 9.5 per cent, whereas the average for the second group was 32.2 per cent. In other words, it would take the lowest labor income group an average of 11 1/2 years to realise a complete turnover of their capital invested, compared with 3 1/4 years for the highest labor income group (Table LIII).

TABLE LIII. EFFICIENCY IN USE OF CAPITAL: A COMPARISON OF LABOR INCOME IN PER CENT TOTAL RECEIPTS IS OF TOTAL CAPITAL ON SWISS FARMS AT GRUETLI, 1935

Farm no.	Total receipts	Total investment (capital)	Per cent total receipts is of total capital	Approximate number of years for turnover of capital	Labor income
1	$ 283	$2900	9.8	10.2	$ -346
2	133	2609	5.1	19.6	-235
3	559	4825	11.6	8.6	-167
4	397	4906	8.1	12.2	-107
5	310	2446	12.7	7.8	- 93
6	199	1494	13.3	7.5	- 69
7	259	1858	13.9	7.1	37
8	832	3948	21.1	4.7	187
9	1243	2841	43.7	2.2	297
10	735	1931	38.1	2.6	350
11	851	3078	27.6	3.6	355
12	862	3817	23.8	4.2	376
13	848	3044	27.8	3.5	433
14	1068	3547	30.1	3.3	561
15	1027	3105	33.1	3.0	566
16	1884	4327	43.5	2.3	964
Average	718.18	3155	22.3	6.4	193
Av. of 5 with lowest labor income	336.60	3538	9.5	11.68	-190
Av. of 5 with highest labor income	1131.80	3528	32.2	3.26	580

Working Capital[2] and Total Capital[3]. Although the average total capital invested, by the groups of the 5 lowest and 5 highest labor income farmers, were approximately the same, the average investment in working capital was higher in case of the latter, being $677 and $1187,

TABLE LIV. EFFICIENCY IN USE OF CAPITAL: A COMPARISON OF LABOR INCOME IN PER CENT WORKING CAPITAL IS OF TOTAL CAPITAL ON SWISS FARMS AT GRUETLI, 1935

Farm no.	Total investment (capital)	Working capital	Per cent working capital is of total capital	Labor income
1	$2900	$715	25	$ -348
2	2609	549	21	-235
3	4825	656	14	-187
4	4906	1613	33	-107
5	2448	856	35	- 93
6	1494	416	28	- 69
7	1858	569	30	37
8	3948	1291	33	187
9	2841	1536	54	297
10	1931	559	29	330
11	3078	691	22	355
12	3617	856	24	376
13	3044	1432	47	433
14	3547	1272	36	561
15	3105	895	29	566
16	4327	1481	34	964
Average	3155	961	30	193
Av. of 5 with lowest labor income	3538	878	25	-190
Av. of 5 with highest labor income	3528	1187	34	580

(2) Working (or circulating) capital is that invested in livestock, machinery, feed, supplies, etc.

(3) Total capital includes investment in real estate, and improvements, in addition to that in livestock, machinery, feed, supplies, etc.

respectively for the two groups. The ratio of working capital to total capital is 24 and 33 per cent, respectively, for the lowest and highest labor income groups. This means that the higher labor income farmers may be more efficient by having more of their money invested in circulating capital.

Diversity. The number of important sources of farm income vary considerably on the individual Swiss farms, but a comparison of the two groups containing 5 farmers with lowest and 5 farmers with highest

TABLE IV. DIVERSITY AS SHOWN BY NUMBER OF IMPORTANT SOURCES OF INCOME, BY INDIVIDUAL FARMS, AND BY GROUPS ON SWISS FARMS, ZNEETLI, 1935

Farm no.	Number sources of income	Labor income
1	6	$ -346
2	2	-235
3	1	-167
4	3	-107
5	4	- 93
6	5	- 69
7	5	37
8	6	187
9	4	297
10	3	330
11	4	355
12	4	376
13	5	433
14	7	561
15	4	566
16	6	964
Total	69	$3089
Average	4.31	193
Av. of 5 lowest labor income	3.2	-190
Av. of 5 highest labor income	5.2	680

labor incomes indicates that the latter have a greater diversity. Table LV shows that the average number of sources for all 16 farmers is 4, but the highest labor income group average 5, having 2 more sources than the lowest group. Thus the best farmers spread their risks and have a better chance to make some incomes from a few sources, should others fail.

CHAPTER VII

FAMILY LIVING FROM THE FARM

Of the products produced on the farm, pork, milk, eggs, Irish potatoes and fuel were used by all the 16 Swiss families. Only one farm operator, a bachelor, reported no garden and one family reported no home grown sweet potatoes used. The consumption of chickens was reported by 14 of the 16 families. Beef and mutton were used less frequently while Swiss farmers consume some corn for bread, but unfortunately the quantities consumed and the farms reporting were not obtained.

The estimated value of products grown on the farm and used by the farm family ranged from $73 to $591, averaging $348 per family (Table 54).[1] This, of course, excludes corn for bread. Assuming that each family consumed 10 bushels of corn valued at $7 the average value of the farm products used by the farm family would be approximately $355 per family.

The value of pork and garden products consumed by the family amounted to a little less than 2/3 the value of all farm products furnished the farm family. Pork was, by far, the largest item, making up 33 per cent of the total value. The value of pork per family ranged from $25 to $210, averaging $114 per family (Table LVI). The amount consumed ranged with the value from 100 to 800 pounds and averaged 461 pounds per family (size of Swiss families averaged 4 members). Their garden value was 28

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(1) The value of these products were computed from the estimated quantity used and the approximate retail price that would have been charged had they been bought.

TABLE LVI. QUANTITY AND VALUE OF FARM PRODUCTS FURNISHED THE FARM FAMILY ON 16 SWISS FARMS AT GRUETLI, TENNESSEE, 1935

Farm no.	Garden value	Sweet potatoes		Irish potatoes		Fruit value	Milk		Eggs	
		Bu.	Value	Bu.	Value		Gals.	Value	Doz.	Value
1	$200	5	$4	10	$8	$10	350	$87	100	$20
2	0	3	2	5	4	0	50	2	26	6
3	125	0	0	10	7	0	375	94	45	9
4	50	10	7	10	9	10	150	30	25	6
5	150	15	11	25	20	20	400	100	75	15
6	125	8	6	8	6	0	150	37	12	2
7	150	10	7	20	18	0	365	109	50	10
8	50	12	8	30	27	40	200	40	200	40
9	55	10	7	20	18	25	156	31	75	11
10	25	5	4	10	8	10	100	20	100	15
11	50	15	9	25	19	6	55	14	12	2
12	75	25	19	25	20	0	375	94	25	5
13	120	5	3	15	12	10	150	37	100	20
14	100	4	3	20	16	20	200	50	75	15
15	150	3	2	20	16	0	100	25	52	10
16	150	8	6	20	18	25	300	75	150	30
Total	1575	138	98	273	226	176	3476	855	1122	216
Av.	98	8.6	6.12	17.0	14.12	11.0	217.2	53.43	70.1	13.50
Pct.	28	-	2	-	4	3	-	15	-	4

Farm no.	Poultry		Pork		Beef		Mutton		Fuel value	Total value	No. in family
	No.	Value	Lbs.	Value	Lbs.	Value	Lbs.	Value			
1	15	$9	700	$210	0	0	0	0	$25	$573	6
2	6	4	100	25	0	0	0	0	20	73	1
3	15	7	400	100	0	0	0	0	20	362	2
4	25	12	250	62	0	0	0	0	20	206	2
5	10	7	500	125	0	0	0	0	24	472	10
6	22	7	480	120	0	0	45	4	25	332	4
7	5	5	400	120	0	0	0	0	25	444	4
8	0	0	500	100	0	0	0	0	30	335	5
9	0	0	500	100	0	0	0	0	30	277	4
10	62	20	200	50	0	0	0	0	25	177	2
11	24	10	300	75	0	0	0	0	21	206	2
12	5	3	600	150	0	0	0	0	25	391	7
13	8	6	250	62	300	45	0	0	30	345	4
14	3	3	600	125	0	0	0	0	25	357	2
15	6	4	800	200	0	0	0	0	25	432	3
16	3	2	800	200	300	60	0	0	25	591	7
Total	209	99	7380	1824	600	105	45	4	395	5572	65
Av.	13	6.18	461.2	114.00	37.5	6.56	2.8	0.25	24.68	348.25	4.06
Pct.	-	2	-	33	-	2	-	-	7	100	-

Note: These farms are ranked in ascending order of operator's labor income.

per cent of the total, and these values ranged from $25 to $200, averaging $98 per family. The value of milk consumed was approximately half that of pork, ranging from $12 to $109, with an average of $53 per family. Each family consumed on an average 217 gallons of milk per year. Irish potatoes consumed were 4 per cent of the total value of products furnished by the farm. These values ranged from $4 to $27, averaging $14 per family. An average of 17 bushels of potatoes were consumed per family. Each family consumed on an average 70 dozens of eggs, valued at $13. The values of fuel, fruit, sweet potatoes, beef, and mutton consumed from the farm averaged approximately $24, $11, $6, $6, and $0.25 respectively, per family.

Comparing the value of farm products furnished the farm family on these 16 Swiss farms by labor income groups, it is found that the group of 5 with lowest labor incomes consumed an average of approximately 20 per cent less in value of products than the group of 5 with the highest labor incomes. These average values are $344, and $430, for the lowest and highest groups respectively.

CHAPTER VIII

SUMMARY AND CONCLUSIONS

The relative success Swiss farmers are experiencing in their small businesses is due mainly to the utilization of simple but tried methods. The Plateau soil being poor in natural fertility has lead them to till small acreages, but their comparatively high crop yields indicate unmistakably that the soil responds well to the treatment it receives. Their methods are not entirely new, being quite similar to many of those advocated by agricultural extension services and experiment stations.

Since a poor soil demands particular attention to improvement and maintenance, the other farm enterprises must fit into the program to attain this objective. This is done on these Swiss farms mainly by keeping a large number of livestock, in relation to crop area, for the utilization of low-grade products, and the production of manure. Thus the maintenance of soil fertility and an economical method of marketing these products is obtained from their livestock program. To accomplish this purpose, more than 50 per cent of their cultivated land is devoted to hay. The grass mixtures consist chiefly of orchard grass, timothy, and red clover. However, lespedeza is coming more into use. The grass sod remains for 2 to 4 years, and is then rotated with potatoes and corn.

Irish potatoes, being their chief cash crop, receives the heaviest applications of manure and fertilizer. Although corn and hay are grown

exclusively for home consumption, these crops combined occupy approximately 75 per cent of the cultivated land.

Orchards and vineyards vary in size with the individual farms, but the cash receipts from these two enterprises are higher on most of these farms than the combined receipts from all other sources, the receipts from all cattle being second, and Irish potatoes third.

The Swiss farmers increase their manure supply by bedding their stables heavily with leaves. Since lime is not generally used their relative success with red clover is due to heavy applications of manure. Fifty per cent of these farmers use crimson clover as a soil improvement crop. This permits them to use such fields an additional year for cultivated crops.

The more profitable farms had:

1. Higher total receipts
2. More units of livestock per farm
3. Higher receipts per unit of livestock
4. Larger number of important sources of receipts
5. Higher yield of Irish and sweet potatoes per acre
6. Larger total receipts in proportion to total investment
7. More days of productive work
8. A larger proportion of working capital to fixed capital
9. A larger per cent of capital turnover, and
10. The same amount of cultivated land as the less profitable group, but a smaller acreage in woodland.

A comparison of receipts of the 5 best farmers with the 5 poorest farmers showed that the former had higher cash sales from all the principal sources of income, except cheese. Hogs and poultry were kept on all these farms, thus supplying another source of income in addition to furnishing their household with an ample supply of meat and eggs.

Judging by the value of products reported as used by the farm households, and by the quantities of fruits, vegetables, and meat in storage, these Swiss families are well provided with food. These people eat simple but wholesome food, and practice rigid economy in their households. It is said that they live on what others throw away.

An attempt to duplicate the Swiss farming practices on small farms might give discouraging results unless accompanied by a strict attention to detail and a diligent application of labor. The slogan of the Swiss farmers seems to be: "Know your agriculture, but be thrifty and industrious."

With certain reservations, the Swiss farmers could increase their efficiency by: (1) a more general use of lime to insure better results from clovers, (2) a slight increase in cultivated acreage to utilize horse and man labor more efficiently, (3) disposing of some woodland in a few instances and (4) introduction of sheep to add another source of income. (Since this enterprise has met with drawbacks, these may still be removed by a more rigid enforcement of the dog law.)

PART II

SOCIAL ASPECTS OF THE SETTLEMENT

CHAPTER I

ORIGIN OF THE COLONY

A previous history of the colony reveals that in 1867 the Swiss Emigration Society had sent Captain Eugen H. Plumacher to the United States in an effort to locate a suitable place for a settlement. It is not definitely known how widely Captain Plumacher travelled in this search for a colony site, but when he stopped at Washington on his return trip, May 16, 1868, and accompanied by Mr. John Hitz, General Consul and Political Agent for the Swiss Republic, to say good-by to President Andrew Johnson, the President expressed regret that Mr. Plumacher had not visited Tennessee, and asked as a special favor that he investigate the possibilities of that state before making up his mind. Provided with letters of recommendations, Mr. Plumacher started South. He made the acquaintance of Colonel John Armfield, who invited Captain Plumacher to visit his summer home at Beersheba Springs. Being so impressed with the location, Captain Plumacher thought it would make a suitable site for the new colony, and set about making arrangements. He aroused the interest of Messrs. John Hitz, mentioned above, and Peter Staub, a Swiss business man living in Knoxville. Some sort of agreement was made between them to buy up and survey such land as was necessary for the immigrants when they arrived. This came to be the role of Mr. Staub, since it was unethical for the other two because of their political affiliations. However, it is believed that they arranged all the deals.

Captain Plumacher bought land and built a home at Beersheba Springs where he moved his family. It appears that, after making these arrangements, he lost interest in the colony. He taught German in the public schools of Nashville, and, in 1870 to 1871, was professor of German, French, and other languages at Cumberland University. Failing to realize his ambition as United States Consul to one of the European countries, he accepted the Consulship from this country to Venezuela, which position he held for 33 years.



Figure 13. Captain Eugen H. Plumacher

The colonization enterprise was left principally to Peter Staub. Lands which he was successful in acquiring for the colony included part of four grants of 5,000 acres each made in 1835 by the State of Tennessee to the following men: Dr. Samuel Edmondson, of McMinnville; Samuel B. Barrell, of Boston; Edmond Monroe, of Massachusetts; and Joseph McEwen; including also a part of the 2,000 acres granted by the state to George and Gideon Gilley in 1849. This property was neglected by its owners and when finally sold for taxes came into the hands of W. C. Hill, J. H. Hughes, and F. M. Moffett, of McMinnville, and a Mr. Buolin, of Altamont. These were the men with whom Mr. Staub dealt.

He paid different prices for the land and bought it in both large and small quantities, in as little as 100 acre lots to 6,000 acre tracts. The prices ranged from $0.40 an acre to $0.90 an acre. The deeds were made to Mr. Staub with the reservation that he hold it in trust for the purposes of settlement, to be disposed of by him to actual settlers in tracts of not more than 100 acres each.

Having bought the land, there was nothing else to do but to get the settlers to come over. Printed broadsides (probably written by Mr. Staub) advertising the Cumberland Plateau were sent to Switzerland, to other European countries, and to the Northern states where they were posted on the street corners and in public buildings (Appendix B). The land seemed cheap, and to the peasants who came over, 100 acres appeared to be a large estate. They experienced disappointments and hardships, but this has also been true of most pioneering enterprises.(1)

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(1) Taken from a thesis written by Miss Frances Helen Jackson, "A History of the German-Swiss Settlement in Grundy County, Tennessee," Vanderbilt University, 1933.

CHAPTER II

THE SETTLEMENT OF THE COLONY

For a matter of record, it is difficult to establish definitely the exact date when the Swiss first came to the Gruetli colony. It is just as difficult to point to certain later immigrations, except by periods. The colony map lists approximately 100 landowners in 1872. Only a few came after 1872, and since some left, there does not appear to have been more than 100 families at any time in the settlement. At the time of the first lottery (August 16, 1869), there were already 52 families there, and by the end of that year the number had increased to 80.(1) A second drawing of lots took place later in 1869, and the names of families given by Peter Schild as coming in the late '69's, including the Fluries, Werdmullers, Zimmermans, and Kreiss, correspond with those who took part in the second allotment. From this time to the year 1880 only 20 families appear to have come to the colony. According to Mr. Schild, the following families came between 1870 and 1880:(2)

1870	1872	1873	1878
Jake Stocker	Stuecki	Chriss Marugg	Angst
Ludie Stocker		Martin Marugg	Schmidli
Burlie		Peter Jiegen	
Ackerman		Butticher	
Kneubuhler		Hitz	
Duobman		Margidant	
Hodel			

Late '70's	1880
Dribb	Michel
Furrer	
Wichser	

(1) From the Protokoll of the Dutch Reformed Church (see Appendix 9.
(2) Interview with Peter Schild.

In tracing the first settlees to this country, the writer has not been able to find either the exact date on which the first party came over, or the names of the members of this party. But it must have been in the early spring of 1869, for the Protokoll of the Dutch Reformed Church[3] records their first meeting on April 11, of that year, which probably was a short time after their arrival. It appears that the records have been lost, and there is no one now living of this first group.

Peter Schild, now 82 years old, came to Gruetli in the fall of 1869. Mr. Schild is the only one left of the settlers who came over in that year. While it was difficult for him to recall in an interview the exact date when his party left their native home at Brienz in the canton Bern, Switzerland, it was the last Sunday in May 1869 that Peter, then 14 years old, set out by train. With him were his father, his brothers, an uncle, Caspar Schild, and the families of Amachers and Reufs. At Havre, France, they boarded a steamship liner, the Cimbria, and after a peaceful voyage of 10 days and 21 hours they landed in New York about the middle of June 1869. Their party remained in New York two months with some friends. They then boarded a steamer for Norfolk, Virginia, and from there came by train to Chattanooga.

They arrived in Chattanooga in the evening and spent the night there, leaving in the morning by train for McMinnville. There they bought cook stoves and tools, hired 3 wagons drawn by oxen, and set out immediately for the colony on the Cumberland Plateau. They came up the valley of Collins River, in Warren County, and there were met by Consul Hitz, who

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(3) Op. cit., (see Appendix C).

accompanied them up the mountain. It took this group two days to travel over the rough mountainous roads before reaching the site of their future home. In addition to being tired, they experienced keen disappointment at finding only a crude log cabin in the woods, which was to house all three families until they could build their own homes.

They at once set out to cut timber with which to build log cabins. No attention was paid to the kind of trees cut. As evidence of this, in two of these structures remaining in use today as tool sheds, one can see all varieties of oaks laid upon black gum and hickory.

The data recorded in the Protokoll, previously referred to, give a glimpse of the hardships endured in establishing the colony. It is evident that none had bought land until after coming over. In true democratic fashion they organized themselves for concerted action, being lead principally by the Consular Agent, Peter Staub. This first assembly took the form of a pep-meeting which helped to lighten the hearts of this discouraged group of strangers in a new land. Captain Plumacher had told them that the Plateau was rich and that it was an ideal place for health;(4) but their fond hopes almost crumbled when the colony site was pointed out to them. They had been led into the deep woods without suitable buildings to house them. Spring was at hand, yet no land was cleared for crops. The money of Mr. Wogt had given out in McMinnville, and he could come no further.(5) Those who arrived had little left to buy land. Such were the

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(4) Chattanooga Times, Magazine Section, Sunday, June 4, 1932.
(5) Interviews with Peter Schild and Martin Marugg.

conditions facing the newcomers. They had left their native land in the hope of doing better here. However, being unwilling to acknowledge defeat, they hoped that the future would be kind to them.

Not until August 16, 1869 was the land apportioned to each settler. Similar to other colonial practices, the land was subdivided into tracts of 50 to 100 acres in size. Their term "Verloosung" indicates that the number of each plot was entered on a strip of paper. These strips were shuffled, and on the day set for the lottery the settlers drew for their respective tracts.(6) Since the land first had to be cleared, there was no opportunity to plant a crop the first year. This caused hardship during the ensuing winter.

The colony map still plays an important part in the settlement. Each plot is designated with a number. Even now, when any of these tracts are spoken of, they are referred to by number. Practically every colonist possesses one of these maps. Jeff D. Fults, a lawyer at Tracy City, and attorney for the colony land owners, told the writer that this map is used in any lawsuits involving the colony land.

Unlike other colonies, the Gruetli settlers were not troubled with land titles. Fortunately for them, Consular Agent Staub assumed the role of trustee for the colonists and any trouble that arose concerning land rights and boundaries were borne by him. Even today, when their attorney Mr. Fults can establish that the land in question belongs to the "Staub Heirs", a clear title is evident.

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(6) Mr. L. Gade of Knoxville, a former German emigrant to Wisconsin, says that this is a current practice in allotment of colony land.

The name Gruetli is derived from the German verb "reuten" or "ausreuten", meaning "to root out" or "to clear".(7) Based partly on history and partly on legend, in the year 1307, three men gathered on a small mountain meadow, in what is now Switzerland, to unite for common protection against the tyrannies and cruelties perpetrated by the Austrian House of Hapsburg. This assembly, spoken of as the Swiss Confederation, was called the Grutli -- taking place on a small clearing.

The speaker at the first colony assembly seized the name Gruetli because it called to mind, with certain reservations, a similar situation in the early history of their fatherland. By naming the settlement Gruetli, a commemoration was instituted to symbolize the unity, courage, and perseverance necessary for the promotion and preservation of the colony.(8)

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(7) Interview with Martin Marugg, Tracy City, Tennessee.
(8) Protokoll of the Dutch Reformed Church at Gruetli.

CHAPTER III

MOVEMENT FROM THE COLONY

The Swiss emigrated to this country because they looked for an opportunity to improve their conditions. From the first section of this study, we learned that those people living on farms at Gruetli are making a fair success at their business considering the chance they have had, and we would expect that those who left the colony would do even better with more favorable circumstances. The Swiss who moved away did not do so because they were unable to make a living on the poor Plateau land but because of better opportunities elsewhere.(1)

It is difficult to trace all of the families that left. A large number moved to the nearby towns of Altamont, Tracy City, and Palmer. Some went to Belvidere, near Winchester, and still others to Chattanooga and Nashville.

By presenting the sketches and business attainments of a few families who moved from the colony we may appreciate further their reasons for leaving.

Martin Marugg. In 1873 Martin's father, C. Marugg, started importing Swiss mowing blades to the colony and making handles for them, and selling the finished products. After his death, Martin continued the work and has enlarged the business until at the present time he ships the completed tools from the factory at Tracy City to all parts of the world. In 1893 Martin Marugg started the Silica Roofing and Construction Company in Tracy City. This company went out of business a few years ago and it was sold

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(1) Interview with Coleman Dykes, Knoxville, Tennessee.

to the Tracy City Ice Company, which is in operation at the present time. In 1894 he took over the defunct Tracy City "News", bought new machinery and started "Mrs. Grundy", a county paper which was in circulation until a few years ago, when it changed hands and became known as the "Cumberland Outlook". In 1895 he started a telephone company with a line between Tracy City and Altamont. The company enlarged and at the present time has lines running throughout the county. Mr. Marugg is still president of the Dixie Telephone Company and owns a controlling stock in it.(2)

Sam Werner. Sam Werner, Sr., and his wife came from Switzerland in the early 1870's and settled in New York State. About the year 1873, they came to the Gruetli colony and bought a place on which they lived for a while. Being a mechanic, Mr. Wemner took a job as pattern maker for a foundry, which at that time was operated at Tracy City. He had quite a number of children and Sam, Jr., was one of the youngest. The father then bought a small sawmill and developed it. After his death, Sam,Jr., took control of the plant and developed it further. He has been very successful for he now has a large lumber mill at Tracy City, employing at times as many as 30 men, many of whom are Swiss. He also has a great deal of land and timber tracts, and is engaging in a thriving business. Mr. Werner is about 63 years of age, and although he would not need to work, he takes so much interest in the enterprise that he works besides his employees.

John J. Greeter. Although Mr. Greeter never lived in the colony, we shall mention him here as a successful Swiss business man. His father

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(2) Interview with Miss Mary Elizabeth Banholzer, Tracy City, Tenn.

came from Switzerland in 1869. Shortly after coming over he bought a combination saw and grist mill 13 miles from Altamont. John married a daughter of Leon Stocker and lives at Altamont where he has a large steam saw and planing mill.(3)

John Baggenstoss, Sr., came to this country in 1890. He stayed in the northern states for a while and then went to Memphis where he worked in a bake shop. From there he went to Fayetteville, Tennessee, and then to Louisville. From Louisville he came to the colony and married Louise Angst. In 1903 they moved to Tracy City where he set up a bakery for himself. After his death about 16 years ago, John Jr., age 36, enlarged the business. He installed modern machinery and is at the present time operating five trucks making deliveries over several counties and into a part of Alabama. His bread is known as "Dutch Maid Bread". Mr. Baggenstoss had six sons, and five of them are connected with the bakery.

K. A. Banholzer was the first baby born in the Swiss colony. Andrew, his father, was a farmer who had bought a 300 acre tract in the colony and developed it. After his wife's death in 1880, Andrew and his family moved to Belvidere, where he spent the latter portion of his life. K. A. came to Tracy City in 1893 to clerk for M. Marugg. He was married at Tracy City to Mary Jane Tidman, an English girl, in 1898. He worked for Marugg several years. In 1908 he obtained the Coca-Cola contract, and has been very successful with the business.(4)

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(3) Interview with Martin Marugg, Tracy City, Tennessee.
(4) Interview with Miss Banholzer, op. cit.

Henry and Victor Flury have been prominent merchants in Tracy City for many years. Their father, Henry Sr., who married a Mrs. Studer in the colony, raised a large family and was successful at farming. Some of the children are in California and others are in Chattanoogs. One of his sons, Victor, having been to St. Louis and learned the butcher trade, saw the opportunity for such a business in the vicinity. It was in 1900 that he set up a butcher shop at Tracy City. He conducted a successful business until his death. A short time after Victor had started the butcher shop, his brother, Henry, set up a grocery in the same town, later adding dry goods and notions. He has been in Tracy City about 35 years and is still doing a good business.

Leonard von Rohr started wagon making in the colony. Leonard came from Switzerland in 1872, a sister having preceded him to the colony. Mr. von Rohr bought some land in the colony but did little farming. He set up a small shop to make wagons, employing a number of men. The thimble cast skeins used by him were the first made in this section. He also erected a shop at Tracy City and operated both shops together. His wagons were known all through the section and people came long distances to place their orders. Payments for wagons were largely in trade. In exchange he would receive livestock and farm products. Before his death, Leonard taught many of the people who worked for him the art of making wagons.

Will Jossi is another Swiss merchant at Tracy City. His father, a blacksmith, came to Altamont, near the colony in 1869. With him came his wife and a child. He later moved his shop to Tracy City where he

married his second wife. Of this union they reared two children, Agnes who married Victor Flury, and Will who is now manager of the meat market and grocery left by Victor Flury.

Fred Zummerman came from Switzerland with his father in 1869. He bought a farm in the colony and did some farming but had a trade as carpenter. In 1895 he moved to Belvidere where he has been operating a large farm. He is now retired at the age of 75, and the business has been turned over to his four sons.

Kasper Kniess probably came from Austria to the colony in the early 1870's, where he bought a farm. His sons John and Kasper Jr., worked in the wagon shop with Mr. von Rohr, mentioned above. Later they moved to Winchester and opened a shop for themselves.

Joe Stocker (Palmer Joe as he is called) was the son of Joseph Stocker who came from Switzerland in 1869, accompanied by several brothers. Joe was born in the Swiss colony, where he learned wagon making in von Rohr's shop. When he moved to Tracy City to work in Mr. von Rohr's shop there, he married Kate Andregg. Joe then bought a farm in the Peat Mountain section, several miles northeast of what is now Palmer. He devoted his time to raising cattle. To improve his market for beef cattle, he opened a butcher shop and store at Palmer. His sons are now operating the farm.(5)

John Rychen married Elizabeth Thoni before leaving Switzerland and they came to America on their honeymoon to make their future home. They

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(5) Interview with Martin Marugg, op. cit.

bought a farm in the Gruetli colony. To this union was born five children. At the death of Mr. Rychen in 1889 the family sold their farm at Gruetli and moved to Nashville. John Jr., at the age of 15, started to learn the harness trade. Persuaded by his uncle, Melchior Thoni, he went into the dairy business. His two brothers joined him and now they are operating the Rychen Brother's Dairy on the Couchville Pike, near Nashville.(6)

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(6) From a thesis by Francis Helen Jackson, op. cit.

CHAPTER IV

COMMUNITY LIFE IN THE COLONY

We learn to know the Swiss people better by observing their activities. They are a practical, sober minded, and diligent working group, who are congenial, and love entertainment, yet they are devout and strictly moral in their behavior.

Habits and Customs

Working from daylight until dark made it necessary for them, in the early days, to eat more than the customary three meals a day. Even today, some of them still follow this practice. They go to the house for some lunch at 9:30 in the morning, and again at 3:30 in the afternoon. The refreshments consist of bread, cheese and wine or coffee.

Saturday evening is visiting time for the men folk. Formerly, they met at the village store for a general get-together, where they would discuss their activities, play "yass", and sip wine.

"Yass" is the favorite Swiss game played with 36 regular cards, being a cross between bridge and poker. The participants consist of groups which naturally drift together. Three or more rings (as these gfoups are called) are found in the Swiss locality of Grundy County. This game appears to be widely played for yass tournaments are held frequently in Nashville.

Holding shooting matches is an old Swiss custom. Two of these matches are generally held every year -- one on 4th of July and another in the fall. They offer prizes, such as money, the best part of a beef, or various other

things, and the best marksman of the group is acclaimed winner or "Schutzenkonig".[1] Of course, they have other matches, but the two just mentioned are the principal ones.

Two big celebrations are generally observed every year, namely the 4th of July and New Year's Eve. The 4th of July celebration is featured by shooting matches and a picnic. Songs, dancing, and games offer added attractions to such an event. Similar to our custom of sitting out the old year, these people have a joyful time dancing, drinking, and singing. on New Year's Eve. Although strict decorum is observed, this gala affair demonstrates the possibility of having a good time without overstepping the bounds of decency.

Dancing provides a very popular form of recreation and entertainment. The two big dances of the year take place on 4th of July and New Year's Eve. These were formerly held at the regular dance hall which stood near George Willie Schiff's place, in the center of Grustli. These dances consisted of the waltz, Shottish, Polk, and the Mazurka. The music was furnished by a local band. Samuel Jenny, who at one time played with the Boston Philharmonic Symphony, played first violin. They also had two fiddles, a bass violin, and a clarinet. These dances began at dark and lasted until dawn. Refreshments were served about midnight. Often the older people came to the dances and played cards in an adjoining room.[2] At the present time, dances are held in the homes, probably because their number is much smaller. The boys make arrangements for the affair with

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(1) Interviews with Martin Marugg and Miss Mary Elizabeth Banholzer, op. cit.

(2) Interview with Miss Mary Elizabeth Banholzer, ibid.

the respective parents, and fiddlers are employed. Attendance must be invited. This courtesy is sometimes extended to outsiders. No drinking is allowed. Should the behaviour of anyone become intolerable, he is kindly asked to leave by the committee on arrangements. These dances are generally held every two weeks. The completion of a new house is looked upon with great interest because it provides an occasion for dancing which generally takes the place of our house warming. The young Swiss folk feel like being cheated if they fail to have one.(3)

"Although the Swiss do not easily become familiar with strangers, it is known by people living about them that they consider supping wine with them as a final token of mutual friendship."(4)

Educational Interests

The original plan of the colony included two school sites, one in the northern and another in the eastern section of the settlement. Since few settlers came after 1875, a school house was built near the center of the colony. It was a 2-room structure. This building was burned in 1932, and a year later a 1-room structure was erected to take its place.

Christian Ruef was their first teacher, employed in the early '70's. He taught in the German language for 3 or 4 years at the east side school. In a similar manner John Kiessling taught at the north side school. Both of these men were educated in Switzerland.

After 1880 a Mr. Weisshaupt from Knoxville taught for many years at the newly built school near the center of the colony. He was succeeded by

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(3) Interview with Coleman Dykes, op. cit.
(4) Ibid.

Rudolph Marugg who taught until about 1890. At that time, the school was conducted in English and German on alternate days. The County contributed to the school and after 1890 local teachers conducted the instruction in the English language. At the present time there are only a few Swiss children of school age, a small group attending the Gruetli school, and another group attending the Mt. Vernon school in the southern border of the settlement. Some of their children, who have reached high school age, are taken by bus to Tracy City.

Religious Interests

The majority of the Swiss settlers are protestant, belonging to the Dutch Reformed Church. The few belonging to the Catholic Church were the Stockers and the Fluries. Since there was no Catholic Church established in the colony, these members attended the protestant church services.

During the greater period of the colony, their church was served by a pastor from Franklin County. This was Rev. D. Warren of Belvidere, who devoted one and sometimes two Sundays each month to the Gruetli congregation. He also held classes for the older children to prepare them for confirmation. There was no church building erected but services were held in the school houses. At the expiration of Rev. Warren's services in 1890, they were again served by a well-liked preacher, Rev. John Bollenbacher. Being a versatile man, he not only took over the leadership of the brass band, but also the activities of the whole community. During his time, the members attended services regularly and took great interest

in church work.

Following Rev. Bollenbacher, a new-comer of the Swedenbergian faith, Rev. B. Russbaum, settled in the colony and began teaching the creed of his church. This caused dissension. Although a few joined the Swedenbergians, the others refused to accept this doctrine, and afterwards there apparently was very little unity in church matters. Mr. Russbaum educated William Rutchman to succeed him as local pastor, but the assassination of Mr. Rutchman prevented him from realising this ambition. No motive was ever found for this murder. However, the Swedenbergians carried on for 2 or 3 years. Mr. Russbaum married in Tracy City and moved to St. Louis to take over a charge there.

Up to this time services had been held in the German language. But the English language came to be used exclusively when the Church of Christ, the Episcopalians, and the Methodists took turn in holding church services. As a result the church affiliations have been distributed among these creeds. Each of these denominations have church buildings near the colony. Most of the Swiss residents of Gruetli belong to the Church of Christ.(5)

Language

The German language was used in the Swiss schools until about 1899, when pressure from the Grundy County school system was successful in displacing it with the English language. This was about the time that their church dissension occurred, and it was then that they ceased to

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(5) Interview with Martin Marugg, op. cit.

to record their church activities in the Church Protokoll. These minutes were recorded in the High German script, as were the minutes of the Landwirtschaftsverein which concluded in 1917. It was at the turn of the century that the use of the German language began to decline in the written records, and the prejudice during the World's War appears to have muffled it entirely.

Earlier church services were held in German because few could understand English. Their spoken language they call "Sweizerdeutsch", a type of the Low German. The older people living at Gruetli speak with a foreign accent, yet it can be clearly understood. Although it appears that German has lost ground in the last three decades, approximately 95 per cent of these Swiss settlers can still speak this language.(6)

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(6) Interview with Coleman Dykes, op. cit.

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APPENDIX A

FARM MANAGEMENT SURVEY SCHEDULE

The schedule used in obtaining data on the agricultural activities of Swiss farmers in the colony was the Farm Record Book, Form A.A.A. - 270 (Revised) September, 1934, prepared by the United States Department of Agriculture in cooperation with the Agricultural Adjustment Administration and State Extension Economists. A Supplementary sheet was used in obtaining certain data not called for in the Farm Record Book.

Among the major items included in the farm survey are: area of the farm by major land uses; inventory of real estate, livestock, and other farm property, and supplies at the beginning and end of the year; production and receipts of farm products and farm expenses.

APPENDIX B

POSTER ADVERTISING EAST TENNESSEE

EAST-TENNESSEE
The American Switzerland
To Husbandmen:

The State Where One Ought to Settle. Great Facilities For Factories of Every Kind in East-Tennessee.

There is a circular concerning this which contains an accurate description of the advantages (benefits) which the iron and steel factories must bring. This large boundary, the future home of numerous well-to-do people, will soon have railway facilities in all directions and the iron manufacturing will multiply business channels. Iron, the production of which costs $8 a ton in Pennsylvania, can be produced in East-Tennessee for $1.60. The coal and iron mines are hardly a mile from each other in an area of over forty square miles. The time will come when this narrow valley will be full of smelting furnaces. Coal, iron, lime, sandstone, aluminum, different kinds of the best nut trees, and excellent waterpower all lay unused and are waiting upon capital and an enterprising spirit. The best market for the sale of all possible manufactured articles, and secluded iron and steel are now at hand. The iron and coal of this section are pronounced by qualified iron experts to be better than the ones of Pennsylvania. More railroads are now under construction, among them the Cincinnati-Chattanooga Railroad which cuts through this region. All these railroads will help to encourage the development of the mineral deposits in this part of the State. The example of Pennsylvania indicate how wealthy a people can become through iron manufacturing.

Your Attention will be Opportune Upon these Advantages of Capital Investments.

The enormous wealth which might be realized from the mines of East-Tennessee has an important meaning. The small outlay of capital

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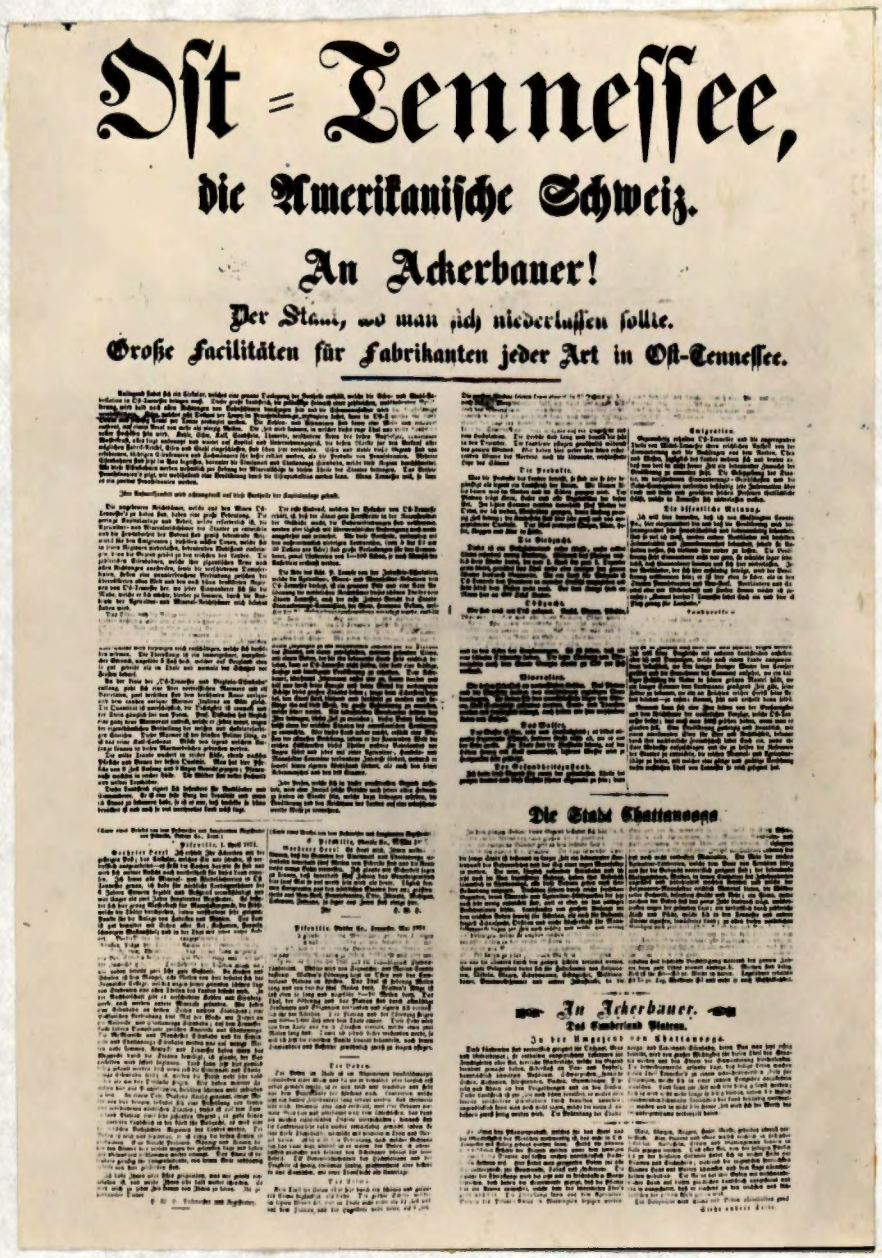
Through the courtesy of Mr. Martin Marugg of Tracy City, a copy of the original poster was made available to the writer, who made the translation from German.



Oſt = Tenneſſee,

die Amerikaniſche Schweiz.

An Ackerbauer!

Der Staat, wo man ſich niederlaſſen ſollte.

Große Facilitäten für Fabrikanten jeder Art in Oſt-Tenneſſee.

Die Stadt Chattanooga

An Ackerbauer.

Das Cumberland Plateau.

Figure 14. The Poster (Broschure) Advertising East Tennessee

and labor which is necessary, the agricultural and mineral wealth to develop, and the fruitfulness of the soil are certainly an important stimulus for emigrants, meanwhile, those who settle in this region must bring in considerable wealth for this section belongs to the most abundant of the country. The numerous railroads reach their gigantic arms in all directions, and likewise, the different steamship lines arrange an uninterrupted connection between the overpopulated old world and the sparsely settled region of East Tennessee where every immigrant will find himself amply repaid, for any trouble he might take, through the profits of agricultural wealth.

The climate and soil of East Tennessee are extremely favorable for tea culture and the Tennessee tea is already drunk frequently. Many realize their household necessities without great trouble and cost. One can harvest three crops of tea in a single season. The general introduction of a successful tea culture will richly compensate the one who devotes himself to it. The tea plant is an evergreen, well rooted bush, approximately five feet high, which thrives as well on upland as on lowland and never needs protection from frost.

Along the line of the "East Tennessee-Virginia Railroad" there is a vein of choice marble in eleven varieties, two of which are the renowned Rosso antique, and what appears as good as the rough Italian marble. The quantity is inexhaustible, compact and free from pores. Professor Dickinson has recently discovered a new marble which he calls zebra on account of its characteristic distribution of white and chocolate stripes. This marble is capable of taking the finest polish and is composed of the pure calcium carbonate. Blocks of any size can be broken in these marble quarries.

The wild grapes grow plentifully, even also do peaches and pears of the best quality. They grow here peaches nine inches in circumference and which weigh nine ounces, peanuts also grow abundantly. The woods are full of high type of game and wild turkeys.

This section is especially adapted to northerners and immigrants. It is a mighty fort of loyalty and if there is anything I have to deplore it is only that this portion is so sparsely settled and that here is so much valuable land lying idle.

The first impression which a visitor of East Tennessee receives is that the State has made remarkable strides in its commercial establishments; the railroad connections are complete, but they are daily being extended and increased by enormous effort. All these advantages, together with the unusually low land prices (from $5 to $20 to $30 per acre) are big enticements for the immigrant. Above all, boundaries can be bought from one to one hundred acres, or whatever the colonist wishes.

The Soil

The soil in the valley is generally a black clay loam of the first quality, or where it is wooded or recently cleared it is rich

and fruitful and compares only to the prairie lands of the West. Some areas which have been in cultivation for the last half century are very rich; others are exhausted because their managers never sow grass and generally the worst is the exhaustive system of cultivation; nevertheless, the soil is easily made productive because it has a firm strata of clay mixed with primitive clay and marl. It is not important in what direction the land is lying, everywhere it is warm. The soil is productive and rewards the farmer liberally for his labor. The condition of the soil on the high plateau and ridges is stony, part of it is sandy, but the greatest part consists of a sandy loam with a strata of clay as a bottom layer.

The Climate

No section of the Union has as beautiful and healthful a climate as this one. The heaviest snow which fell last winter was not deeper than one and a half inches in the valley, and not deeper than six inches on the plateau and chain of hills. The largest streams freeze over hardly once every 25 years. Nevertheless, the mornings are cool, many times frosty and during the winter moderately fresh. The spring begins moderately early, the summers are long yet in keeping with the lay of the land are not extremely hot. Nowhere can the summers be more pleasant than on the plateau and on the mountains. The autumns are long and last until late in December. The farmers generally plow throughout the entire winter. We have here neither the cold benumbing winter of the north, nor the languid, prostrating heat of the south.

The Products

So far as the products of the land are concerned, we are as much favored as any section of the Union. We are able to cultivate anything that those of the north or the south are able to grow. The plateau produces grain, oats, and all vegetables of the best kind. Last summer not five miles from where I live, turnips were grown having a circumference of 20 inches. The potatoes grow here very large and of excellent quality. The valleys produce corn, oats, rye and clover in abundance.

Stock Farming

This is a cattle raising country of high order. Our mild climate require little housing. While the plateau has an abundance of free grass range remaining green from April until December 1, it affords

more or less grazing throughout the entire winter. As a land for stock raising, East Tennessee is preferred to the prairies in many instances, and stands in a class by itself. Before the War one man kept 600 heads of cattle.

Orcharding

We are richly blessed with fruit. Apples, pears, peaches, plums, cherries and all kinds of small fruits grow in abundance. We raise excellent winter apples, our summer apples ripen already in June. The apples grow best on the plateau and on the mountains, and in the valley excellent peaches are raised, meanwhile, growing along the roads and corners of the fences. It is seldom that we have a poor fruit harvest. The last shipment of winter apples to the State of Georgia we received $10 per barrel.

Minerals

We have an abundance of excellent coal. Various productive veins run through the plateau and chain of mountains. Here is also to be found inexhaustible deposits of iron ore. Lime is likewise to be found, sand and gravel are easily obtained; we have also here various kinds of salts.

The Water

The water is clear, pure and crystallike; there are no stagnant swamps, but flows quickly off where it springs out. In the valley the river bed is loamy, but stony upon the uplands mixed with lime; the latter water becomes in the end very considerable.

Healthfulness

I consider this section to be the most healthful part of the entire country, and this appears to be the general opinion, for when travelling through this region one finds many who have come here for the sake of their health. We have no local cause for sickness of any kind. Health is generally the rule and sickness the exception.

Emigration

At the present, East Tennessee and the bordering part of Middle Tennessee receive the greatest part of the immigration. The increasing enquiries from the North, East, and West concerning this territory indi-

cate a significant increase in the population in the near future. The State Legislature, the different immigration societies and the railway companies are constantly preparing every information about the land and people, and accord positive assistance to such people who wish to settle in Tennessee.

Public Opinion

I will here note that I came here from Washington County, Pennsylvania, and in spite of that, the people have treated me kindly and friendly. And so far as I know, other northerners will be treated with the same kindness and civility as soon as they can make arrangement to settle. The people are not only glad to see the immigrants come but as ardently wish they would settle here. Every northerner who behaves himself decently will be welcomed by the population; he is as secure here as in the state of Pennsylvania or New York. To northerners with capital or with a willing spirit and strong arms will I cry: Come hither! Tennessee invites you and here is room enough for thousands.

Land Prices

Land costs from $5 to $35 per acre, the average price is generally $20 by actual value. We have beautiful forests in abundance. At present the land prices are rising and indications are that they will continue to do so and more quickly. I will not make comparisons with other parts of the country, but only want to call to him who wants to emigrate to a country where no long strenuous winter destroys the comfort and eats up the income of the summer; where an early spring clothes nature in a green mantel; where a long summer gives the farmer sufficient time to be rewarded for his labor! Come, see and judge for yourselves!

No one can imagine the grandeur and wealth of natural resources which East Tennessee possesses; one must see it to believe. A kind and friendly population with a sense of perception for honor and integrity acknowledged through their neighborly friendliness invites you to make your abode and help them develop the resources of the state; to draw from the rich mineral and agricultural treasure which the benevolent and gracious providence has so richly blessed this western part of Tennessee.

(There follow excepts from several papers and magazines; namely, New Yorker Tribune, Philadelphia Press, Harpers' Monthly Magazine, and Philadelphian Blatt, which contains similar descriptions of East Tennessee.)

Everyone from Europe who has decided upon Tennessee as your destination will find it most convenient to come by steamship or sail boat to Norfolk, Virginia, travelling then by the Virginia-East-Tennessee Railway directly to Chattanooga, which is approximately 300 miles distant and can be made in 10 hours by train. One can make the entire journey from Liverpool, London, Bremen or Hamburg in 12 to 18 days.



APPENDIX C

EXCERPTS FROM THE PROTOKOLL OF THE DUTCH REFORMED CHURCH

A Sketch of the Early Activities During the Establishment of the Swiss Colony at Gruetli.

This account appears in a manuscript which also contains the records of the Gruetli Church including births, deaths, confirmations, etc. The first 23 pages are the story of the founding of the colony. There is no signature, so the writer is unknown. It is all written in German script.

Foundation of the Club

The Swiss who had settled in this neighborhood met on Sunday afternoon, April 11, for the organization of the Gruetli. The speaker seized this name (Gruetli) because of its significance and called to mind more than 550 years ago how small a number had gathered upon a peaceful mountain meadow for a confederacy, and yet how much blessing and happiness came from it. Austria's autocracy had to fall a victim to their faithful union. They risked blood and property through centuries for the great benefits of freedom, and today our brothers in the fatherland also rejoice in it. Also now, we are required to found a Swiss colony and assure its growth. Not with powder and lead must we reach the goal, but beneath the peaceful weapons of the farmer the giants of the forest fall. Nevertheless, unity, courage and perseverance are necessary, a genuine social democratic spirit must enliven us; and underlying it must be an unselfish sense and dealing in order to reach our goal in promoting and preserving the colony. Letting cooperation and agreeability predominate in all our meetings, the omnipotent ruler of our faiths will not deny our success to our desires, then will arise prosperity and happiness to ourselves and future generations, and we shall be useful citizens of our adoptive fatherland.

This first meeting was finished with a hurrah for the General Consul Hitz, who had helped them with the founding of the colony, and with the singing of the song "Das Gruetli".

"THE GRUETLI"

From afar you're cordially saluted
You quiet country by the lake,
Where the sparking ripples melt away
Fed from the eternal snow.

Hail to you peaceful abode
Respects to you hallowed land,
Where was broken slavery's chain
The fathers with a mighty hand.

Then they looked in nightly quietness
Lamenting down upon the suffering of the fatherland,
And saw how misery completed the fulness
Of the command of despotism.

Here stood the fathers together
For freedom and domestic goods,
And swore by the most sacred name
To overthrow the tyrranic brood.

And God the all bountiful nodded
Prosperity by a holy vow,
By His arm the tyrants were stifled
And free was the native plain.

Therefore, Gruetli be cordially saluted
Your name shall ne'er pass away,
As long as the Rhine is still flowing
As long as the Alps still endure.

Note: The last line in each stanza is repeated to form the chorus. (In the translation of this song it was difficult to preserve both the measure and the rythm. So attempt was only made to keep the general meaning conveyed.)

On May 2, 1869, a preliminary constitution was accepted and the following officers elected: Heinrich Schwarz of Gruetli, president, Rudolph Wegelin of Beersheba Springs, vice-president, and Jacob Schneider at the Long Mill, secretary. Mr. Eugen Plumacher who had been chosen by the Swiss Colonization Society as director for the colony, who also originated the project, attended the meeting. He spoke on the difficulties still attending the project and pointed out that nothing had been accomplished in this regard but help would quickly come from the other side. He asked the colonists for patience with a promise of dispatching as quickly as possible the business of the colony. On May 31, the stipulated time for the agreement between Colonel Hughes and Mr. Plumacher came to an end, according to which 30 families should have been permanently located upon the colony land. The Gruetli Society learned that Colonel Hughes did not wish any longer to keep his agreement because Plumacher in no way made good his obligations. This report induced the society on June 6, to prepare a petition to our high General Consul requesting his assistance. This had a desirable result for on July 4, two representatives from our Honorary High General Consul, Messrs. Wermuth and Peter Staub accompanied by Colonel Hughes visited the assembly to investigate this affair, in order to give the High Swiss General Consul a conscientious report, Mr. Wermuth, first secretary of the consulate, wished to hear out of the mouth of each individual opinions and wishes and they in one accord declared that their climate and site were satisfactory and believed it possible to found an independent existence. They all wished that the colony could adjust itself so they could begin work.

Colonel Hughes declared himself ready to close a new agreement with the colonists and the zealous interest of both the delegates in behalf of the colony were successful in drawing up a favorable agreement for the colonists.

The agreement reads: All 50-acre lots along the streets were restored, and for those in the rear, each colonist was allowed a preemption right of $1 per acre. This change caused another delay because the selected properties belonged to different owners, which would not sell for the cheap price offered and after a great deal of pains, the first drawing of lots was arranged on August 16, on which day were present Messrs. Buolen and Hill, the most important grantors of the first 5,000 acres.

The minutes of the general assembly of August 16, 1869, in Gruetli, 10 a.m. The minutes of the Gruetli Society of June 6, July 4, and 18, were read and accepted unanimously. The president then reviewed the progress of the colony up to the present. The Director of the society proposed that the body set about to elect officers today which were to carry out the decisions.

As order of the day the president proposed:

1. A resolve to draw lots for properties today.
2. Taking up those qualified to a lot.
3. Electing trustees from among them.
4. Concluding a survey agreement with Engineer Bauer.
5. Making a payment on cost of survey.
6. Drawing of lots.
7. Resolution concerning compulsory work.
8. Unexpected events.

The order of the day was declared agreeable. About the landed property the copy of a message from Mr. Wermuth was read which was addressed to the Honorary High General Consul, dated Knoxville, July 10, which said that according to contract all other land was out of the question except that which Mr. Buolen had surveyed for us. On the one side there was accord with the agreement by the satisfied expression of the land owners Messrs. Buolen and Hill, and on the other hand, the resolution to definitely take possession of the land brought satisfaction to the future inhabitants that they could draw lots on the same day. The plan for drawing of lots pointed out that after deducting the land for school as well as for roads there would still remain 48 lots for disposal, and it was determined that after all had drawn lots they would number 52, and for that reason 4 would have to live outside of this boundary. Forty-eight inhabitants were qualified to draw the list of whose names would follow with the lottery. Upon proposal by Mr. Bauer the selection of a board of trustees was recently delayed until the arrival of our Honorary High General Consul. The agreement drawn up between Mr. Bauer and the trustees in the name of the colony, for the division and survey was read and accepted. In regard to covering the cost of survey it was decided that,

(a) The receipts given by Mr. Plumacher are to be accepted as payments until the High Consulate declares them worthless.

(b) Every one to whom the above does not apply and who wishes to draw lots today must immediately pay $4 on the cost of surveying.

After the survey is completed, which is to be done by last of November, the remaining amount of $11 shall be paid to Mr. Bauer within the space of a month, otherwise default would be accepted and the colony would dispose of the lots concerned.

In regard to compulsory labor it was decided that whoever took possession of their lot by November 1, 1869 and who then are ready to do statute labor would be permitted to do so; later comers, however, are to pay $1 for each day in order to carry out the work by day labor or agreement.

For absentees who could not be notified concerning the lottery it was decided to draw the lots and notify them in writing and require them to make the first payment for the cost of survey within a month's time and to state if they wanted to make up for the statute labor or pay for it. Those who fail to fulfill these obligations within the space of a month will be declared in default. Upon common demand there would be a recess until 2 o'clock. The afternoon session began with a deposition of the Plumacher receipts, and a payment of $4 according to the forenoon resolution. The receipt was deposited by 17 people, 24 made payment of $4 and for 7 absentees the above decisions are in effect.

The drawing of lots took place in a peaceful and orderly fashion with the following results:

Lot No. 6	Leonard von Rohr, thru exchange with Carl Ruodin No. 17.	Lot No. 4.	Caspar Fuchs, taken back by the assembly-- Anton Rockers
" 3	Jacob Lanz	" 14	Leon Stocker
" 12	Benedikt Studer	" 16	Heinrich Lanz
" 24	Anton Heuggeller, thru sale to John Bahnholzer	" 1	Jacob Fehr
		5	Joseph Stocker, Sr.
" 2	Rudolph Wegelin	" 13	Caspar Schild
" 9	Conrad Bolli	" 30	John Stauffer, interchanged with No. 54
" 38	Joseph Burri		
" 18	Heinrich Schwarz, at Long Mill	" 39	Anton Stocker
" 21	Samuel Muller, present Mischen	" 8	Geog Schwarz, at Long Mill
" 19	Ulrich Weiss	" 10	Melchior Thony
" 31	August Werdmuller	" 36	Heinrich Bertschinger
" 23	Jacob Schneider	" 32	Peter Kissling
" 11	Johann Rychen	" 17	Carl Zehnter, present J. Heller
" 22	Jacob Bollinger		
" 32	Heinrich Wagner	" 28	Joseph Stocker
" 25	Caspar Holzhauer, present buyer, Johann Bahnholzer	" 20	Heinrich Egli
		" 33	Johann Kissling
" 15	Christian Hofstetter	" 26	J. U. Bauer, present buyer, Johann Bahnholzer
" 35	Johann Baumgartner		
" 27	Jacob Fruttiger	" 7	Carl Stuodin, exchanged with Leonhard Von Rohr
" 29	Heinrich Schwarz, Sr.		
" 50	Freidrich Born	" 37	Frederich Siedel (buyer) Heinrich Bertschinger
" 42	Albert Grauicher		
" 43	Jacob Kulling	" 46	Jacob Zurcher
" 44	Zimmerli Concurati	" 41	Jacob Seier
		" 40	Jacob Schwarz
		" 45	Peter Schild

Following the lot drawing there was a joyful merrimaking which sounded and echoed our regard for the Messrs. General Consul Hitz, Consul Staub,

Wermuth, as well as for the land grantors, Buolin and Hill of Altamont and Mr. Hughes of McMinnville.

A list of the owners in the second allotment.

Lot	No.	46 Johann Zurcher	Lot	No.	51 Friedrich Fawer
	"	52 Carl Fawer		"	53 Christian Haberli
	"	54 Melchior Zwald		"	55 Alcide Faigaux
	"	56 Carl Stucki		"	57 Caspar Zophi
	"	58 C. Mehliger		"	59 Jacob Seier
	"	59 Christian Amacher		"	60 Caspar Kreiss
	"	61 J. Rottach		"	62 Heinrich Scharrer
	"	63 J. Vogt		"	64 H. Werdmuller
	"	66 Fried. Muller		"	67 Friedrich Born
	"	68 Joseph Fluri		"	69 Fried. Kneubuhl
	"	70 Melchior Jnabnet		"	71 Jacob Mader
	"	72 Johann Scholar		"	73 J. Amstutz
	"	74 Ulrich Zimmermann		"	75 Deuard Berger
	"	76 Gebruder Huggenberger		"	77 Fritz von Gunter
	"	81 Wermuth (Sect. to the Gen. Consul)		"	82 Consul Staub.

Minutes of September 9, in Gruetli.

Upon the wishes of the General Consul Hitz, and Consul Staub, the parishoners were called together in an extraordinary session to discharge the following negotiations:

1. Organising a parish.
2. Drawing up a constitution.
3. Election of trustees.
4. Report of General Consul Hitz concerning terms and settlement of the colony's land. The assembly organised itself as a political group, embracing an area of 9,000 acres, and requested Consul Hitz about determining its aims; to sketch regulations for the group and to take care of its incorporation.

Aim: The Swiss Assembly of Grundy County, Tennessee, intends within the bounds of the constitution of the United States as well as the statute laws of Tennessee and the ordinances of Grundy County to promote the customary religious, school, and popular education, as well as to secure through united efforts, the spiritual and material welfare of those settling in their midst.

Elections were introduced in accordance with a proposal by the consul in a democratic manner, each 10 lot owners elected a member of the community council, also a fraction of less than 10 elected one. As an administrative committee upon a proposal of the council a committee of 3 members was elected.

Election of the Town Committee:

No.	District	Lot Number	Name
1	"	1-10	Georg. Schwarz
2	"	11-20	Heinrich Egli
3	"	21-30	Jacob Schneider
4	"	31-40	Heinrich Bertschinger

As executive members, the council proposed the following:

Pres. Heinrich Schwarz
Sect. Rudolph Wegelin
Treas. Jacob Schneider

Schwarz cordially thanked the council for the proposal but asked to be released with substantial reasons.

Election results. With a decided majority.

Pres. Joh. Keissling
Sect. Rud. Wegelin
Treas. Ant. Stocker

The High General Consul Hitz summing up distinctly the condition of the colony's affairs, declared the land assured in every instance, except in formalities, as well as in terms of payments, essential changes have occurred.

There is now no more need of speaking about the donated land except that for $50 every farmer has an hundred acre lot, however, time of payment could be deferred only a year, until September 1, 1870, when all lots are to be paid without interest. Mr. Staub was designated as trustee and would be willing to concern himself with the trying business but also on the other hand, would expect that they cooperate with him in the best possible manner. His closing words were with a shaking voice and recalled to mind the words of the dying Attinghausen: "You must agree! Agree!"

At night-fall many bonfires were lit. The song society serenaded the esteemed consul, to which circle was joined also the aged mother of the respected general consul, worthy representative of our dear fatherland whose renown resounds when it becomes necessary at home to alleviate the distress in the nativeland; whose help and material support would gladden the Swiss who seek their adoptive-fatherland in America. Only to him, emphasized the speaker, is due the thanks (gratitude) for the fortunate solution of our colonial affairs; great sacrifices in time and money has he borne for us. We owe him sincere

gratitude, yet we are not able to thank him enough by oral expression so we must show our appreciation through action. Let us tend to our sowing, which has been committed to us, in an unselfish manner and not lay aside the burden which a new establishment has placed upon us. Harmonious spirits and perseverance are required to reach the goal set before us; faithful holding together contribute substantially to alleviation and promotion, these thank offerings our honorable General Consul will receive with pleasure, will accept them as a recompense for his great exertion,show your agreement by letting your hoch! (hurrah) resound in honor of the worthy representative of our beloved Fatherland, Consul General John Hitz.

Er Lebe hoch! (Long may he live!) Hoch! Hoch! (Hurrah!.Hurrah!) With a voice husky with emotion the Consul thanked for the honor thus shown him,but ascribed it to the Swiss Government whose servant he was, a people are to be commended who are as far advanced in a Republican Government as our dear Swiss Fatherland. Even though his salary be much less than that of a monarchical state, yet he considered himself very lucky to be the representative of a European Republic, the representative of a people whose highest power is the voice of the people.

His hurrah (Hoch) was due to the fatherland and its free government, as well as every true, faithful Swiss, here or there. Hoch, Hoch, Hoch! (Hurrah!!!) A third hoch was raised for Consul Staub in order to heartily thank him for his many sacrifices for the colony. A heavy rain brought the joyous festival to an end, and reminded the celebrators of the time to return home.

Minutes of October 25, at Gruetli.

1. Resolution concerning roadwork.
2. The building of a school house.
3. Corporational Constitution.
4. The name of the city.

The recommendation of the trustees that Mr. Bauer be dismissed as roadmaster and that the Corporation Council take charge of the necessary work was accepted and the Council was directed to finish the bridge in Gruetli.

Concerning the school house it was decided that the council should present plans and an estimate of the cost by New Year, in order to obtain money the Council was to have city land surveyed and hold an auction. The city was called Bern.

The corporation Constitution sent by Mr. Wermuth was accepted and the trustees were directed to attend to its incorporation, and the Corporation was called Switzerland. For the alleviation of new settlers

it was decided to build two log houses, so far as the credit could reach. Every lot owner was finally permitted to cut trees in the streets, but the stumps should not be left more than a foot high. Adjournment.

Corporation Meeting December 31, 1869 at Councilor Schneider's lot. The chairman opened the meeting and recommended the following order of the meeting:

1. The reading and ratification of the minutes of August 9 (should be September), and October 25, at Gruetli.

2. The recommendation of the council concerning the building of a school house in the city of Bern.

3. Determining the sale price of the future hundred acre lot.

4. Proposal, concerning auctioning off the city lot. (Probably lots pl.)

5. Proposal for laying out a cemetery.

6. Presenting the plan of the first 5,000 acres to the assembly, notice concerning finishing the survey, and payment of the costs.

7. Electing the council and the trustees.

8. Other business.

The minutes of September 9, was read and ratified as read, that of October 25, was corrected to the effect, that the council was to have charge of all work relating to streets or highways.

In carrying out the resolution of the assembly of October 25, concerning the school building the council proposed that at the selected location in the city a decent frame building be erected 30 x 24 feet and 1½ stories high. For the whole they requested that 14 days be allowed for receiving sealed bids for the requirements, and the council be permitted to give the contract to the lowest bidder, the assembly waiving the requirement of ratifying the contracts.

Heinrich Schwarz wishes and proposes that it be changed to the intent that we have competition for the erection, he has confidence in the colonists, that the trees will be felled and hauled by voluntary labor, by which the expense will be considerably cut down, if it should not be possible, then the officials should be given an unqualified power-of-attorney,

to carry out the erection, since the building of a school house is a pressing necessity. Resolution: the council and trustees are instructed to clear a part of the land selected for the school by voluntary labor to open a passable road, to open competition for the erection of the building and to assign the contract to the lowest bidder, without any further ratification or reservation by the assembly; if the other labors are not executed by voluntary labor then credit shall be allowed for them also.

3. The chairman notifies the assembly, that Consul Staub recently bought 5,000 acres and wishes that the assembly set a sale price on it having in mind a remuneration for Consul Staub for the many exertions and sacrifices in connection with it. He pointed to his great-hearted relations with us, since he has labored for us until now without any remuneration. Jb. Mehr proposes to leave it entirely to Mr. Staub to set the sale price, he could not find it suitable to determine Mr. Staub's remuneration, since his work could never be placed on the same level with a laborer.

The chairman fears Consul Staub might be called a land speculator by some, which he would not want to be at the expense of a Swiss colony, of course, we know that he is not, but his wish would be that the assembly would set the price. Meh. Schwarz seconds Mehr's motion, because already much dispute has arisen, because surveyor and agent function in one person. Mr. Staub acts as a consul and the colonists can stand it if the prices are not raised too much.

Resolution: Consul Staub is very much thanked for his great-hearted actions towards us, and it is entirely left to him to determine the sale prices from now on.

4. Concerning the auctioning of the city lots the council proposes to cause a number of lots to be surveyed near the school house and to auction them off. Mr. Bertschinger as the main speaker showed: In order to carry out the resolution of the assembly the council turned to Engineer Baur and received from him a plan which would subdivide the whole 200 acres into one half acre lots with straight streets, and investigation showed this would cost too much, but, nevertheless, a cost estimate was asked for, for the plan Baur asked $20 and $1.00 apiece for each lot, which would necessitate the expenditure of $400. This charge induced the council to postpone the matter. Meh. Schwarz also finds the charge excessive, he thanks the council for the postponement and thinks the work can be carried out at a small expense without the engineer, where the location is not especially favorable, he believed it to be advantageous to sell lots up to 4 acres in size at the option of the purchaser.

Resolution: The council is instructed, in the sense of the last motion to undertake a subdivision and to arrange an auction.

5. The council and the trustees move that a cemetary be laid out at a suitable place and was resolved, since No. 21 had been defaulted, and soil and location are suitable, that in the resale about 10 acres in the rear be reserved from the road to the hillside. For the reduction of expenses, at the beginning one acre is to be cleared and fenced in.

6. Concerning the surveying of the first 5,000 acres, many complaints were made concerning insufficient marking of the boundaries and the unjust changing of some allottments.

It was resolved:

Occupants of 100 acre lots will be granted one month to investigate their boundaries, if within that time no written complaints are handed in to the trustees, then satisfaction will be taken for granted, and the trustees will be instructed to carry out the resolution concerning the extinction of the costs of the survey.

7. In carrying out the renewal elections required by the constitution, the following was the result for the council:

1.	District	Jacob Lang
2.	"	J. U. Weiss
3.	"	Jb. Schneider, who did not accept and in whose place on January 17, Mr. Bahnholzer was elected.
4.	"	Heinrich Bertschinger
5.	"	Carl Zehnter

The council nominated the following for trustees:

Chairman :	John Kissling and Jb. Hehr
Secretary :	Rudolph Wegelin and Heh. Schwarz
Treasurer :	Anton Stocker and John Baumgartner

Election results: Voters 31, Absolute majority 16, Kissling 29, Hehr 7, void 7.

Mr. Kissling thanks the assembly for their confidence in him, and accepts with the wish that the colony may have a happy, peaceful development.

Cashier: Voters 28, absolute majority 15, the vote was: Mr. Stocker 17, Baumgartner 9, Bertschinger 2.

Consequently, Mr. Stocker was elected.

Secretary: Voters 31, absolute majority 16; votes were cast for Mr. Wegelin 3, Bertschinger 2, Heh. Schwarz 26.

Under Article 6, of the Day's Order of Business, Jb. Hehr notifies the colonists that the Court at Altamont has appointed him Roadmaster and he notified all colonists who have turned 20 years of age and are not past 65 to appear for compulsory roadwork. He will immediately report absentees to the court.

Heh. Schwarz protests against such highhanded action; roadwork should first be passed on by the assembly. He seriously emphasized that this court action resulted only from the requests of a few colonists, and believes if the assembly asks for a delay it would be freely granted. Road improvement are a necessity, but the colonists should not be overloaded. Without notifying the citizens we should strenuously object to opening up roads. (This is probably the meaning. The German here gives no sense.) Schwarz at the long mill also complains against so much compulsory labor and points out that in the current year 1869, he and his brother performed 36 days of compulsory labor, he very seriously states his intention of leaving the hill if they are going to be so hard on them.

The assembly instructed the trustees to send a petition for a delay to the Court in Altamont, and afterward when the delay has been obtained, to work out a road arrangement suitable to both assemblies and then present our assembly's plan for confirmation. Finally, a letter from Consul Staub was read calling attention to the sorry plight of the family Lager of Clarus, and the citizens were requested to pay the amounts, they had freely subscribed at the last meeting, to the Treasurer so they could be sent to Consulate to alleviate the dire need of the family named.

Extraordinary Assembly February 7, 1870. On account of quarrels between the owners of the first and second complex, due mainly to the two city complexes and the road system, Consul Staub called a Commission on February 7, in order to find a peaceful solution of the troublesome questions. The Commission consisted of Engineer Baur, Jacob Hehr, and Edward Berger on one side, and Chairman Kissling, Bertschinger, and Schwarz on the other. Consul Staub was chosen Chairman. The following questions were to be decided:

1. Is the Constitution designed by Consul General Hitz, and accepted by the citizens on October 25, of last year, to be retained or is it to be declared null and void?

2. In what matter can the city question be peacefully settled?

3. Is it not in the best interests of the colonists to divide the colony into two road and school districts, but to give an equal benefit in the city complexes to both districts?

After a lengthy, turbulent discussion, the Commission received unanimus instruction as follows:

I. The Assembly Constitution shall only be changed so much as may be needed for incorporation, and Consul Staub is requested to undertake it.

II. (a) The two previous city complexes are to be united, including the adjoining plot laid out in the second complex, the parallel 100 acre lots No. 45, 46, 43, and 44 so that the complex consist of 600 acres.

(b) For public buildings a comples of 25-4 acres will be for the present reserved for the present. From there the sale of lots shall begin in both directions equally.

(c) The streets within the city are the concern of the residents of the city.

(d) Money received from the sale of lots may be used according to the intention of the donors only for church and school.

(e) The name Bern which was given at first is herewith confirmed.

III. In consideration of the wide expansion and the speedy settlement the Assembly divides itself into two school districts each of which will get the same benefits from the sale of city lots for church and school. For the building of the first school houses, each assembly is granted a credit of $200.00.

IV. Each school assembly undertakes the building and maintenance of the roads and bridges necessary in its territory, as well as the county roads running through.

V. With Engineer Baur a survey agreement is to be made for the city lots.

VI. Accept the surveys for the first 5,000 acres.

VII. Calling an Assembly for February 7, to ratify or reject these proposals.



Figure 15.
The bridge in Gruetli was built by the Swiss in the earliest days of the colony.

Minutes of the Assembly of February 7, 1870. Order of the Day:

1. Reading and accepting the minutes of December 31, 1869.
2. Ratification or rejection of the preceding proposal of the commission.
3. Ratification of the agreement with Mr. Zuercher, concerning his well cultivated 100 acre lot No. 46.
4. Ratification of the agreement with Engineer Baur.

The chairman opened the meeting with a short but serious introduction. He ascribes the disputes to mutal misunderstandings, and requests the citizens to carefully attend to today's important undertakings, to desist from partisan feelings and especially from personalities, with Stauffachers noble wife he also calls to the citizens especially today: Look forwards, Werner, and not backwards, he hoped the parting words of the Honorable Consul General are still engraved in the hearts of most of them! Be harmonious! Harmonious! Harmonious! Only harmony will insure success, only harmony will insure prosperity, only a purely democratic mind will lead us to our goal, with these few words I declare the meeting opened.

The minutes of December 31, are read and unanimously accepted.

The preceding committee proposal was read and the reasons for it explained by Mr. Schwarz. Afterwards it was seconded by Mr. Edward Berger.

Mr. Schneider and Bollinger believe the owners of a 100 acre lot are at a disadvantage, and especially wish that the so-called Poplar Spring be kept free and open.

Also this wish Consul Staub fulfilled in a very gracious manner by letting the first school assembly buy the 200 acres concerned for $130.00 including surveyer's expenses. With this the two gentlemen were satisfied and moved that the proposals of the committee be ratified, which was done unanimously without more ado.

Until after incorporation it was further decided to elect a committee of five to promote the welfare of the assembly to sell the city lots as fast as possible, in order to begin a school soon.

The result of the election was as follows, almost unanimous:

President	:	Mr. Kissling
Vice Pres.	:	Edward Berger
Cashier	:	Anton Stocker
Secretary	:	Heh. Schwarz
5th Member	:	Ulrich Zimmermann

The agreement concerning the survey contract with Engineer Baur resulted as follows: With the exception of the complex reserved for public buildings* Baur obligates himself to lay it off in 1-acre lots, to place four corners and two center posts on each lot, and its number as well at the direction of the roads, only he would demand an investigation after the completion of the work, and its acceptance upon satisfactory completion. He would also supply a plan to the assembly. For these undertakings he would ask $250.00, $100.00 after the first lot auction and $150.00 after one year, including all surveys already due in both city complexes.

This proposal was also converted into a resolution and Mr. Baur was requested to survey some lots as soon as possible.

Mr. Zuercher wishes that the assembly deed him 20 acres from his 100 acre lot along the west boundary on which his house stands for the $15 survey costs which he had already paid for the whole lot. He would be willing to let the assembly take the other 80 acres for the $50.00 indebtedness against it.

The citizens found the offer fair and authorized the settlement unanimously. The 200 acres by which the city is enlarged will be borne equally by both sides and the trustees are instructed to make a proposal to the assembly for taking care of any deficit that may arise on July 4. The first assembly will receive 4 acres school land on the north side of

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* Through which only main roads are to be laid out.

the city complex, the second on the south side. Upon question by the chairman, Heh. Schwarz got the floor and in a few words reminded the colonists of the many sacrifices Consul Staub has made for the assembly and which he must still make for us as trustee, and with what zeal he also exerted himself this time to again bring about peaceful relations. Until now he has made all sacrifices without any remuneration, for which the colonists are obligated to him in deep gratitude. He [illegible] will accept harmony, by means of which the colony will grow and flourish as the most genuine evidence of gratitude. Evidence your recognition to him by rousing hurrah! (Hoch!) Hurrah for Consul Staub (Herr Consul Staub lebe hoch! Hoch! Hoch!) Hurrah! Hurrah! Consul Staub is glad of the day when he can sojourn among us, even though the noble juice of the grape is missing, which in our Motherland, usually enlivens the spirits on an occasion like this. He finds the spirits lively and enthusiastic. He also brings back to our memory today the words of our representative and friend now sojourning in the land of the Swiss, Consul General Hitz: Dear Fellow Citizens, be harmonious!. Harmonious! Harmonious! He has already rescued this project once, and you can also in future assure yourself of his watchful care. I bring him by deepest respect. Hoch!

The dumbest animal among you, however, remembers how he rejected the resounding hoch! since it was not due to him but to the Government which he represented. I also am convinced that your Government at home will not forget you, that it will not withhold its protection, unfounded are the prejudices which I have heard frequently. It is a fact the active man without means can rise more easily here than in the Motherland, but one cannot expect of your Government that it will promote emigration, but whoever has emigrated can be assured of her protection in a case of necessity. You, my dear Fellow Countrymen, have already received this protection. Trust your Swiss Government, tell her, if danger threatens you, dear brethern, here on this Tennessee Hill stand your brethern, one for all, and all for one.

You also, dear Countrymen, deserve recognition for the determined will and the perseverance, which you have evidenced in this colony project. I thank you also for the good reputation you have earned for your Fatherland among the surrounding inhabitants by your diligence and character. Stick together faithfully, and feed your hearts with the genuine Swiss food, true liberty, popular education, song, and social life in general which increases spiritual development. So far as the colony is concerned, I can only express my fullest satisfaction at its growth, just remain harmonious, active and persevering, and you will harvest the fruits you have sown, I on my part, give you the definite

promise to do my part to protect the colony. Finally, I bring my hurrah (hoch!) to the Swiss Government without which your colony would cease to exist, secondly, to the dear little country, and to the little people that lives in it, and thirdly, to all faithful Swiss hearts wherever they may be. To the Swiss Government, to the little country and the little people, as well as to all staunch Swiss hearts wherever they may be found, Hurrah! hurrah! hurrah! (Hoch! hoch! Hoch!) With the singing of the beautiful patriotic song! Brueder, reicht die Hand Zum Bunde, the assembly was dismissed with the thanks of the chairman.

APPENDIX D

A "FOLLOW UP" REPORT OF THE GRUETLI COLONY

The Swiss Cabinet, anxious to obtain expert counsel concerning the present situation and the future outlook of the Gruetli Colony, had sent a telegram to the Swiss General Consul at Washington, D. C., requesting a report. For this investigation, the Consul appointed three disinterested Swiss Tennesseeans. The report appeared two years after the establishment of the colony in a 16-page printed pamphlet written in German.* This was translated by the writer and is presented below.

SWISS SETTLEMENT IN GRUNDY COUNTY, TENNESSEE

Being a writing on the above by the Swiss General Consul for the United States of North America to the Swiss Cabinet. (Dated July 21, 1871.)

(Salutation)

In accordance with the contents of your respected telegram the undersigned believed it had become his duty under existing conditions, to appoint a committee of experts and disinterested trustworthy men to investigate the true situation of the Swiss Settlement in Grundy County (Tennessee), send it in to this Consulate and to the (Swiss) Government for eventual consideration. On one hand, the settlers requested this from the undersigned frequently, while on the other hand, objections against this undertaking constantly came out. The main inducement to naming the committee the undersigned found in the fact, that a faithful account of the frequently mentioned settlement would be of essential assistance to the welfare of our fellow citizens, and would give those desiring to emigrate a definite goal, or to keep them from possible errors. The discussions that have recently taken place in the (Swiss) Federal Assembly, unmistakably indicate that the Federal Government has the desire to give emigrants the best possible information concerning their probable goals, and this, insofar as the mountainous regions of Tennessee and especially of Grundy County, so attractive particularly to the Swiss, are concerned the enclosed apparently very conscientious report attempts to do.

As members of the committee the undersigned appointed MR. JOHN SHCEILLER, manager of one of the largest leather concerns in Memphis, and a highly honored fellow countryman, MR. G. GENGEL, also a well known business man in Memphis, and MR. A. METTLER, a farmer living near Knoxville, whose good reputation, experience, and success in his occupation, places him on the committee as a very desirable personality.

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* By the courtesy of Mrs. Katherine Siegrist, Gruetli, Tennessee. Translated from German.

While the undersigned places the results of the investigation of conditions in the settlement in Grundy County at your disposal for use as desired, he at the same time, takes advantage of the opportunity to again assure you, Honorable Federal (Swiss) President, and you Honorable Members of Parliament (or Cabinet), of his most profound respect.

Washington, July 21, 1871.

The Swiss General Consul

John Hitz

REPORT

Of the committee named by General Consul Hitz for the investigation of the actual conditions in the Swiss settlement in Grundy County.

On July 10, 1871.

Salutation:

In accordance with your wish we not only investigated the Swiss settlement in Grundy County (Tennessee), but we also obtained all information that we could get elsewhere concerning them in the week from the 5th, to the 12th of the past month, and it gives us the greatest pleasure to give you the answer to the seven questions you proposed, especially as we can answer them only favorably in the main, we shall therefore attempt to answer them briefly in their order, and then allow ourselves to add at the end any other remarks to be made.

Your question 1, concerning "the present condition of the settlers and to what extent a favorable future confronts them" is probably for intending emigrants and certainly for those already settled, one of the greatest importance and consequently, we have also exerted ourselves in a two-day survey of the colony, to get the opinion and sentiment of each one of the colonists. We did not meet a single family whose heads did not confidently tell us of their present favorable position and of their rosy plans for the future. It is also our opinion that the general sentiment could not be otherwise, all enjoy the best of health, the immigrants as well as the children born in the colony are blooming like red May roses, and they are in happy expectation of a bountiful harvest, especially as they worked very energetically and with considerable endurance to wrest even so much from the virginal soil.

It was indeed a difficult undertaking for all of them, whether with or without means to found a homestead here in the primeval forest many miles from a settlement, and we could easily understand, when some admitted that during the previous year the most daring had occasional doubts as to the success of the venture. We could understand this better when we understood with what insufficient means and tools the difficult work had to be done. This subject we shall discuss later, but we give this indication here only to show, in answering the first question, that these not only can be satisfied with their success, but can also be proud of the work done so far. Every settler has built himself a decent wooden house, compared to the ordinary log cabin really good-looking and habitable, so that one might say too much has been spent on the house for a beginning. Further each settler had cleared a smaller or larger piece of land, and not according to the American method, but the primeval forest was grubbed out root and stump, and it was planted this spring in accord with the most urgent needs. All planted Indian corn, wheat, oats with red clover, and many Irish potatoes were planted, of the latter so many were planted that it seems a sign to us, the settlers for the present do not intend to give up old habits. By way of experiment rye, barley, and buckwheat were sowed, and even a certain E. of B. Kanton Schaffhousen, sowed his native corn (Spelts), and to everyone's satisfaction the crops are looking fine; and when they were properly taken care of, the harvest will also be satisfactory, so that, as far as food is concerned, these people can confidently await the coming winter. The homelike garden by the house, with its beautiful flowers, the seed of which was brought from the old home, also is not without its influence in producing contentment of mind in the home.

The question 2. "to what extent the locality is suitable for our people desiring to emigrate, and as well for those in industrial as in agricultural occupations" is more difficult for us to judge, and even the first two years have shown, that settlers with many different, conceptions, opinions, and intentions have come to the colony.

We, and with us those settlers who domesticated themselves on the spot, nurse the certain conviction, that willing workers, which belong to agricultural occupations, or to allied branches of industry, will find here the location for the founding of a new home, more suitable for a Swiss than can be found anywhere else in the whole United States.

The answer to question 3. "concerning climate, fertility of the soil, and the sources of mineral supplies", what has been said may more exactly explain. The region selected for the Swiss settlement forms a part of the much described Cumberland Plateau, which is located on the mountain of the same name, and at a probable level of about 1500-1800 feet above sea level, extends for several thousand square miles on the plateau of Middle Tennessee, and would furnish plenty of room for Swiss emigration

for several decades. The plateau is said to show the same formations throughout. So far as we have wandered over it, they form gentle wave-like undulations with no swamps or high mountains, and only at distances varying from 9-18 miles higher mountains occur, which for some time will not be cleared, and much of it will never be suitable for clearing. On the other hand, these hills are excellent for forest culture, and if for awhile they remain untouched they will in the future form a wood reserve of great value. However, they conceal a still greater value in their interior for they are said to be full of hard coal and iron. These wooded hills will also be appreciated in the future, when the surrounding region is cleared for crops, and by the soft green of their woodland meadows they become what forests become for a region as a reservoir for springs and as purifiers of the air.

For the next half century, however, the settlers will have few of these benefits except perhaps the coal; but their descendants will undoubtedly find them of such great value, that they will wish that more of them were located in the region.

But the settler just immigrated from Europe will not bother about the distant future; for the present he will be interested in finding a home for himself and his descendants, where they can have an easier and more certain future than in the Old World, and this according to our opinion is certain. The climate on the so-called mountain is as if it were especially made for our countrymen. They emigrate because they hope to find something better than they have been accustomed to, More heathful air and better water than the Swiss are accustomed to can probably be found nowhere, but on the Cumberland Plateau they can be sure of finding something similar. The whole plateau is criss-crossed by smaller and larger streams, which supply crystal clear water, and each of the settlers now located here has a bountiful spring near his dwelling. Whoever lives in southern plains can appreciate this better than one who has never missed good, fresh spring water. Besides this advantage the plateau also offers that of a moderate temperature. In the summer not too hot, and at night always a comfortable coolness; in the winter freezing point but no enduring snow. While we are writing in Memphis at a heat of 98°F (29⅓°R) and at night cannot rest at 77°F (20°R) then we can appreciate the much more moderate summer temperature of the colony as well as the immigrant from the Swiss Highlands can value the milder winters, during which one can work in the field daily. This temperature condition and the beautiful clear water contributes much to the welfare of the settlers and is a much greater benefit than they seem to consider it. If up to the present no one in the colony has become seriously ill, while in the plains in our State and in surroundings there is hardly a family but has one or more members sick with fever each year, then this advantage would outweigh several advantages which other

regions may have over it. But these advantages can not be very great, for better plowland can hardly be found anywhere. The fertile valley here and there may form exceptions, but there the price of the land is 40 to 50 times as much, or the land cannot be inhabited on account of floods or its unhealthful location. According to the experiences made until now the land in the colony is of more than average productiveness and easily cultivated. The soil is always loose, and on account of its somewhat sandy subsoil is never too wet or too dry. As already stated above all sorts of field and garden crops flourish here as well as in other parts of the State, and such luxuriant grass or excellent locations for fruit and wine can not be found elsewhere. The Swiss settlers with praiseworthy zeal have already planted hundreds of fruit trees, but like their few American neighbors have adhered mainly to apples and peaches, will, however, later plant also the more profitable pears, cherries, and plums, and especially the grapevine, for the present, however, not to crowd out the good water, milk, or cider as beverages, but to supply the towns with good grapes for if the grapegrower in Switzerland can get along on 15-25 centimes per pound then the American can surely make a profit at five times that or 15 to 25 cents a pound in spite of higher wages. For the present, however, the settlers will rely on animal husbandry, for this branch of agriculture will for many years remain the main source of income in its several branches upon the whole plateau. Hundreds of thousands of acres of land, I should say forest, from early in the spring until late in the fall furnish an excellent pasture for cattle and sheep. Fedd for 3-4 winter months the cleared land will easily produce, at least on the Gruetli farm I saw cloverfield as good as a Swiss farmer might wish to see in the best regions, and even this year's seeding of clover is flourishing. There is also no doubt that all root crops will succeed well. When it is also remembered that cattle can be driven out even in the winter alongside of stable feeding then the ease and lucrativeness of animal husbandry is easily seen. The making of cheese, butter, etc., will pay better here than elsewhere, also the fattening of cattle. We found all cattle in first class condition. Droves of hogs can also be fattened in the fall on the enormous quantities of acorns, chestnuts, etc., while they can keep in good shape in the summer in the woods on grass, berries, bugs, etc. Concerning work in the mines there will be no prospects for the settlers as yet. Indeed the whole region contains great masses of coal and iron and they will certainly be used some day, but out people will certainly do better, and it will suit them better too, to gain the treasures of the surface of the earth, rather than dig underground for coal. Besides the money is lacking for such an undertaking. When, however, later this is undertaken by others the good effect on the colony will not be long absent.

Question 4, "concerning transportation, accessibility, and markets" will have to be answered in the future. At the present, they are yet scanty; there are said to be prospects of a railroad within a few years at least to the colony if not across the plateau from S. W. to N. W.

the sooner, if the region is quickly settled. A Coal Company has already built the most difficult part of the railroad climbing the mountain for a distance of about 22 miles so that the colonists can get from Tracy City by branch line to the main line which makes connections to the east, south, and west. Since the distance from Tracy City, the end of the coal road, to the Swiss colony is only 15 miles and the rise in elevation only about 5- feet this distance would be easy to build since land and wood costs nothing, and when the region is better populated it will be to the advantage of the 40-45 miles distant flourishing city of Chattanooga that the rail road is continued that far. A connecting road leads through the romantically situated health resort, Beersheba Springs, from McMinnville (Nashville-Chattanooga to Altamont, the county seat of Grundy County and from there through New Switzerland to Chattanooga, where there are railroad connections to half of America. At any rate, the settlers of New Switzerland are as well placed with regard to railroads as thousands of farmers in the northwest if not better, to their main markets, and have good prospects for one through their midst, so that producers or dealers can reach the markets in the southern states, Alabama and Georgia, as well as those of New York, and of their own State, Memphis and Nashville, with their own products. If the settlers had 100 more cows, then the health resort, Beersheba Springs, would gladly buy all their butter at a very good price, and would also pay well for fruit and vegetables. At a distance of 15 miles and even 40 miles such main export articles as fat cattle and sheep can be easily driven to the railroad station. Until a branch line is built to every farmer's door, we must be satisfied if, concerning transportation, we are not at a disadvantage compared to other regions, but we must take advantage of every opportunity to obtain better. Besides the County Highway a majority of the settlers can also have other connecting roads placed in the same classification, even new ones that are to be built, which gives the advantage that the County supervises them and furnishes the means for building the necessary bridges or viaducts. For connecting roads of lower classes State and County supply nothing, these the inhabitants themselves have to build, and the Swiss settlers of Grundy County deserve all honor for having done so much in this respect in the short time of their presence here. Even if at the crossroads the directing signs are still missing, so that now and again a settler is lost for a few hours, it only makes a little fun, and can soon be altered. It is praiseworthy that draughtanimal and vehicle can get through better than in many regions that have been settled already for half a century, and the larger the number of diligent settlers that attach themselves to us, the easier can more be done in this respect. Divided loads are light loads.

The colony also has a post office. The mail comes and goes 3 times a week and this is the only post office in the county which pays and sells money orders.

Concerning question 5, "concerning the sale conditions of land for settlement and the character of the titles" we have not especially investigaged, since we were told that the colony land had been bought under the direction of the Swiss General Consul and the titles cleared, and this was performed through the Consular Agent, Mr. P. Staub in Knoxville, and he bought and sold the land and made out the deeds in his own name, and registered them at the District Office. If trouble should arise concerning the deeds, that would affect Mr. Staub, and not the settler, which gives the settlers a full guarantee. After paying the purchase price, about $1.00 per acre, the purchaser receives his deed, which assures him perfectly unlimited property rights to the land. Good upland can still be bought for one dollar per acre.

Question 6 considers "political conditions and relations with the nearby natives." Settlement conditions could hardly have been easier in Adam's time. There is no set of officials, where the new arrival would be required to report; officially no one bothers about him but the tax collector. At present, a person owning 100 acres pays about $1.75 tax, but besides has to do compulsory work to keep up the County Roads.

Our people are political enough to realize that they have at present something more useful to do than to bother about politics. If they carefully take part in the elections for County Judge and County Officials, then they'll do enough for the present, and they really do well to disregard the party system, so rank in this country. In these elections they will also in a short time form a decisive majority. The present county officials are very considerate of the Swiss settlers; the other inhabitants also are very friendly, which we could frequently experience in Tracy City and Altamont, for these are the two nearest inhabited places. The Coal Company which almost exclusively forms Tracy City with its 30-40 houses, gives the colony every possible assistance. The few farmers scattered around on the hill are also well disposed toward the colony.

Your question 7, "social life and provisions for education and church" is in proportion much more important than what in this respect the settlers have accomplished, although much has already been done by them for schools. The colony possesses a beautiful two story school house, in which until recently a teacher (fem.) out of their own midst gave instruction. Beginning next July the State will pay a share of the expenses, and a capable teacher for the elementary branches, including the Endlish and German languages, is to be installed, so that, it seems, the school is well taken care of.

Concerning the church the difficulty is much greater, since the State does not bother about such things and gives no financial assistance. Church and matters of Faith are left to the individual or to the different congregations. The settlers feel the lack of a church and a clergyman very much, but for the present, lack the means of making any change.

We hope, however, that by new accessions to the colony and perhaps by assistance from our old Fatherland the possibility of paying a clergyman may not be far off. Until now only members of the reformed church seem to live in the colony, and for carrying on this service no costly accessories are required.

As a partial substitute a former school teacher is holding religious lectures and Sunday School, and probably in the selection of a school teacher it will be taken into consideration, that the one obtained can also help out in that direction. Not only is a clergyman missing in the colony but also a physician for the fragile body. In this respect also an early increase in population would bring relief. Even if the often made assertion were true, that a lack of physicians keeps a region healthy, yet we would wish a capable, practical man in the settlement if only for surgical cases.

In social respects our Swiss have helped themselves, since the settlers brought together from various parts and Contons, seek to keep up the friendliest relations. Songs and music here also form an excellent binder. The people meet alternately at this house or at that one on Sundays, tell the few news and events and pass the rest of the time with singing and music. Music, yes, even a small brass band is found in the colony. Consular Agent Staub donated a number of instruments; the above mentioned former teacher, Mr. Kissling, with praiseworthy self-sacrifice gives instruction and boys of 12-15 years with great eagerness practice their instruments, so that the forest re-echoes to the old Swiss tunes to the pleasure of the settlers and the admiration of the natives.

May these young musicians grow up to be capable farmers, and with h the same eagerness seek to avoid social false notes, as they now strive to hit the right tune according to notes.

We believe we have solved our problem by answering your questions briefly, though conscientiously, and reports of present or future settlers, will only be able to confirm our judgment concerning location, climate, soil conditions, and the people of the colony. Concerning the word "Colony" or "Swiss Colony" the neighbors understand our colony, and this is so generally accepted as the title in Nashville, Chattanooga, Stevenson, Cowan, Tracy City, Altamont, etc. that we also used the expression, although we would consider it fortunate to give up the much maligned colony system and adopt the system of total freedom and independent perseverance is what the free man wants, be he from Republican Switzerland or from America. Who knows, whether many a man did not emigrate because too many commands became obnoxious, or because he himself could not also command. Here he knows that in his own affairs he is entirely free and independent, that everyone, in a real sense of the word, forges his own happiness, without any interference of a colony

official. This system will undoubtedly do more to keep a settlement together than all paragraphs of a Colony Constitution, and all Colony Overseers and assistants in spite of all their good intentions and good will. We shall see that our settlement gets a quick increase both from Swiss in America and from those in the old home, because no one is bound by anything but United States and local laws, while Colonization Statutes and prescriptions dating from the old home, would only have been a hindrance to rapid growth. If sooner or later, all the settlers, or only those inclined that way, decide to unite into an Agricultural Association, a mutual assistance association; if they want to form a Gruetli Association, and join the North American Gruetli Confederation as a section, that will be free choice of the individual. Besides the Colonial Statutes would only be binding when approved officially by the State Legislature of Tennessee. But as stated, we are glad that "Colony" means no more than any other name, that the settlers either as Swiss remain entitled to the protection of the home Government, or that they may become citizens of the United States if they desire, but otherwise are as free as any other citizen. So far, all colonization schemes in the United States have failed due to this limitation of liberty, and therefore we are glad that Swiss Colony means no more than free settlement. For this reason, therefore, as well as those given above, this region can be highly recommended to any Swiss desiring to emigrate, if he thinks he has enough to found a home. His means should at least be sufficient, after paying for the land or at least partly paying for it, to buy the necessary tools and seeds for planting and provisions to the next harvest. A great part of the first settlers was only able to get through with the greatest difficulty. An almost unbelievable will power is required to grub out the primeval forest with axe and hoe, and yet the greater part of the settlers had it to do, because they lacked the means to buy 2-4 oxen and a large breaking plow, and for lack of money to buy scythe or sickle the grass had to be cut by children with table knives in order to make wild hay. American settlers would have broken the land and immediately made arrangements for winter feed; for during the summer, until the first harvest of corn and oats supplies something, the animals have to hunt their feed on the pasture even in regions where feed does not grow so well; at any rate, those settlers who stayed on the land have done better than those who left it and now elsewhere grumble about the poverty of the colony. For most of the discontents probably have less than they would have, had they spent it improving their farms and this summer would have an opportunity to harvest a decent crop. It is of course very difficult for poor persons, to have to struggle through in a neighborhood, where there is no opportunity to earn a few dollars for very necessary expenses. Therefore, some settlers without means have been and still are forced to seek work 20 or more miles away, so that they hardly see their families once every 14 days. Others, who have grown children, had to send them to work in the towns, although their work was really needed on the home farm, only to obtain a little cash until they can get cash from their home products. Of course, aside from the money, this has the advantage of familiarizing the young people to some extent with the language and customs of this country. Later immigrants will have the

advantage over the first, that they can take advantage of their experiences, and can count on a certain amount of help.

As we positively believe, in a few years Swiss People with money and American experience will settle in this colony; also those already here will soon have recovered so much, that less well-to-do new-comers will have advantages in every respect, which their predecessors lacked; can find all sorts of seeds at the place, and get the neighbor's instructions, based on experience, for the best method of cultivation. Anyway they will avoid many mistakes which the earlier ones made from ignorance. As one example, we would like to mention, that the houses all stand bare and exposed to all the heat of the sun and the winds. If it had been an American, he would have left trees standing on one acre, clearing only 99 acres of the 100 acres and rather put the garden a little further from the house. The shade of these trees is much more beneficial than the immigrants seem to have thought; and where plenty of land is avialable, and a whole acre costs only one dollar, the children certainly can be allowed such a roomy shaded playground near the house. One might object that such things are too trivial to be included in such a report, but trivial things are often overlooked.

While speaking of forest trees, we want to remark, that the whole forest consists very densely of various varieties of oaks, chestnuts, walnuts, hickorynut trees, besides a large quantity of fine pines 80 to 100 feet long. Of the latter, those that do not have to be cut down to clear land, will have considerable value when a railroad is built through. Waterpower to run sawmills is plentiful. Some sawmills are already in operation but need to be completed to be of some use. Capital invested in a flour and sawmill, with a planing mill would be profitable. But just this nervus rerum is missing with most Swiss emigrants, and they must lose too much time to earn necessary capital, just because what is necessary is absent at the beginning. Aside from sawmills and the lumber business in which only a few can be engaged, money is also lacking for general undertakings. We were glad to hear, that a Swiss Emigration Society is attempting to extend the Colony in Grundy County by the purchase of a large block of land and that they intended to assist the settlers by advancing money amounting to several million francs. Although the former may not be so good, we expect the greatest benefit from the latter, if it should materialise. Let us examine an example as proof: Suppose John or Henry had received a loan, so he could buy a plow, a wagon, two oxen and four cows this spring; he would need no feed before October or November, with his oxen he would have broken land this spring, upon which to plant enough for winter supplies; out of butter and cheese he would have made the money needed in the household and perhaps interest on the capital, and in a year his farm would have been worth five times as much as it is now, that he is forced to work out as a laborer. In the next year he would under

favorable circumstances have 3 or 4 calves to raise and possibly some money to make a payment. In the third year he would be able to repay the loan or a large part of it, he would be a made man with a good farm. With such assistance he would be able to do in 3 or 4 years what now he cannot do in a dozen years. When he has gotten this far, he can buy several dozen sheep, than he has a fair chance of owning a nice herd of sheep in a few years, everyone of which will produce at least one dollar's worth of wool, while he can sell some of their progeny, not required for breeding, at 3 to 5 dollars per head. At any rate, it will be plain to everyone, that it would be of the greatest benefit to the settler, if he can cause his land to produce crops in the first years. So long as poorer immigrants cannot count on assistance, it would hardly be advisable for them to settle in "New Switzerland" at least until there are better opportunities for earnings. For this reason there has been considerable talk and writing of introducing industry, weaving, and spinning, but such plans are all too premature, and may never be carried out to any advantage. The main resources for these regions are agriculture and principally animal husbandry, which can be carried on with the least means, give the greatest benefits, are less dependent on conjectures, and allow the greatest independence for the individual.

As already indicated butter and cheese making will pay well; and if, aside from the necessary mills, one or more cheese factories were placed in operation it would be sufficient for a long time for the flourishing of the colony. If small home industries, not requiring much money, were carried on, many a rainy day could be profitably used. The woodworkers of Briens find a satisfactory market for all their products.

Until now we have been speaking of colony land and those settled on it, and in closing we must also mention those who on account of dissatisfaction or lack of earnings have left the colony, although several of them had already bought land. In the case of the dissatisfied it seems to have been as often in life, that everything is cause of their failure except only themselves; therefore, they constantly berate those who in the beginning were and still are the main support of the colony. If these at the same time complain about poor, infertile land, then they will agree with them, and attempt to dissuade those who might want to join our settlement, mainly to keep them in their neighborhood; for every region wants more inhabitants, and there are those in every region who have land to sell or whose business flourishes better with more inhabitants. When we here mention that one of the undersigned received a proposal to write a favorable endorsement for a stretch of land in Arkansas, to buy it for $12.50 per 100 acres and resell it to immigrants

at $1 to $2 per acre, then it furnishes proof for the above explanation. At any rate, a less conscientious person could and probably some day will recommend that land as being almost the most fertile without telling a falsehood in saying so; in order, however, not to ruin his own speculation he will wisely neglect to say, that this fertile region with its swamp fevers, makes life there impossible for the settler especially for the "green" settler.

In closing our report we wish for the colony New Switzerland that quick growth, which on account of its healthful location, fertile soil, plentiful pasture, wood, and mineral resources is so easily possible.

Memphis (Tennessee) July 10, 1871.

(Sig) John Scheibler, in Memphis
(Sig) G. Gengel, in Memphis
(Sig) Anton Mettler, farmer in Knox County East Tennessee.

CRANES JAPANESE LINEN MADE IN U.S.A.

APPENDIX E

MINUTES OF THE LANDWIRTSCHAFTSVEREIN

(Agricultural Society)

Sept. 8, 1873 - The club authorized Messrs. Werner and Bauer to procure a Putzmuhle (farming mill) for which a sum of $35 to $40 has been voted.

Nov. 3, 1873 - Different committees reported concerning the exhibition of products (fair). Aside from the financial outlay the fair disclosed a thoroughly satisfactory result. The admission receipts totaled only $3.50, whereas the outlay for prizes and management cost $13.50. The committee chosen to procure a Putzmuhle reported that due to delay in sending for price lists the purchase had been postponed, and patience was asked. This report was accepted.

Jan. 5, 1874 - Thirty six volumes of Jugendschrifter (juvenile books) were received from Consul Hitz. These were turned over to the librarian for circulation among the members.

Feb. 1, 1874 - Seed was received from the government in Washington for distribution among the farmers, and was distributed in the meeting.

April 4, 1874 - The annual financial report showed a handling of about $50 during the year. Mr. Bauer was again appointed to investigate the Putzmuhle affair.

July 5, 1874 - Plans were made for a cattle and produce fair to be held on September 4 and 5. The Putzmuhle arrived and cost $39.50.

Aug. 2, 1874 - The council decided the date of the fair to be about August 28, and 29. Eugen Plumacher was nominated for membership.

Aug. 16, 1874 - The members were urged to be present at the fair grounds as early as possible and to distinguish themselves by wearing colored ribbons.

Sept. 6, 1874 - Financial report of the fair was given. The amount taken in was $132.10 and $104.15 was paid out, making the net profits $27.95. They decided to set up the Putzmuhle in Muller's barn. Christian Marugg was appointed to attend to this.

Oct. 4, 1874 - The president brought up and the members discussed the allotment for crops. Some were to plant corn, some rye, others oats, and still others potatoes. Konrad Thoni mentioned that the firm of Birchell at Tracy City offered a good market for garden products.

Nov. 1, 1874 - The treasurer was instructed to subscribe to the Tennessee Post for 3 months, and the Agriculturisten for one year. This subscription was paid by the club and the papers were for the members' use. A request for reimbursement of the Musikgesellschaft (Music Society) for their music during the Ausstellung (fair) was made. However, nothing was decided on this point.

Jan. 3, 1875 - The murder of J. U. Bauer on the night of November 30, by an unknown person caused the omission of the December meeting. Election of officers.

April 6, 1875 - The advisability of trying to introduce breeding of sheep was discussed. Mr. Henry of Tracy City offered his Ayrshire bull as a breeding sire. President Hauser was empowered to consult with him, and to offer him $3 per calf for the coming month of July.

May 2, 1875 - Upon further discussion of breeding sheep it was decided that a community pasture should be built in which each member could keep his sheep upon payment of $10. Those not members could do the same upon the same payment. Each member must take care of his own sheep after the month of October. Mr. Henry agreed to lean his breeding bull from the middle of June to the end of July at $3 per calf. On the last Saturday in May all members must meet to build a fence forming a pasture for the breeding bull on the property of Mr. Hauser.

Oct. 3, 1875 - A loan was made by the club to Jacob Schoenmann, who needed some money at this time. The amount was $15 at 6 per cent.

January 2, 1876 - Mr. Staub presented the colony with 2 acres of land for school and farming purposes (Schul and Landwirtschaftszwecke). The Schatzmeister (treasurer) was instructed to cross those off the membership list who allowed their dues to accumulate unpaid for over a year, and then are not paid within 3 months thereafter.

May 7, 1876 - A fair committee, consisting of John Hauser, Leonard von Rohr, and Carl Moritz, was elected.

July 2, 1876 - A committee composed of John F. Hauser, John Kissling, and Carl Moritz was appointed to arrange for the fourth of July festivities.

August 6, 1876 - A discussion of the 4th of July celebration was given. An invitation from several prominent Swiss in Washington to a convention of Swiss to be held in Philadelphia on August 26 was read before the club.

May 6, 1877 - The monthly dues of the club were reduced from 10 cents to 5 cents and the entrance fee from $2 to $1.

March 3, 1878 - Because of very poor attendance at the meetings the members decided to hold meetings every two months in the future instead of every month as in the past.

May 5, 1878 - Resolved to consider selling the Putzmuhle to Mr. Bisig for $10 (of notes?) if no one else announces his desire to buy it before May 12, 1878.

Later addition: The following put in bids for the Putzmuhle by May 11, 1878: Caspar and Peter Schild, and Jacob Schonemann.

July 7, 1878 - Resolved to sell the Putzmuhle to Casper and Peter Schild for $10, payable October 1, 1878.

April 3, 1881 - During the previous year the membership of the club had fallen to four and they had ceased to function. On this date they had a complete reorganization with the membership as follows:

Old members	New Members
John Kissling	Jacob Rush, Jr.
Caspar Schild	Joachim Wirz
Peter Schild	Joseph Wasmer
Jacob Schonemann	R. Marugg
	Rutschmann
	R. Baur
	Anton Stocker
	Jacob Hunziker
	Z. Luchsinger
	R. Leutsinger
	Jacob Angst

The meetings were to be held every two months on the first Sunday in the month. The dues were to be ten cents a month with 50 cents entrance fee. Furthermore $15 was to be taken out of the present treasury and with it the treasurer was to buy grape vine plants to be distributed among the members.

June 5, 1881 - After the business meeting, beer was served to the members at the expense of the treasury.

March 12, 1882 - The treasurer was instructed to subscribe to the following papers: The Amerikanische Schweizerische Zeitung and Helvetia.

Dec. 3, 1882 - The library was to be taken from Caspar Schild's to Marugg's in Gruetli proper and R. Marugg was to be librarian. The members decided not to subscribe as a club to any magazines or papers in the future. Concerning the potatoes it was decided to wait until next spring because of the cold.

August 12, 1883 - The secretary made a note in the minutes that the meeting was poorly attended.

President Kissling read a "writing" from a grape cultivation whereupon it was decided to buy 100 Cynthiana roots and 1,000 Martha Schmittlinge.

Jan. 13, 1884 - In an effort to increase attendance a fee of 5 cents was placed on all absentees.

July 27, 1884 - A trip was made by the members visiting each others' vineyards. They decided that the best grapes for the district were the Martha Schmittlinge seedlings, and those not to be recommended were the Brighton, Schiller, and Louisiana.

Jan. 25, 1885 - The fines collected during 1884 were spent for a common (Trenke?). Then Ignatz Schlageter was instructed to build a new cabinet for the library books and instructions were to give him $1.50 for it. The old cabinet was sold to Jak. Angst for 50 cents.

In all the meetings during 1885 and 1886, one of the chief topics was the cultivation of grapes and from the minutes we can see that the growing of grapes was their main interest in these years.

April 25, 1886 - Martin Marugg and Max Hinsinger were taken into the club as members. Upon the suggestion of Mr. Marugg the club decided to have a fair in the fall.

August 27, 1886 - The secretary reported, after asking the members of the club, that the general opinion indicated it was advisable to postpone the fair for a year.

During the winter of 1866-1867, the members were much interested in cures for blights of all sorts on their farming produce. Many articles were read at the meetings and some of the members wrote away for advice on the subject.

They decided to have a plowing contest the coming fall for boys aged 10-21 years and also to give the winner a premium from the organization's treasury. Judges were chosen.

February 27, 1887 - A "Tanzenktanzchen" was held in Angst's Hall. This prevented the regular meeting. (1)

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(1) Angst owned the large house which is now one of the few remaining buildings in the center of Gruetli. It was built in the early days of the colony and has been used as a hotel, store, dance hall, town meeting place, etc.



Fig.16. Formerly Angst Hall. It is also known as the Marugg home. Now the residence of Geo. Willie Schild.

Jan. 6, 1889.- Election of officers. A committee composed of J. Angst, J. Werz, and M. Marugg were selected to obtain book catalogues.

The secretary was asked to write to the Department of Agriculture at Washington about potato seed.

Peter Schild, Jr., read an article from the "Home and Farm" on a spray mixture (Bordeaux).

15 lb. copperas
30 " lime
22 gal. water

or

13 lb. copperas
13 " lime
22 gal. water

April 7, 1889 - Treasurer Hunziker read an article on the uses of lime.

J. Wirz read an article on the use of fertilizer on the farm.

J. Kiessling read an article on combating grape rot.

May 4, 1889 - Peter Schild's absence from last meeting was excused on account of sickness.

The secretary was asked to translate an article written on the use of basic slag as a fertilizer.

Dec. 2, 1889 - Jacob Angst read an item by Mr. Jacob Fehr of Nashville on sweet potatoes. Three members were taken into the club. Fridolin Wichser, Peter Schiesser, and Heinrich Fluri.

Sept. 7, 1890 - President Kissling made it known that market for products would be found at Tracy City. By going a greater distance they might find a market at South Pittsburg and Whitwell.

Extra Session.
Sept. 14, 1890 - Report on So. Pittsburg as a market for products were discouraging.

Professor Nussbaum was taken into the club.

Nov. 2, 1890 - Mr. J. Kissling, president, opened the meeting.

Calling the roll:

Jb. Angst	P. Schild
J. Kissling	P. Schiesser
C. Nussbaum	F. Wichser
Jb. Rutchman	J. Wirz

After reading and accepting the minutes of the Protokoll Messrs. Rudolph Marugg and Emil Siegrist desired to become members of the society. Both were accepted unanimously by the assembly.

Mr. Rutchman explained that he could not give the report assigned him on the culture of hops since he had not received the bulletins.

Mr. Nussbaum announced that he had made inquiry concerning the Angora goats. He read a letter from Mr. Fuchs, of Tiger Mills, Texas, concerning the goats he had written about. At the time of writing he had disposed of his goats and they would have to wait until next summer for others.

Mr. John Kissling pointed out that for a long time there has been a need in the colony for a bone mill and a fanning mill. The members of the club made note of this proposal. Mr. Kissling believed that a partnership would be the best arrangement and suggested that a committee be appointed to investigate the matter further. This was accepted. The following were selected: Mr. J. Kissling, J. Angst, R. Marugg, P. Schild, J. Rutzmann, and R. Nussbaum as secretary.

Mr. J. Angst made a motion that the committee meet on Saturday, November 8, at Mr. Kissling's, and Mr. Kissling suggested that those who were so disposed could call a general session at the home of Mr. Angst at 2 o'clock Sunday afternoon, November 16.

After accepting the offer Mr. Kissling read an interesting article by A. Schaer concerning "Sugar beet culture". He pointed out the possibilities of this culture and that a member of the club should make a close study of it. Mr. R. Marugg was suggested as a reported and was selected unanimously. On motion for adjournment by Mr. Angst the session was closed.

Ch. Aug. Nussbaum
Sect.

December 7, 1890 - Call roll. Correct minutes.

Secretary read an interesting letter from the Secretary of the Agricultural Experiment Station at Knoxville.

Mr. Rutzman couldn't give his report on hop culture because he hadn't yet obtained the material.

Mr. R. Marugg made an interesting report on sugar beet culture and sugar making. He believed it would be worth the effort to find out more on the matter from the Agricultural Department at Washington.

It was decided to get a book on hop culture.

Feb. 1, 1891.- The secretary told of an interesting experiment with cowpeas at the N. C. Experiment Station, and gave its advantages. It was decided to get a bushel of seed.

Mr. Hunziker read an interesting article from the "American Rural Home" on hop culture. Mr. Kissling made a motion that in 14 days they have an extra session on hop culture which was accepted.

Mr. J. Angst received the impression from several colonists that a sick fund should be established and moved that something would be done in this direction. Mr. Kissling supported this opinion.

March 1, 1891 - Decided to buy a barrel of "Wilson's First Choice" potatoes. Also some "Pineapple" muskmelon seed, to be distributed among those who wanted them.

Apr. 5, 1891 - The "Pineapple" muskmelon seed had arrived and the "Wilson's First Choice" potatoes were on the way.

Mr. Nussbaum translated an interesting report from Washington on the pestilence on grapes. Copperas would effectively control the disease.

Mr. Rutschman told of a merchant in Spencer who had some grass seed which he wished to interest the colonists in. Could they make such an arrangement Rutzman would take 1 or 2 bushels.

May 3, 1891 - Mr. Rutschman was to order 20 bushels grass seed.

Report on machine knives. Mr. R. Marugg was to investigate price if possible.

President Kissling read an article from the "Acker Gartenzeitung" on the mistakes in feeding of horses, and later an article on milk fever of cows, and also an article on low rainfall.

Mr. R. Marugg was asked something about insect powder.

June 7, 1891 - Mr. R. Marugg reported that the insect power was here.

Mr. Hunzicker gave a report on sugar beets as feed, but he was unable to get anything on making of sugar. Would report more on it next time.

Sept. 6, 1891 - Discussing canning of tomatoes and other fruits. Contemplating setting up a canning factory, a committee was elected to visit the canning factory in Chattanooga. The club would pay the cost of their trip.

October 4, 1891 - Order 1/2 bushels "Bloomsdale" peach sets. Talk on drying apples. Silos disuussed. Southern white corn and cow-peas good for ensilage.

Nov. 1, 1891 - The Secretary read a letter from Tiger Mills, Texas, on Angora goats. These would rest for a while. He reported that the Bloomsdale Pearl Set onions were no longer obtainable. Mr. Nussbaum was interested in pecan nuts and would like to arrange for a pound of those.

A cooperage was suggested but the distance between the colonists was an objection. Even then it may work out on a plan as is used in Switzerland. Another discussion on silos.

Dec. 6, 1891 - A letter from Mason, Athens, Alabama, concerning goats was read. These could be obtained for $2.00. Then the discussion lead into the destruction that they might do to the timber. However, their advantages would overshadow this, since they had lots of timber and in this way they could further utilize the range. R. Marugg and Angst gave a report on their trip to the canning factory in Chattanooga. They thought the project would not be practical for the time being.

February, 1892 - A new book was placed in the library.

March 6, 1892 - A committee on immigration was set up to encourage settlers. These composed of R. Marugg, Pres., Mr. Nussbaum, Sect., and Mr. Angst, Treasurer.

Mr. Angst suggested something should be done about setting up a sick benefit fund.

The pecan nuts had arrived and were ready for distribution. Seeds for trial were received from Agricultural Department in Washington.

Onion, Southport Large Red Globe (Mr. Hunziker)
Early Summer Cabbage (Mr. Kissling)
Edward's Turnip, Blood (Messrs. Russbaum and Wirz)
Muskmelon Miller's Cream (Mr. Hunziker)
Sweet Corn, Black Mexican (Mr. Schiesser and Rutschman).

April 5, 1892 - Committee selected for amending the constitution. This to be ready for next time.

Mr. Hunziker read an article on old and new vines. Another article on handling onions. Then another article on the influence of bad odor on the ripening of cheese.

E. Siegrist promised to discuss soil improvement at the next meeting.

Very little took place at the meetings of June 5 and July 3, 1892, except speaking of death of John Kissling. By his death they had lost their most active member.

Aug. 7, 1892 - Peter Schild brought a report from the Delaware Experiment Station on crimson clover. The following members ordered clover:

Schlageter	3	bu.
J. Angst	3	"
J. Hunziker	3	"
J. Rutschman	2	"
R. Marugg	8	"
P. Schild	1	"

Oct. 4, 1892 - Pres. Hunziker read an article from an agricultural paper on soil improvement with a new kind of grass, "Lathyrus" (Vetch). Should find price of it. C. Siegrist read a letter from Alabama on sweet potatoes.

Nov. 6, 1892 - Vice President Angst read a treatise on hop culture. It was decided to give hops a trial and set out 10 vines. It was decided to procure a book on hop culture.

Jan. 1, 1893 - Arrangement to procure the paper "Schweizerbilder Galerie". In regard to provision for the needy this matter would be brought up next time.

Feb. 5, 1893 - Sect. Wirz read correspondence from Wurtenberg about "Lathyrus" (Vetch) grass seed. A committee was appointed to arrange for procuring same.

Pres. Hunziker read an article on a new sort of grass "Seradelle".

Discussion of finances for year 1892. Regulations for library. Siegrist and Wirz were to look after this.

The President then read an article on potatoes.

March 5, 1893 - Secretary read the presentation of land titled by Peter Staub.

The club received writing from Bonn. They were to set up correspondence with the Swiss Chronicle and a correspondent was to be named. Subscription for the paper was to be drawn out of treasury.

April 2, 1893 - Two new members taken in: Hofstetter and Leuzinger.

Casper Siegrist read an article on hop culture, and for next time was to make a discussion on uses of manure.

President Hunziker read an article from the New York Zeitung on plant culture.

May 7, 1893 - Pres. Hunziker read an article from the New York Zeitung on founding of the Swiss colonies in America.

Caspar Siegrist read an article from the agricultural paper, the "Ackerbauzeitung" on the use of manure.

Decided on first Sunday in July to make trip to farms of members and if possible to learn something from each other.

June 4, 1893 - Substantiating suggestion of last meeting to visit each others farms at 9 o'clock they would set out. First to Hofstetter, then to Rietchman, Kissling, and Hunziker, and at the close they would open a keg of beer.

Then was read an article from the "Ackerbauzeiting" on the new forage Lathyrus by E. Siegrist.

Discussion of lime burning. At next meeting they would discuss the bone crusher.

July 2, 1893 - A summary of the field trip was given by Hofstetter. The signs of industry were prominent, pretty corn, luxuriant wheat and rye, well worked potatoes, and an abundance of fruit.

The best thing was a tasty breakfast which like they had not tasted. since they have been living here, how rich milk and honey flows! The next visit was with Rutschman. Furrows were well worked in spite of the fact that the culture of the first farm gave a remarkable background. Then they went to the place of the deceased Kissling (where they stopped to do him honor for his contribution to the club). This place looked splendid. Then their last visit was to President Hunziker where they

opened a cask of beer and slaked their parched throats on "barley juice". After these pleasant happenings ended the day and will be long remembered by every member.

Another visit will take place in September.

Aug. 6, 1893 - Reading of the minutes of July 2 on the farm visits.

Decided to prepare contribution to the "Ackerbauzeitung".

September 3, 1893 - President Hunziker read an article on Crimson clover.

It was decided to buy 1/2 bushel of this seed out of the treasury so that each member gets 1/4 dozen pounds.

Oct. 1, 1893 - The secretary read a letter from Hampel of Sheboygan for information on the colony.

Read article on Lathyrus. The clover seed had arrived. Took Jb. Stacker in as member of the society.

The next 14 days they would work on the bone crusher.

November 5, 1893 - Some more work was necessary to complete the bone crusher. According to the other work it would take them until Wednesday.

An article was read out of an English farm paper on the value of corn fodder.

March 4, 1894 - Authorize payment from treasury on subscription of "Gartenbauzeitung" (farm paper). Arrangements for two kinds of potatoes to be bought - Rural New Yorker #2 and Green Mountains.

Discuss completing dam for bone mill and making of waterwheel.

April 1, 1894 - A letter from consul Hitz, Washington, was read, in which was enclosed a clipping from the paper "Schweizerbilder" dealing with berries.

President Hunziker read from a clipping about berries. They wanted to write to the "Gartenbauzeiting" where they could obtain the berry roots.

Seed potatoes which arrived were divided among the members. J. Ruch who failed to pay his fee didn't get his but would get them next time.

June 3, 1894 - Millstones for bone mill were given by Allert Kissling who received thanks therefor.

Seed corn ordered earlier was distributed among the members.

July 1, 1894 - Members present: Hunziker, Segrist, Wirz, Schlageter, Schild, Rutschman, Ruhling and Schiesser.

Order of the day: Resolved that to commemorate the 25th year of the colony a keg of beer be opened. This to take place the next meeting. In regard to the pictures given by Consul Hitz, it was decided to ask Mr. Nussbaum at Tracy if they had been received.

For centennial of Tennessee's organization as a state to be held in Nashville in 1896, J. Sch- made a resolution that they make an exhibit of their products.

Aug. 5, 1894 - Meeting place at Emil Siegrist. Mr. Nussbaum reported that the pictures had not been received from Consul Hitz.

Grass seed just received was divided as follows:

Hunziker	2 bushels
Schlageter	2 bushels
Rutchman	2 bushels
Schiesser	2 bushels
Ruhling	2 bushels
Ruch	2 bushels
Siegrist	2 bushels
Wirz	1 bushel

Later 1/2 bushel was to be ordered to make up for the shortage.

September 2, 1894 - From a letter Consul Hitz reports that the pictures were sent and that he had paid $2.50 in freight to Tracy City.

Nov. 4, 1898 - P Schiesser reported that he was unable to get the 1/2 bushels of the kind of walnuts the society had agreed upon but he could get another variety. Hunziker said he would write John Greeter at Altamont for more information on kinds of walnuts. He also read an article on planting of roots.

Pastor Nussbaum showed the society an advertisement in the Nashville Banner in regard to buying of land for settlement. Nussbaum said he could furnish the necessary questionnaire.

Dec. 2, 1894 - In regard to the tree nuts, it was decided that Mr. Ruch should write to Mr. Schild in Beersheba.

They had not received the pictures from Consul Hitz.

President Hunziker read an article on a new forage plant (kind of peas)

which is productive and supplies a large amount of green manure to the soil. It was decided to get a bushel of this seed.

Jan. 6, 1895 - In going through the Wernich Seed Catalog it was decided that the society make a trial of the prolific Brasilianischen (Brazilian) meal corn.

Election of officers.

Feb. 3, 1895 - Each member (11) decided to order 1 peck of the new bean (Sachaline) for trial.

Kaspier E. Siegrist wants Wirz and Rutschman to give an account of the past year's business.

March 3, 1895 - Members present: Hunziker, Kissling, Ruch, Rutschman, Wirz, F. Siegrist, Schlageter, Schiesser, Members absent: Stocker, Ruehling and Schild.

Rutschman reported that the account of last year's business was correct but would like to add that it should be made plainer.

Kaspier Siegrist handed in his resignation from the society in writing and Fritz Siegrist was elected to take his place.

The new bean (Sachaline) ordered previously was distributed among the members. The secretary was authorized to order a barrel of "Triumph potatoes" and one barrel of "Early Rose". It was decided to write the Department of Agriculture at Washington in an attempt to find field seeds.

April 7, 1895 - The potatoes had arrived and were distributed. No other business.

May 5, 1895 - (8 members present - 2 absent).

With permission, Adolph Clenin made a report on vines and on grapes rot (Troubenfaule). After this discussion the "Wonderful" peas were distributed.

June 2, 1895 - Mr. Hunziker said he had better potatoes this year than any that were raised last year in the club circles. He said they were prize takers. He suggested that 75¢ be taken out of the treasury as a prize for the best peck.

It was decided to order another keg of beer.

Aug. 4, 1895 - There was a meeting held in July but on account of the bad weather only 4 were present. No business took place but they drank the beer!

Mr. Hunziker read an article on fertilizer, and one on bone meal. A discussion ensued. Thereupon Mr. Rutschman wishes that a report be made next

time (and he was appointed to the task) on the best and cheapest methods of building the land. Hunziker read another article on Sachaline (bean) and a discussion followed.

Dec. 1, 1895 - On motion by Mr. Hunziker the secretary was asked to correspond with the Bureau of Agriculture in Knoxville.

In regard to the coming factory it was thought to be out of the question without additional capital.

Jan. 5, 1896 - The secretary read a letter from the Agricultural Experiment Station in Knoxville. Hunziker read an article on new varieties of grass. A discussion ensued and every member was urged to get hold of some of these varieties.

Feb. 2, 1896 - Mr. A. Clenin was present and read a treatise on grape diseases. After this, answers were made to a questionnaire given them to fill out by the Experiment Station in Knoxville.

1. How many bushels Irish potatoes can you raise per acre? Approx. 100 bushels.

2. Are they of good quality? Yes. This we did not know.

3. Can you raise as many on old land as on new land? Yes.

4. If you can, How do you do it? When not in good condition, it needs heavy manuring and heavy application of commercial fertilizers.

5. Can you grow cabbages with heavy manuring, but can you do it to an advantage (or profit)? Yes.

6. Can you grow cabbages so that the heads will keep in winter? Yes.

7. Do you grow onions of good quality which will keep well? Yes.

8. What kinds of fruits do you grow? Mostly apples.

9. What varieties of apples? Early Harvest, Red June, Maiden's Blush, Horse, Rome Beauty, Sour, Limbertwig, Sweet Limbertwig, White Limbertwig, Ben Davis, Royal Red, Cheese, Arkansas, Black, Winesap, and other varieties whose names are not known.

10. What varieties of peaches? Mostly seedlings.

11. What do you do with old grape vines? Most of them are pulled up.

12. What varieties of grapes do you grow? Concord, Ives Seedling, Virginia Seedling, Noah, and some other varieties.

13. Do you sell the grapes or do you make wine from them? Grapes are

largely made into wine.

14. Do you have trouble with diseases on fruit trees, small fruits or grapes? In June the leaves on fruit trees turn yellow and fall off, so that the trees look as if the new sprouts have finished growing. Small fruits are not grown to any great extent. On the grapes is the worst disease, the grapevot.

A long discussion ensued and the secretary was authorized to order 1 oz. cabbage seed (World Beater) and 2 oz. onion seed (Prizetaker).

March 1, 1896 - The President made the suggestion that better varieties of apples should be grown than the one grown for so long (Limbertwig) and made the motion that each member of the Society might order two apple trees of the best kinds of winter apples of different varieties. Jacob Ruch suggested that the Agricultural Experiment Station at Knoxville be asked to determine the best varieties. No one could agree on this matter.

Then later the secretary divided the following kinds of seeds:

2 oz. cabbage seed (World Beater)
2 oz. onion seed (Prize Taker)
and those received from the Calif. Exp. Station:
Japanese wheat grass, Australian Salt shrub (Madiola).

In about 2 weeks each member would get one plant of the No. 2 Salt Shrub. It is the wish of the institute to give a report, to every member receiving this seed or plant, concerning its nature of growth and value as forage.

Mr. Schlberg was taken in as member. John Muhling and E. Sigrist who had resigned from the society, now wished to be taken back into the club. It was decided that they would have to pay up their entrance fees.

April 13, 1896 - The meeting was set up from Apr. 6 on account of Albert Kissling's wedding. Hunsiker began discussion with the question as to the proper distance to plant potatoes. On Hunsiker's motion it was decided to buy 1 pound Beggar Weed seed, also 1 pound Bromus Inermis - Hungarian Broom Grass, and 1 barrel White Bliss Triumph potatoes.

May 1, 1896 - A general discussion took place on varieties of fruits. Hunsiker read an article on liming and also on making compost. Grass seed was given out.

June 7, 1896 - Fritz Wirz read an article from the "Acker Und Gartenbauzeitung" (Farm and Garden) on reclaimed wares. The treasurer was authorized to send postage to obtain this booklet from Dr. Louis Kuhne in Leipzig.

Enclosed in a letter from Consul Hahn of New Orleans a clipping from an advertisement for alcolol free wine, was to be answered by the secretary.

Another keg of beer was to be ordered for next meeting.

July 5, 1896 - Not much was done but they drank some beer.

Aug. 2, 1896 - Had a glass of beer at J. Stocker. There was no business to take care of.

Sept. 6, 1896 - Decided to write to "Acker and Gartenbauzeitung" to get the reason why cattle eat wood and bones. The secretary was to order a booklet by Dr. L. J. Steger entitled "Catechism on Orcharding and Orchard Culture".

Oct. 1896 - There was no meeting in October because the Lumber Co. had called together a meeting at which some of the members had to attend.

November 1, 1896 - The society received a calendar from Switzerland. The year's report was incomplete and didn't sound so well. There were so many absentees.

Dec. 6, 1896 - The society thanked Mr. Wirz for giving them the bone mill. It was decided to subscribe for "Green's Fruit Grower" for 1897 with which they would receive 4 books as premiums.

A keg of beer was to be ordered for New Year.

Jan. 3, 1897 - Election of officers. Mr. Olgrati was taken in as a member. Two absent.

Feb. 7, 1897 - Two absent. The secretary was asked to send for catalog and prices on a pulverizer harrow and Early Harvest millet seed.

March 7, 1897 - Order millet seed. Discuss pulverizer harrow. Three absent.

April 4, 1897 - Four present - seven absent. So many being absent, distribution of seed was postponed. It was thought best to postpone buying the harrow until next year.

May 2, 1897 - Seven present - four absent. Divide seed. Discuss planting broom corn and setting up broom factory. Nothing definite about the harrow.

June 6, 1897 - Five present - six absent. Hunziker read two articles. One on plowing and another on sowing clover seed and its advantages.

July 4, 1897 - Three present - eight absent. Meeting postponed until next time on account of so many absent.

August 1, 1897 - Six present - five absent. Talked mostly on poor attendance. A discussion was made on planting of forage.

Sept. 5, 1897 - Five present - six absent. So many absent not much done.

Oct. 3, 1897 - Six present - five absent. Wirz suggested they have a fair this fall. This did not receive much favor but would try to have one next year.

Hunziker read an article on soil building.

Nov. 7, 1897 - This being Hunziker's birthday he had invited the members to his house. They drank wine and had a merry time. No business or discussion took place.

Dec. 5, 1897 - Hunziker read an article on soil building and a long discussion followed.

Jan. 3, 1898 - Election of officers.

Feb. 6, 1898 - Decided to buy 5 bushels Wiser Seedling Sweet Potatoes and also 1 1/2 bushels Extra Early Ohio Seed potatoes.

April 3, 1898 - Six present. Secretary Hunziker read an article on vetch as a land builder. A long discussion followed. Then it was decided to get a pound of the above seed.

May 1, 1898 - Seven present - three absent. Discussion proper planting of potatoes. A sample copy of a Swiss paper was brought. A discussion on subscribing for this paper was postponed until next time. Peter Schild had received a letter from Consul Hahn in New Orleans concerning making of alcohol-free wine. Jacob Rath was to answer the letter.

June 5, 1898 - Four absent. Rath had heard from Consul Hahn but at the same time had written to Ed Von Beegen in Tracy City. They decided to wait action on the wine proposition until they heard from Tracy City. A question was asked why onion sets grow together. Most of the members reasoned it was caused by becoming dry on the inside. Then followed a long discussion on sorrel which had become a menace. All agreed that sowing of cowpeas and rye would be effective in its control.

July 5, 1898 - There was nothing definite to be done about manufacture of alcohol free wine since they had not contacted their man in Tracy City. They were anxious to get under way such an enterprise. For a long time grape growing had been neglected because they did not know which varieties to plant in order to control grape rot.

August 7, 1898 - Emil Siegrist was taken in as member. A long discussion took place on hog cholera which had become so prevalent. So far no effective control had been found. A home remedy consisted of ashes from green hickory wood mixed with salt and sulfur and placed so the swine might eat it.

Oct. 2, 1898 - The question was asked: Why had the young fruit trees suffered so much from the heat. A long discussion lead into the following consideration:

a. Leaving dead trees standing in the forest.
b. Late frost in spring after which the sap is in circulation.

A prevention consisted of sulfur and lime, sulfur and soap oil.

It was decided to write to Consul Hahn in New Orleans to obtain the address of a Swiss business firm which makes alcohol free wine and grape wine in the United States.

Nov. 6, 1898 - Chr. Stegman was taken in as a member.

Fr. Wirz read a prophesy of Washington disclosed by General Sherman in 1859.

A drink of wine was served the members by J. Schlageter.

Dec. 4, 1898 - On account of inclement weather only 3 members appeared so that no business took place.

Jan. 1, 1899 - In the election of officers Fritz Wirz and Emil Sigrist received the same number of votes, so the deadlock would be broken next time.

A letter was read from a Swiss firm in Bern and in connection with manufacturing of alcohol free wine desires to obtain a survey of the vineyards so as to determine their capacity. Emil Sigrist was selected to make this count.

It was decided to buy a cattle truck.

Feb. 5, 1899 - Election of officers. Sigrist became president.

The purchase of a cattle truck was postponed until next time. Order potato seed.

Mar. 5, 1899 - Divided 3 barrels of seed potatoes and 2 more barrels were ordered.

Apr. 2, 1899 - An article was read on potato planting and another on spraying trees to combat insects.

Jb. Berner and Mr. Engel were admitted as members.

Dividing seed corn. The 2 barrels of potatoes would be divided by their keeper Mr. Ruch.

May 7, 1899 - Four absent. Bolt. Luchsinger admitted to membership.

Mr. Schlageter read an article on potatoes. Garden seed from Washington was distributed.

June 4, 1899 - Eleven present. Two kegs of beer were ordered. The one would be paid out of the treasury and the other by the members. At the next time one keg would be drunk at Peter Schild's.

J. Schlageter moved to set up a sick benefit fund. This was seconded and the members, Hunsiker, Ruch, and Wirz were to draw up the statutes.

July 2, 1899 - Two absent. For celebration of 4th of July, the two kegs of beer were to be drunk. For the next meeting another keg of beer was to be ordered.

Aug. 6, 1899 - One absent. The business on sick benefit fund was postponed until next meeting.

J. Hunsiker read an article on liming.

The members were asked to cooperate with Mr. Ruch when he approaches them on the vine and apple tree survey.

Sept. 3, 1899 - Discussion on manuring and forage plants.

Oct. 1, 1899 - Eight present. Wirz and Engel were appointed to make a county on apple trees and grape vines in the colony. For this work they were to receive one dollar.

The supporting fund was again postponed.

Nov. 5, 1899 - Nine present. Hunsiker read an article on soil building. Burning of limestone was discussed. Stegman offered to set up an oven with an approximate capacity of 25 barrels. The members obligated themselves to him for burning of lime.

Dec. 3, 1899 - Six present. Apple tree planting was discussed

August, 1900
Sept.
Oct. No minutes
Nov.
Dec.

Jan. 6, 1901 - Election of officers. Assessment of 15¢ per month. Annual report. The report from Dr. Barnes was accepted.

March 3, 1901 - Two absent. The following were ordered: 1 barrel seed potatoes; 1 peck Lucerne @ $3.00.

April 7, 1901 - Ten present. Seed potatoes were given out.

May 5, 1901 - Nine present. Discussion took place on manuring for corn. Hunsiker read an article on date frost on the grapes. Then they spoke on insects of fruit trees.

It was decided to get another keg of beer but the members would have to reach into their pockets to pay for it.

June 2, 1901 - Since the beer had not arrived a keg would be on hand and would be drunk at Hunzikers next time.

July 7, 1901 - Three absent. Hunziker gave a report on the condition of the wine industry. A happy evening was spent with the keg of beer.

Aug. 4, 1901 - Five members absent. The secretary read an article on the preparation of wine in the holy land at the time of Christ. From this it is apparent that only fermented wine could have been prepared.

Sept. 1, 1901 - Talk about the shock of the death of Peter Schiesser.

Discussion took place on destruction by insects.

Oct., 1901 - Two absent. Hch. Walter taken as member. Discussion on the malady of insects. An article was read on vetch. Decided to get a fanning mill.

Nov. 3, 1901 - Three absent. Inquiries were to be made if there were establishments which handled pea threshers.

Discussion of planting and cultivating potatoes. Varieties of corn were discussed. Trial planting of 10 varieties. Brazilamsches Flour corn came first, Golden beauty second, and Early Mastodon third.

December 1, 1901 - Two absent. Leinhard Oertli taken as member. Tuesday, January 5, 1902, would they celebrate the New Year with a glass of wine.

Jan. 5, 1902 - Discussion of last years business.

Feb. 2, 1902 - No important events

Mar. 2, 1902 - Three absent. Seed prices were to be investigated.

April 6, 1902 - The seed which was ordered did not arrive but would be distributed the following Sunday. At that time Mr. Hunziker was to be obliged to furnish 2 gallons of wine. One bushel seed corn ordered.

May 4, 1902 - One absent. Reading an article on Chanson grass. Mr. Oertli told of his observation of this grass in Texas which was unfavorable.

Dealing with beans and bean planting.

July 6, 1902 - All members were present. A keg of beer was opened. Jb. Rutschman who had been to Switzerland for the last 2 months was also present. He had obtained for the members when in New York a copy of the "American Swiss Times".

Aug. 3, 1902 - Talked about fence posts.

Sept. 7, 1902 - Met at P. Schild's. Beer was brought from Tracy City and had a good time.

Oct. 5, 1902 - Met at J. Schlageter. Speaking of buying fruit trees. Each one to try a new variety - even 2 or 4 apiece. Schlageter told of a remarkable variety he had.

Nov. 4, 1902 - Speaking of the German instruction in the school over against the English.

Dec. 7, 1902 - The variety of corn which Mr. Hunziker had planted last year was indicated as the best.

A discussion took place on the plowing of steep land. Different opinions were entertained.

Feb. 1, 1902 - Election of officers. Subscription for charity fund. Reading of regulations for the sick and supporting fund.

Extra Session
Feb. 15, 1903 - The following seed ordered:

1 bu. Chansen (Johnson?) grass
2 " Hard Fescue
2 " Tall meadow oats

Mar. 1, 1903 - Discussing preparation of ground and sowing. Later the following were ordered:

1/2 bu. Velvet beans
1 " Canova beans

Apr. 5, 1903 - Frank Nussbaum admitted as member. Peas seed were dealt out to the members.

May 3, 1903 - Discussion on bean and clover planting. Later discussion on noxious insects. At the next meeting Mr. Rutschman was to give his report on corn planting.

June 7, 1903 - A report was given on corn planting by Mr. Rutschman which was further discussed.

A report was to be given next time on rye sowing.

The president discussed varieties of grass.

Sept. 6, 1903 - Discussion of soil improvement. Decided to find out from Washington the most satisfactory method of doing this. Two bulletins were to be ordered on diseases of fruit trees.

Oct. 4, 1903 - J. Schlageter discussed making of compost. Rutschman was to write Washington for material on soil improvement.

Nov. 1, 1903 - The President discussed diseases of grapes. Later they talked of burning lime but as usual nothing definite was decided.

Dec. 6, 1903 - Discuss removing horns from cattle. Then on worms of fruit.

Jan. 3, 1904 - Discussion of the different destructive insects on plants.

Feb. 7, 1904 - Election of officers.

March 13, 1904 - Seed ordered:

1 bu. potatoes
2 " rye grass

Jacob Rutschman died March 4 at age of 62. He had been a member of the society a long time and his remembrance remains in honor.

Apr. 3, 1904 - Wilhelm Rutchman admitted as member.

(A report on manuring experiment but it does not make sense.)

May 1, 1904 - Hunziker made a remark that he thought the beans failed to increase the fertility of the soil. Results were varied. They would try them again to make sure of the results.

June 5, 1904 - G. Hunziker talked on manuring the soil and robbing the soil. Later an article was read on manuring situation in Switzerland.

Absentees were to be fined 5¢.

Sept. 4, 1904 - Report from Washington on bacteria. Remarkable results were shown from experiments.

1 bushel wheat was ordered.

It was decided to get 1 doz. of the pictures from Congress.

Oct. 2, 1904:- Mr. Schlageter read an article on liming. It told that lime had no value as fertilizer but its purpose lay chiefly in loosening the soil.

It was difficult for them to get someone to watch their lime kiln.

Nov. 6, 1904 - The secretary read an article on fruit culture about which a discussion followed.

Annual Report of the Secretary (1904)

The society's activities were only on the average during the past year. They lost one of their energetic, well known and beloved members, Jb. Rutschman.

The newly set up charity chest came to good use in assisting the young men of the Society's deceased members.

The present situation of the Society is mediocre. The old members are faithful in attendance and are an exception. It would be desirable both on the part of the Society and the youth if they would join the club. The young people could be lead to better resourcefulness upon death in their family.

The Society can, however, look back with satisfaction upon its accomplishments since the founding of the colony.

Now almost 40 years have elapsed since the founding of the colony and through this time has done a great work from the first settlers until this time. Now the graying heads can feel proud to look back over their accomplishments.

Jan. 1, 1905 - Reading of an article from the "Southern Fruit Grower" on protecting fruit trees against rabbits, insects, and borer.

In the election of officers, all those of last year were reinstated.

March 5, 1905 - Answering a request made by a Swiss Art Society. These were ordered

1 bushel of a new kind of potatoes
1 peck seed corn

April 2, 1905 - Distribution of seed corn

Sept. 3, 1905 - An article was read on cabbage worms. It was decided to send it to the Tracy City Times.

Oct. 1, 1905 - Discussion was opened on the planting of beans. The best thing to consider is how well the soil should be manured and worked.

Nov. 5, 1905 - Discussion took place on the inroads the damaging insects are making on the young fruit trees. Worms were discussed and also methods of control.

Jan. 1, 1906 - Annual Report of the Secretary.

The Society had not lost any members but had been increased one.

The meetings were fairly regularly attended by the old members, with the exception of one which this cannot be said. It was decided that any member who regularly remains away from the meeting will be left off its roll without further ado.

It would be desirable if more life would be put into the Society, and the meetings be devoted more to instructive situations. In this hope closes the report.

The Secretary

Fritz Wirz

Jan. 6, 1906 - The same officers were to serve another year. Its was decided to impose a penalty of 5¢ for absentees.

A keg of beer was drunk after the meeting.

February 4, 1906 - It was decided that contributions be made monthly rather than quarterly. Whoever is 3 months in arrears deprives himself of the privilege to address.

Mar. 4, 1906 - Seed ordered:

1 peck Oleander Erard corn
1 " New Era cowpeas
6 bu. Randal grass seed
1 " Mamont Rice potatoes

Apr. 1, 1906 - A discussion on combating blackleg in cattle. The following was recommended

8 oz. salt
" " flowers of sulfur
Give the animals 2 to 3 times a week.

May 6, 1906 - Fall sowing of rye after corn was recommended so that it might be turned under in the spring and permit another planting of corn.

June 3, 1906 - Continuation of rye sowing from last meeting.

Aug. 5, 1906 - An article was read on"Goat Raising." They thought this enterprise would be profitable in the colony and should make an attempt in this direction.

Sept. 2, 1906 - Six absent. Reading an article on liming and its value; quoting data on results.

It was suggested to develop a new variety of corn by mixing (crossing) their old variety with the kind of corn they grew from seed bought last spring.

Oct. 7, 1906 - A continuation of last meeting's discussion on developing a profitable variety of corn.

Then was discussed several diseases of cattle and their control.

Nov. 4, 1906 - Three absent. J. Berner offered to burn some lime and it was proposed that he make known the quantity he can furnish each member.

For tree lice the following was recommended:

One part lime, sulfur, fishoil. Mix in
hot water and rub in this substance.

Dec. 2, 1906 - Five absent. They didn't believe application of commercial fertilizer would pay on the farm. The results were bad on poor land. It is ascertained that the fertilizer is most effective where the ground is in better condition. It cannot be shown where it improved the land.

1906 - Annual Report of the Secretary

The past year has been a normal one for the Society. Death had not taken away any of its members but they had lost one by going away, but not to its dismay for he was the most provoking bump the colony had every known for in less than 2 years he had dissipated (versaffen-drunken-vulgar) the most beautiful farm in these parts. He is to be congratulated that the society is rid of such a subject. He is Lienhard Oertli, son of that kind of element that a crown does not fit, for he had stolen from his wife and left the country.

Jan. 6, 1907 - In a discussion on value of commercial fertilizer, it was decided according to appearances it would not pay to use in these hard times.

A financial report showed the treasury had a balance of $24.46.

The same officers of last year were reelected.

Feb. 3, 1907 - One absent - Hunziker. They discussed moving the meeting place since they were uncertain if they could make use of the property as in former times. Nothing definite was decided.

March 3, 1907 - Three absent. It was decided to buy: 1 barrel early potatoes (cobbler); 1 bushel clover seed; 1 peck seed corn (Mastodon).

April 7, 1907 - Discussion of insects damaging fruit trees and their control. Different methods were advised.

The corn, clover, and potato seed were distributed.

Another keg of beer ordered.

May 5, 1907 - It was decided that Peter Schild purchase an infection syringe for the society to be used in combating the Texas fever in cattle.

June 2, 1907 - Two absent -(Hunziker - Rutschman). Fritz Sigrist takes is as member.

The secretary read an article out of the "Farmers Friend", a German magazine concerning a cultivated plant that could be grown in the United States.

A keg of beer was to be ordered for the 4th of July and it was decided to drink to their new member, Mr. Sigrist.

July 7, 1907 - A good time was had with their beer.

Aug. 4, 1907 - The syringe that Peter Schild had gotten from Washington was inspected, and since no one knew how it worked its trial was postponed.

Sept. 1, 1907 - Three absent,(Schild, Wirz, Suter). Further discussion on the Bacterin Syringe.

On account of mental disturbances one of their members, Wilhelm Rutschman was sent to a sanitarium in St. Louis.

Oct. 6, 1907 - Reading of an article cutting of meadows in the fall and its disadvantages. Two articles were read on Koint fertilizer, and value of fall planting.

Nov. 2, 1907 - Meetings were to be held at Sec. Wirz. Later will be discussed the deficiency of phosphorus.

Dec. 1, 1907 - Two absent (Hunziker, Suter). Discussion on handling of barnyard manure, and working the soil.

Value of deep or shallow plowing. Deep plowing was advised in the fall, whereas shallow plowing was advantageous in the spring.

Feb. 2, 1908 - The same officers were to serve another year. The treasury showed a balance of $17.82.

It was decided to buy a carload of fertilizer. Fritz Sigrist was appointed to look after this.

March 1, 1908 - Further talk of buying fertilizers and the necessary medium for buying it (money).

May 3, 1908 - It was decided that every member buy 3 barrels of lime.

Several had helped with the planting on Rutschman's farm (he was in the sanitarium in St. Louis).

Then discussion took place on the proper planting of Irish and sweet potatoes.

Aug. 2, 1908 - one absent - Hunziker. Those who owed fines should report to the treasurer because their later accounts were open.

Sept. 6, 1908 - Reading an article about the State of Washington, its economic conditions, suitableness to live, etc.

Oct. 3, 1908 - Value of fall sowing of clover and grass, and the proper practice for next year's planting.

Nov. 1, 1908 - Planting of Lucerne was discussed. For this the soil must be plowed deep and well prepared. Manuring will make it last years longer, and later manuring as top dress was also advised.

Dec. 13, 1908 - One absent - Schild. Discussion on methods of manuring - using ashes and other natural fertilizers. The soil will need attention to make it productive.

Jan. 3, 1909 - Two absent - Wirz and Schild. The same officers to serve another year. Balance in treasury of $14.62. Method on applying manure was discussed. Should one apply it directly in the seed?

Feb. 7, 1909 - Two absent - Schild and Ruch. In discussing the state dry law it was said that such a law would decrease the vice of drinking. Then the state has lost its mind.

Such a measure should be referred to the people for a vote where a republican government is so unworthy, in order to take care of so many laws.

March 7, 1909 - Collection of money for the supporting fund (sick fund).

Apr. 4, 1909 - Hunziker read an article on the "Laborer in Relation to Industry". The grass seed which had just arrived was distributed.

n June 6, 1909 - An article was read on the handling of seed potatoes.

Mr. Hunziker mentioned that Dr. Helmez wants to obtain a new sort of grass seed. Since Mr. Hunziker intends to visit the old country he was asked to procure some.

Aug. 1, 1909 - On account of other hundrances the meeting was postponed until next time.

Sept. 5, 1909 - Discussing the sowing of winter oats and its prospects.

Oct. 3, 1909 - Mr. Ruch had returned safely from Switzerland. He gave interesting reports on progress made in his 40 years of absence. It does not appear to be the same Switzerland, the dear fatherland. The grass seed brought by Ruch was distributed between two members.

Nov. 7, 1907 - In deciding the best variety of seed potatoes, the "Queen of the Valley" would be tried. Discussion of the prohibition law and its subsequent results.

Jan. 2, 1910 - A balance in the treasury of $18.68. Election of officers. Subscribing for a German paper. Hunziker read an article on feeding of calves.

Annual Report for 1910

Not much of interest had happened during the year. They had lost one member, Leonard Suter, by leaving the Society. It is deplorable that he should have been so irregular in his attendance when he had an opportunity to learn something. It is not mistakable that the society has tried hard to improve the colony. It is deceitful how narrow mindedness will work against us.

There are such who would persuade our young people to quit the society because we help the sick and families in case of deaths.

Annual Report for 1911

The membership in the past year has held its number and can feel thankful for enjoying good health.

Meetings were only fairly well attended. There is evidence of an undermining influence. It is urgent that the German element hang together, for we fear that in a few years the English element will drown us out. There are already several of the beautiful farms in hands of the Americans which have been shaped by German industriousness.

We have need of an immigration from the old country so as to withstand the English.

With one hope we look into the future and wish the colony to thrive better later.

Annual Report for 1912

They lost one member in the last year when Peter Schild left the society.

The monthly meetings were poorly attended. The society had limited itself to entertainments.

They must admit that the German of our colony will go backwards since they cannot expect an increase from the old country. The young people find themselves satisfied and entertained. They would be happy could they get some of their relatives to come.

In the New Year meeting they added a new member, Michael Zurcher.

Annual Report for 1913

The monthly meetings were fairly well attended and the number of members have remained the same.

Seed potatoes were procured and distributed. The activities of the society limited itself to entertainments and discussion of political situations.

In their association one cheerful afternoon, they renewed their friendship with a glass of beer.

It is hoped that in the future the present members would continue and through their growth might strengthen them.

Annual Report for 1914

In the last year they lost one of their best members, Jb. Hunziker. Hardly a year ago he lost his son Eduard. This old member was diligent in attending the meetings of the past year.

It is difficult to tell anything about the outcome of the World War. Since only the industries have disturbed the sympathy. How long this fearful murdering will continue is not known since none of the war lords want to give up.

It is hoped that the New Year will bring peace.

Annual Report for 1915-1916

On account of an attack the secretary was unable to make an annual report last year.

In a short time the membership has been reduced by death or dropping out. It is gratifying that some young people have decided to become members. They are Jb. Schlageter, the brother of Christen and Ernest Stauffli. The senior Schlageter took leave because of increasing deafness.

The monthly meetings were well attended and intelligently conducted. Seeds were bought and distributed.

April 1, 1917 - Election of officers. Ernest Stampfli took the place of Fritz Wirts, as secretary, who has served in this position for 25 years.

Annual Report of 1917

The loss of members for the year is to be complained. The President, Michael Zucher, was called to arms, and Jacob Ruch will have to go in August.

APPENDIX F

BRIEF SKETCH OF PETER STAUB[1]

"Manufacturer, and mayor of Knoxville, Tennessee.

Born Feb. 22, 1827, at Bilten, Canton of Glarus, Switzerland. Died May 19, 1904, at Knoxville, Tennessee.

The career of Peter Staub is a splendid example of a Swiss immigrant who by dint of energy, industry and progressive ideas forged to the front, became a successful manufacturer and attained high civic honors by being twice elected mayor of a large southern city.

Peter Staub was born in the same village that claims the distinction of being the birthplace of Henry Rasenberg, the Texas merchant, banker, and philanthropist, namely, Bilten, in the Canton of Glaurs, Switzerland. He was the son of Jacob Staub and Marie Staub, nee Steger, and lost his parents at an early age; for this reason when but a mere boy, he had to buckle to earn his own living.

When a young man of 22, Staub on Oct. 2, 1849, married Miss Rosina Blum, and 5 years later the young couple decided to seek more favorable opportunities in the New World, locating in Rahway, New Jersey, in 1854. The climate of New Jersey, however, did not agree with him; his health began to fail and a few years before the outbreak of the Civil War they moved to Knoxville, Tennessee.

In Knoxville, Staub started his industrial career by entering the iron foundry business and soon branched into other industrial lines. In time he became very successful, and soon was ranked as one of the largest and most conspicuous manufacturers in the city, if not the state. He was very active in promoting new industrial enterprises. In 1871, he built and operated the first opera house in Knoxville.

The citizens of Knoxville recognized his interest and his endeavors for the industrial and civic progress of their city by electing him mayor in 1875, 1876, and again in 1881. As mayor, he stood for progressive measures, and was especially active in promoting public improvements, such as laying out new streets, opening up new sections, etc., so that Knoxville, under his administrations was transformed from an overgrown village to a fine and up-to-date city.

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(1) Swiss-American Historical Society, Prominent Americans of Swiss Origins, p. 177-179.

Furthermore, Staub was honored by Governor Porter of Tennessee; and by President Rutherfort B. Hayes to represent the State of Tennessee and the United States, respectively, as commissioner at the International exposition in Paris in 1878. As such, he served with great credit and distinction.

In Knoxville, he was largely instrumental in establishing the first free (public) schools, and one of those buildings was named in his honor, "Staub School". For many years he acted as Swiss Consular Agent, having jurisdiction in the State of Tennessee. From 1885 to 1889 he served as U. S. consul at St. Gall, Switzerland.

After the Civil War, Staub cooperated with the Swiss colony of "Gruetli" on the Cumberland Plateau in Grundy County, Tennessee. He Also was legal advisor of the colonists, and it was due to his efforts that the colony rapidly developed and soon was in a comparatively flourishing condition.

Peter Staub, besides being a self made man, was one of the meritorious and public spirited citizens of his adopted country and especially was his interest centered in Knoxville, to the growth and development of which he so largely contributed. He was a man to whom every Swiss-American can point with pride.

Nine children were born to him and his wife, four of whom survived him. Two sons, Fritz and John, and a daughter, Pauline, still live in Knoxville. Another daughter, Mary, is married to Fritz Meyer, a prominent Swiss business man of New York.

Peter Staub died in Knoxville, Tennessee, May 19, 1904."