

May 16, 1938

To the Committee on Graduate Study:

I submit herewith a thesis written by Ruth DeFord and entitled "A Study of the Practices of a Selected Group of Fifty Employed Women in Knox County in the Buying and Care of Hosiery", and recommend that it be accepted for nine quarter hours credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Textiles and Clothing.

Ida Adelaide Anders.
Major Professor

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

Remond E. Gaud
August C. Krut

Accepted for the Graduate Committee

V. C. Smith
Dean

A STUDY OF THE PRACTICES OF A SELECTED GROUP
OF FIFTY EMPLOYED WOMEN IN KNOX COUNTY
IN THE BUYING AND CARE OF HOSIERY

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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

RUTH DeFORD

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INTRODUCTION

The buying of satisfactory hose presents varied problems to present day women. Appearance and service-ability which are factors of much importance in selecting hose are decidedly in conflict with each other. Thus it seems that most women feel that one or the other must be sacrificed. One often hears such remarks as: "I wore those hose only a few times before they gave out." "I hate to wear a heavy stocking to work, but the others just won't wear." "I can't seem to find good hose. Is it better to pay a higher price and buy fewer pairs?"

Many more such quotations could be given, but these are adequate to call to mind the need for some definite standards for selecting hose which the consumer may use in buying.

Women would like more specific information than that which is given through advertisements or by salespeople. The retailer is working to create a demand for the product which he has to sell. He has not been especially concerned in training his salespeople to give the consumer buyer much information about the commodities he has to sell. The manufacturer, furthering his own interests, has been concerned primarily in placing on the market a product which will sell. He has not been particularly interested in the degree of satisfaction which the ultimate consumer receives. In fact

he may be pleased if the hose are not so lasting. As a result of this situation it is evident that very little has been done by either retailer or manufacturer to educate the consumer.

The conscientious consumer is puzzled by advertisements which use such terms as "3-thread", "45-gauge", and "full-fashioned". Little effort has been made to explain the meanings. If such terms are important enough to be used in advertising the retailers' products, then there is reason to explain them to the consumer buyer. Up to the present time the consumer has had no sound basis for determining the quality of hose or judging them. Appearance has probably been the chief influencing factor. To end this chaos, the consumer must show enough interest to insist upon information. She must ask intelligent questions, and insist upon definite answers in her quest for knowledge. When enough people show such interest, retailers and manufacturers will undoubtedly make the desired facts available. The consumer is certainly justified in her desire to know better the commodities which she buys.

On the whole, present methods of buying seem to be unsatisfactory since information fails to provide accurate enough standards for the consumer to follow. Trade leaders, realizing this, have begun to prepare standards for stamping merchandise, standards of inspection, and standards for uniform methods of grading hosiery.

The Standardization Committee of the National Association of Hosiery Manufacturers¹ in the "Standards of Construction and Inspection for Ladies' Full-fashioned Hosiery" states that any effort toward standardization in products of the nature of hosiery must be confined to elements of the construction of the hosiery and not to the fields of style or design. This committee realized that their efforts could not meet with success unless standards were established for basic types of merchandise. As a result standards were established for three (3) classifications of construction:

1. Standard A.
2. Standard B.
3. Sub-Standard.

These were based upon factors of construction which were considered essential from the manufacturers' viewpoint.

Standards for the Stamping of Merchandise did not require that Standard A merchandise be stamped. However, Standard B, Sub-Standard, Irregulars or Seconds, Standard B Irregulars, or Standard B seconds, Sub-Standard Irregulars or Sub-Standard Seconds, and Thirds are required to be stamped as such. These stamps are to be placed on the toe, sole, or outside welt of each stocking of the pair in letters

1 Cook, Rosamond C., The Hose We Buy and Wear, p. 32.

not less than 5/32" high.

The Standards of Inspection were created for inspection practices used to grade hose. It seems that some silk defects cannot be avoided, but they are classified according to place and length. These standards of inspection are for the use of the manufacturer. Adherence by the manufacturer will not only protect his superior product, but will also give the consumer a product which can be considered dependable.

One buying guide which is easily interpreted by the consumer is a chart published by the Bureau of Home Economics called "Women's Hosiery". This chart suggests that the important points to be considered in buying hose are:

1. "Right weight to suit purpose:
Sheer (2 - 3 thread) for dress.
Semi-service (4 - 6 thread) for business.
Service (7 thread or over) for hard wear.
2. Good quality fiber - no yarn defects,
3. Full-fashioned construction,
4. Close, fine-knitting (45 to 54 gauge),
5. Straight, narrow seams,
6. Correct leg and foot length,
7. Garter run-stop,
8. Reinforcements where there is extra wear,
9. Elasticity at ankle and knee,
10. No rings and stripes,

11. Colorfast to light, washing, and perspiration."²

This information is simple and easy to understand provided the consumer is able to interpret such terms as "two-thread" and "45-gauge" in terms of service. An essential part of consumer education is an understanding of terminology.

Because the hosiery industry is highly competitive, producing as a result so many different qualities that may confuse the consumer, and because of the general feeling of dissatisfaction from hose purchased, several studies have been made of the advertising methods, of buying habits, and of wearing qualities of hose by various groups.

In 1933³ the Home Economics Club at the University of Missouri planned a hosiery project to determine the preferences of college girls regarding hose, the amount they spend for hose during a given period, their methods of buying hose, and the information they want and can get concerning the quality of hose. Five hundred and ninety-two college and high school girls cooperated in the project, and it was found that the college girl preferred full-fashioned, silk, chiffon hose. At the time of the study she was spending approximately \$12.00 per year for hose, and apparently was influenced by advertising in judging and selecting. She also desired information concerning the wearing qualities of hose.

2 Bureau of Home Economics, U. S. Department of Agriculture, Clothing Selection Chart No. 4, Women's Hosiery
3 Sears, Mary Katherine, "How College Girls Buy Their Hose", Journal of Home Economics, p. 231, April, 1931.

A study was made in 1928 by students, teachers, and homemakers enrolled in the College of Education and School of Household Administration at the University of Cincinnati. This study included the psychology of advertising, the analysis of values in products advertised, and the analysis of advertising in relation to these results. The purpose of the study was:

1. "To present facts concerning hosiery which the consumer should be acquainted with in order to be an intelligent buyer;
2. To show just how much of this necessary knowledge the manufacturer or merchant gives in the advertising of his products, and the methods by which he attempts to attract the consumer's interest."⁴

Outcomes of the study made evident the fact that information was gained, that those enrolled for the course had developed an appreciation of the educational forces which surround us, and that there is a desire to know facts and think before buying.

Many people feel that the check list is a very satisfactory tool to be used by consumers in their buying of commodities. The check list usually is simply a list of all things which should be considered before making purchases. In The Hose We Buy and Wear, a bulletin published by the Standardization Committee of the Ohio Home Economics

⁴ Cook, Rosamond C., "Consumer Study of Hosiery Advertisements," Journal of Home Economics, Dec., 1929, vol. 21, p. 905-8.

Association under the chairmanship of Miss Rosamond Cook, a check list for hosiery wear to be used by the individual is provided.

This check list names eight points at which a stocking is apt to wear quickly:

- "1. Welt or hem - (a) Runs - garter defects - too much tension.
(b) Binding - not enough elasticity.
2. Runs anywhere in thin silk of leg are caused by snags due to:
(a) too sheer stocking,
(b) putting on improperly,
(c) occupational hazard,
(d) too low twist,
(e) too low gauge or coursing.
3. Wear high up on heel caused by:
(a) too small size, causing heel to slip down,
(b) silk foot pulling down lisle heel,
(c) too low heel for shoe,
(d) too thin heel reinforcement,
(e) lack of balance between yarns in heel and hi-splice.
4. Wear inside heel reinforcement indicates this part is too thin.
5. Wear at any reinforcement joining or just above it shows need for broader reinforcement at the joint where wear occurs.
6. Wear above big toe:
(a) long toe nail,
(b) worn shoe,
(c) small size,
(d) insufficient length in reinforcement.

7. Other worn parts caused by:

- (a) worn place in shoe,
- (b) bunion, callous, etc.,
- (c) too thin reinforcements.

8. Other causes of runs:

- (a) runs started by weak stitch anywhere in hose,
- (b) runs started by split thread in stitch at fashioning,
- (c) hose too tight due to chiselling the gauge or the size worn."⁵

This bulletin also cites several studies which were made to measure the extent to which personal judgments arrived at by scrutiny and feeling can be relied upon as safe buying guides. Statistical comparisons were made between laboratory testing results and preferences for durability by women.

"The results showed that there was little relation between the judgment of the consumer and the actual quality of the hose as determined by the laboratory tests."⁶

The consumer also showed her inability to recognize the relationship between price and quality. In summarizing the results of these tests "we must draw the conclusion that so-called judgment in distinguishing between degrees of durability, qualities, or between price values is without merit as a buying guide, and has so little reliability that it should not be depended upon."⁷

Under the National Recovery Administration the

5 Cook, Rosamond C., The Hose We Buy and Wear, p. 24.

6 Ibid., p. 31.

7 Ibid., p. 31.

organization of the Consumers' Advisory Board was significant. This committee undertook to study the problems which face the consumer. One of the investigations made was of hosiery. Some of the significant findings of this committee were the undesirable practices of the industry concerning the consumers' information regarding the quality of hosiery on the retail market. These findings as listed in the report (1934) of the Consumers' Advisory Board were:

1. Fibre content was not stated nor labeled properly.
2. No durability standards of value to consumers existed.
3. Gauge was not always properly represented. All the needles of a full head of needles were not always used.
4. Standards for length were not adequate.
5. Standards for weights or nature of yarn were not adequate.
6. No informative labeling as to construction existed.
7. Old stock hosiery was being sold as new stock.

Since the standards are fragmentary, and "no standard specifications are in existence to provide for the consumer a product of reasonable quality,"⁸ the Consumers' Advisory Board asked that immediate action be taken by the Hosiery Code Authority to protect the consumer against unfair practice by the manufacturer.

8 Recommendations From the Consumers' Advisory Board of the N.R.A., Consumer Needs For Hosiery, 1934, p. 160-5.

This report in present form "represents in the opinion of the Consumers' Advisory Board a condensation, collation, and summarization of the best and most important technical and consumer fact and opinion available."⁹

Included in the committee's recommendation were these significant points:

1. A committee, possessing equal representation of industry, consumer groups, and government, be appointed for recording length, fibre-identification, quality standards, and labels. This committee should be given permanent status.

2. The standards recommended by the committee be adopted and made mandatory within three months.

3. There should be no attempts to thrust unsatisfactory products upon the consumer, nor sub-standard goods sold unless so labeled. Any complaints of violation of the established provisions should be referred to the Code Authority, National Bureau of Standards, or to the Federal Trade Commission.

Further information concerning hosiery has just been released by the United States Testing Company.¹⁰ This material included two bulletins: the first, a summary of some findings concerning what the consumer wants to know when buying hosiery, and the other, an analysis of hosiery

⁹ Ibid, p. 4160-1.

¹⁰ Testing League Bulletin, H-1 and H-2. United States Testing Company, Hoboken, N. J.

now being sold in retail stores.

When considering what the consumer wants to know when buying hosiery it is realized that she no longer wishes to depend upon the reputation of stores for guides in purchasing. Many in the hosiery industry believe it a mistake to attempt to acquaint the consumer with technical details of fiber and construction of hosiery, but others realize that the pressure being exerted by consumer groups makes labeling of the informative type inevitable.

In helping to decide those things which should go on the labels, Mr. T. L. Blanke, Manager of the Merchandising Division of the Retail Dry Goods Association, made a survey among member stores of the National Retail Dry Goods Association to find what consumer-buyers want to know about commodities which they buy. The items about which the public wishes to know (ranked in the order of their importance) were: washing instructions; size; material content; special care; grade, quality; construction; directions for use; weighting; purpose.

Mr. Blanke listed six points which he thinks should be included in hosiery labels: washing instructions; size; fiber content; special care or cautions; information of grade or quality; and construction.

The analysis of approximately 100 pairs of ladies' full-fashioned hosiery was made according to types and weights of hosiery. Actual test results were given and a brief in-

terpretation with each result.

Some of the interpretations were:

1. In the 3-thread, 42-gauge, \$0.69 - .79 group (25% of those tested), results of the strength comparison showed that crepe twist hose have more snag resistance due to higher twist.

2. In the 4-thread, 42-gauge, \$0.69 - .79 group (25% of those tested), cotton reinforcements were more predominant in the foot areas.

3. More than 50% of all hose sold were found to be 42-gauge stockings.

4. The 45-gauge, 3-thread, \$0.79 - \$1.00 group (10% of those tested) featured the greatest resistance to garter strain.

5. The 45-gauge, 4-thread group was found to have variation in boot strength, and to be lacking in serviceability in the sole areas.

The studies cited show that there are undesirable practices in the hosiery industry and that there is a lack of information which would help the consumer in buying hose. The large amount of money spent annually by women on hose, and the limited service obtained, points to a situation worthy of some consideration. With improved business practices, increased consumer education, and improved

standards of buying and care of hosiery, the consumer buyer should receive more satisfaction and spend less money. A better relationship would result between all concerned: the manufacturer, the retailer, and the consumer.

This study in Knoxville, Tennessee of buying practices, wear, and care of hosiery has been made to learn something of the types of stockings that are being bought at the present time, the price paid, and the amount of service which is being received. The questionnaire method was used to learn something of what the consumers knew regarding hosiery. The information gained from the questionnaire was used as a basis for compiling a chart on which actual records of buying, wear, and care were kept for a period of three months.

There is no thought that the problems which most women have in buying hosiery can be solved by this study, but it is thought that the more information we have concerning trends in buying and of service received, the more able we will be to help consumers analyze their hosiery buying problems and possibly improve their buying practices.

CHAPTER I

PLAN FOR THE STUDY

The study was planned in an effort to obtain information concerning the practices of a selected group of women in the buying and care of hosiery; and to obtain specific information concerning the number and types of stockings purchased, the price paid, and the amount of service received by these women over a certain period of time.

A group of employed women in Knoxville, Tennessee, participated in the study. Knoxville is known as an industrial city, having a population of 105,802.¹ These women were employed as teachers, office workers, librarians, salesgirls, nurses, doctors' assistants, and beauty operators.

The information used in the study was gained by two different methods. The first was by the use of a questionnaire which was given out to 100 employed women. The questionnaire was based on suggestions received from various sources such as readings, personal experiences, studies, and group discussions. The questionnaire included statements dealing with the buying of hosiery, such as the number of pairs bought at once, the construction, the weight,

1 Fifteenth Census of the United States, 1930, vol. I, p.1031.

and foot size and leg length. Other questions pertained to the buyers' viewpoint concerning "run-stop" features, the relation of price to service, gauge, buying guides and inspection of hose before buying. Twelve items such as price, gauge, weighting, fibre, etc. were listed to be checked if they were considered as influencing factors in purchasing hose. In all except two cases checking questions were used. Guessing was discouraged by asking for the use of an (x) if any term used was unknown.

The information gained from these questionnaires was tabulated and used as a basis for formulating a chart to be used for the record of the buying and the wear and care of hosiery. This chart consisted of an instruction sheet with explanations of some of the terms used in reference to hose which had been indicated as unfamiliar to those who filled out the questionnaires; a second sheet which was to be used for recording buying practices; and a third sheet which was to be used for recording service received and care of hosiery.

Two hundred fifty charts were mimeographed and distributed through the cooperation of fellow teachers and friends. Of this number fifty were kept over a period of three months. Eight more charts were returned too late to be included in the tabulations. The information from the fifty returned records was tabulated and the results studied.

Copies of the chart and the questionnaire will be found in the appendix.

CHAPTER II

RESULTS

The information gained from the questionnaires and the record charts has been tabulated and analyzed separately.

Part A. Results of the Questionnaire

The information gained from the questionnaires was used in this section of the study.

The questionnaire on buying habits of hosiery was given out to 100 employed women in Knox County. Names were not requested, but a blank was provided for the occupation of the person answering the questionnaire and one for the date. These questionnaires were filled out between the time of March 1, 1937 and June 25, 1937. The occupations of those participating in the study varied. Of the 19 different ones listed, 50% were located in schools as teachers, librarians, and office workers; 46% were office workers; and 4% were engaged in other types of work. The jobs mentioned in the order of the number participating were: teachers, stenographers, secretaries, office clerks, beauticians, office workers, dental assistants, salesladies, tea-room operators, librarians, and one each housekeeper, bookkeeper, teller, timekeeper, manager of a cafeteria, dental hygienist, laboratory worker in a dental office, and a technician.

These people were all employed in Knoxville, and the nature of the occupations was such that their contact with other people demanded they be dressed in what is usually called business clothes. Some few jobs required uniforms or smocks, but none required specific types of hosiery. The social activities of most business and professional women in Knoxville would not necessitate a great number of formal clothes. It would seem, from actual observation, that sport activities, both active and spectator, attending movies, bridge, and reading consume the most of the leisure time of these women. Thus, costumes worn at work might well serve these leisure time activities, with an occasional dressing up of the costume for more formal functions.

The information received from the questionnaires shows that 42% of these women buy hose in single pairs, while 67% buy two pairs at once, and 22% buy more than two pairs at once. In the event they sometimes buy single pairs and sometimes two or more pairs they were instructed to mark both. The greatest number buy two pairs at once, and 95% of these are alike.

Only one per cent buy circular knit hose, but 47% buy irregular hose sometimes. When the writer was present as the questionnaire was being checked the most frequent question asked was: "What are circular knit hose?"

Fifty-three per cent of those answering the questionnaire considered that they judge carefully the weight

of hose in considering the use, and 84% inspect hose at the instep for rings, at the leg for vertical lines and for rings. However, only 61% request specific leg length. In consideration of run-stop features at the top of hose, 59% think they are of value. This question also caused comment, but apparently the participants felt that they did know the meaning of the term used since no one indicated otherwise by using an (x).

The next question, "Do you consider the price paid a fair indication of the service expected?" brought 66% affirmative answers, 29% negative answers, and 5% did not answer. Price was named as first in importance by 11 people, as second in importance by 36 people, and third in importance by 46 people. However, in checking items which influence purchases, price was checked more times than any other item and by 90% of the participants.

Appearance was considered first in importance by 59%, second in importance by 27%, and third in importance by 7%.

Serviceability was ranked first by 23%, second by 30%, and third by 40%. This factor was more equally distributed over the three places than the other two items. Seven per cent of those women answering the questionnaire failed to answer this question.

Forty-five per cent indicated that gauge was considered in buying hosiery. Slightly over half, 53%, knew

that gauge means the number of needles on each $1\frac{1}{2}$ inches of the needle bar. Twenty-four per cent checked the question incorrectly, while 11% did not check, and twelve indicated that they did not know the meaning of the term.

The last question on the questionnaire listed items which usually influence the purchase of hose. Everyone checked some, but no one checked all of these items. These items were checked as follows: 90% price, 89% color, 83% construction type, 78% the number of threads, 57% checked that they did consider whether regular or irregular, 56% checked size, shape, and number of reinforcements, 45% gauge, 45% brand, 36% color fastness, 50% fiber, and 22% the kind of fiber.

The only question which called for a written answer asked the relationship between (a) gauge and service and (b) gauge and appearance. There was a wide difference of opinion as to the use of the term gauge. Forty per cent answered part (a) in some form. Of these answers 40% might be judged correct. Thirty-eight per cent answered part (b) in some form. Thirty-one and five-tenths per cent of these answers might be judged correct. Considering the total number answering the questionnaire, 16% answered part (a) correctly and 12% answered part (b) correctly.

Part B. Results of the Charts

From the two hundred and fifty charts distributed, 50 usable ones were returned to the writer. These charts were kept over a period of three months each, during the time between August 3, 1937 and March 31, 1938.

A total number of 253 pairs of hose at a total cost of \$233.73 were purchased by the women participating in the study. The numbers of pairs of hose bought by single individuals ranged from 3 to 8. The most usual number bought was 5 pairs. The average number of hose purchased per person was 5.06 pairs.

Each pair of hose purchased was full-fashioned. It was indicated on the questionnaire results that 1% buy circular knit hose, but no circular knit hose were purchased by those participating in keeping the chart.

Only six pairs (2.37%) of irregular hose were purchased. Forty-seven of those answering the questionnaire indicated they sometimes buy irregular hose.

Ninety (90) pairs of hose (56.25%) were purchased in single pairs. Hose were purchased two pairs at once forty-seven (47) times (29.38%) and three pairs at once twenty-three (23) times (14.38%). At one purchase four pairs were bought and at one other purchase six pairs were bought. When hose were purchased more than one pair at a time, fifty (50) times (86.2%) they were alike. Fifty-nine (59) repeat purchases were made. Eighty-nine and

eight-tenths per cent of these purchases were identical.

Ten and two-tenths per cent varied, not in brand or size, but in price and thread count.

Foot sizes ranged from $8\frac{1}{2}$ through $10\frac{1}{2}$. Numbers of pairs of hose purchased according to size were:

size	$8\frac{1}{2}$	9	$9\frac{1}{2}$	10	$10\frac{1}{2}$
Numbers of Pairs of Hose Purchased	5	42	108	82	16

Foot sizes were mostly consistent within the charts. On three charts there was a variation. On two of these the variation was one size and on one chart the variation amounted to two sizes.

The leg measurements ranged from knee length through 31". The numbers of hose purchased according to leg length were:

Leg Length	Knee	28"	30"	31"
Number of Pairs of Hose Purchased	3	22	54	174

On 90% of the charts there was no variation in leg length indicated.

A 45-gauge stocking was the one most usually purchased by these women. Gauges ranged from 42 through 54 in the following numbers:

Gauge	42	45	48	51	54
Numbers of Pairs of Hose Purchased	43	178	13	1	2

Nine pairs of lace and knit hose were purchased of which the gauge number was not given. Seven of the total 253 pairs purchased did not have gauge listed.

A comparison of the different gauge groups according to numbers purchased, price paid, and the number of times worn is shown in Table I.

The amount of wear received from different gauges in the three most representative price groups is shown in Table II.

More 45-gauge hose, 178 pairs, were purchased by those participating in the study than any other gauge. These 45-gauge hose were worn a total number of 3,215 times, or an average of 18.17 times per pair. Of these hose 13 pairs were 2-thread, worn an average of 14.4 times per pair; 137 pairs were 3-thread, worn an average of 18.9 times per pair; and 20 were 4-thread, worn an average of 17.3 times per pair.

Forty-three pairs of 42-gauge hose were purchased during the time this study was made. These 42-gauge hose were worn a total of 702 times, or an average of 16.3 times per pair. Twelve pairs were 2-thread hose, worn an average of 13.6 times per pair; 25 pairs were 3-thread hose, worn an average of 17.8 times per pair; six pairs were 4-thread, worn an average of 17.7 times per pair.

TABLE I
COMPARISON OF DIFFERENT GAUGE GROUPS AS TO NUMBERS PURCHASED,
PRICE PAID, AND NUMBER OF TIMES WORN

Gauge Number	No. of Pairs Purchased	Per Cent of Total Number Purchased	Total Price Paid	Average Price Paid	Total Number of Times Worn	Average Number of Times Worn	Total Number of Times Laundered	Average Number of Times Laundered	Cost for Each Wearing
42	43	18.1%	\$ 36.96	\$0.859	702	16.3	593	13.77	\$0.052
45	178	75.1%	\$175.83	\$0.987	3,215	18.17	2,955	16.6	\$0.054
48 and Higher	16	6.7%	\$ 15.33	\$0.956	299	18.6	284	17.7	\$0.051

TABLE II
WEAR RECEIVED FROM DIFFERENT GAUGES IN THE THREE MOST
REPRESENTATIVE PRICE GROUPS

Price Group	Gauge	Number of Pairs	Thread Count			Number of Times Worn	Average Number of Times Worn
			2	3	4		
\$0.79	42	20	1	17	2	226	11.3
	45	54	0	32	22	1,068	19.1
	54	2	0	2	0	26	13.0
\$1.00	42	7	5	2	0	93	13.2
	45	46	4	41	0	753	16.3
	48	4	0	4	0	110	27.7
	51	1	1	0	0	4	4.0
\$1.15	42	7	0	9	0	196	28.0
	45	45	1	40	0	662	14.6
	48	5	1	4	0	95	19.0

Thirteen pairs of 48-gauge hose were purchased. These were worn a total of 275 times, or an average of 21.1 times per pair. Of these, two pairs were 2-thread hose, worn an average of 9 times per pair; eleven were 3-thread, worn an average of 23.3 times per pair. No 4-thread, 48 gauge hose were purchased.

One pair of 51-gauge hose was purchased. This was a 2-thread stocking and was worn 4 times. Two pairs of 54-gauge hose were purchased. These were 2-thread hose and averaged 13 times worn.

Seventy-one and two-tenths per cent of the stores listed as places of purchases were department stores, 10.3% were shoe stores, 6.8% were specialty shops, 4.5% were clothing stores, 2.2% were millinery shops, and 1.1% agents or Dry Goods Wholesale Houses. Hose were bought in out-of-town stores two times.

Twenty-nine (29) different brands were listed. The brand bought by the greatest number of people was purchased fifty-eight (58) times, 22.93% of the total number of pairs purchased. Forty per cent of the number participating bought only one brand during the time this record was kept, 36% bought hose of two different brands, 4% bought hose of four different brands, and 2% bought hose of five different brands.

Of the hose purchased the greatest range of thread count on any one chart was from 2- through 4-threads. The purchaser recording this chart bought an average number of hose, five pairs of which one pair was 2-thread, 2 pairs

3-thread, and 2 pairs, 4-thread.

The number of hose purchased according to thread count was:

Thread Count	2	3	4
No. of Hose Purchased	32	178	37
Percentage of Total No. of Hose Purchased	12.6	70.3	15.2

In studying the results of the findings concerning thread count it was found that twenty-seven (27) purchasers bought consistently one thread count within the period of time the records were kept. Twenty-one (21) purchased only 3-thread hose, two (2) purchased only 2-thread hose, and three (3) bought only 4-thread hose.

Table Number III shows the buying and length of service classified according to thread number.

All 2-thread hose (32 pairs) purchased were worn a total of 349 times, or an average of 10.09 times per pair; the total number (178) of 3-thread hose were worn a total number of 3,219 times, or an average of 18.08 times per pair; and the total number (37) of 4-thread hose were worn a total number of 740 times, an average of 20 times per pair.

The total number of 263 hose cost \$233.73, or an average of \$0.9629 per pair. The price range was from \$0.49 through \$2.00. The range of average costs per pair for the

TABLE III
BUYING AND LENGTH OF SERVICE CLASSIFIED ACCORDING
TO THREAD NUMBER

No. of Threads	No. of Pairs Purchased	No. of Times Worn	Average No. of Times Worn	Total Price Paid	Average Price Paid
2	32	349	10.09	\$25.41	\$0.762
3	178	3,219	18.08	\$173.80	\$0.920
4	37	740	20.0	\$30.90	\$0.835

three months period for individuals who kept the charts was from \$0.69 through \$1.387. More hose were bought at the price of \$0.79 than at any other price.

Table IV shows the numbers of pairs of hose bought at the different prices. The wear received from hose in the three most representative price groups, .79, 1.00, 1.15, will be found in Table V.

As representative of the prices paid, the three largest groups were studied and compared. These groups were: 76 pairs of hose bought at \$0.79 per pair, 58 pairs of hose bought at \$1.00 per pair, and 57 pairs of hose bought at \$1.15 per pair. These price groups were further divided by thread count so that more specific analyses could be made. In considering 2-thread hose it was found that hose costing \$0.79 were worn a higher average number of times, and hose in the \$1.15 group were worn the fewest average number of times. From 3-thread hose the highest average number wearings was received from the group of hose costing \$1.00, the second highest average number of times worn was from the group costing \$1.15, and the fewest average number of times worn from the group costing \$0.79. No 4-thread hose were purchased except in the \$0.79 group. A higher average number of times worn was received from these hose than from any other one group.

TABLE IV

PRICE RANGE ACCORDING TO NUMBERS OF HOSE PURCHASED

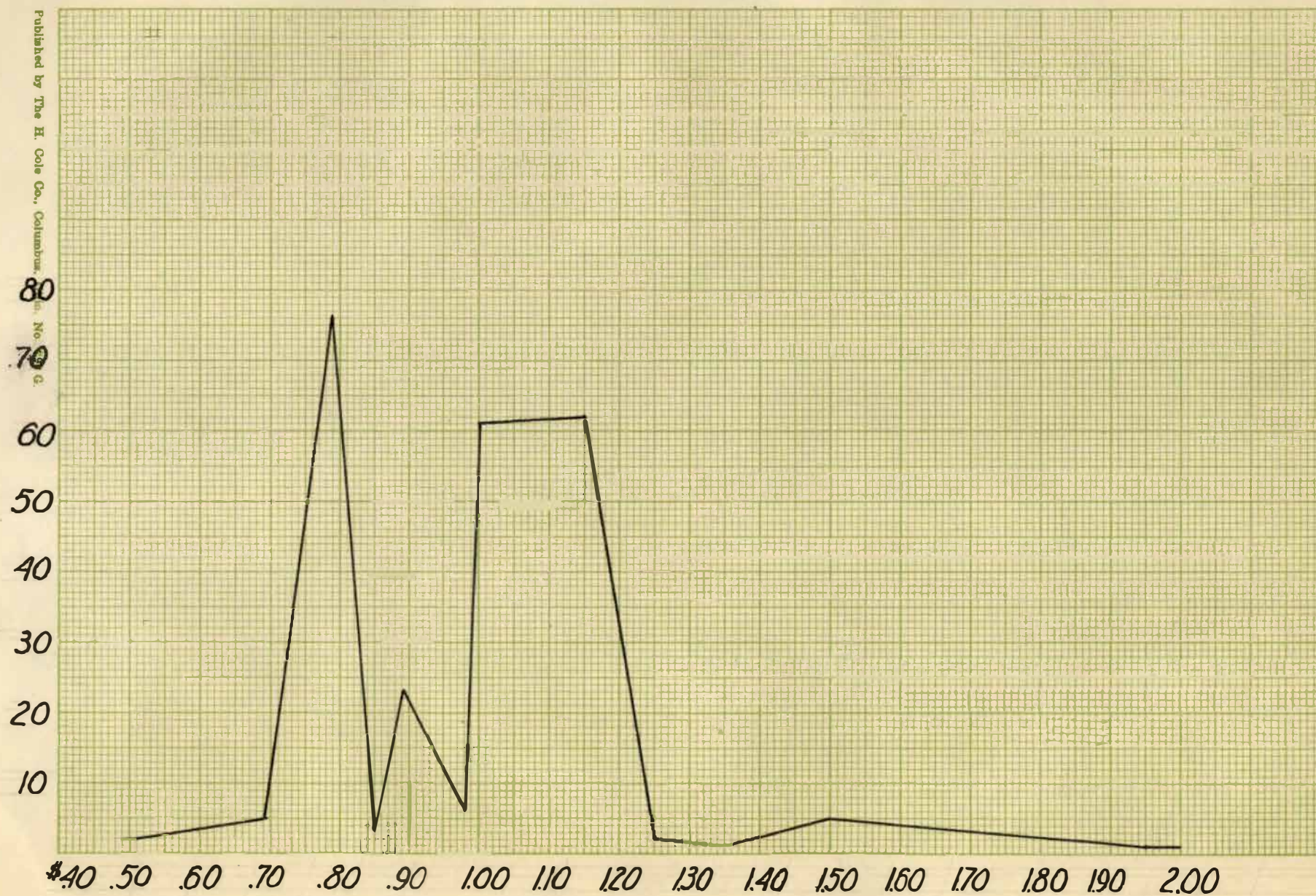


TABLE V
WEAR RECEIVED FROM HOSE IN THE THREE MOST
REPRESENTATIVE GROUPS

Price Group	No. of Threads	No. of Pairs Purchased	Gauge					No. of Times Worn	Average No. of Times Worn
			42	45	48	51	54		
\$0.79	2	4	1	2	0	0	1	72	18.00
	3	53	17	36	0	0	0	903	17.03
	4	19	2	17	0	0	0	367	19.3
\$1.00	2	12	2	7	2	1	0	184	15.2
	3	46	5	39	2	0	0	868	18.8
\$1.15	2	5	4	1	1	0	0	44	8.8
	3	52	2	42	8	0	0	940	18.07

In analyzing the results of the information gained from the records of wear and care, it was found that the total number of 253 pairs of hose purchased were worn 4,282 times, an average of 16.52 times for each pair. The average number of wearings recorded on each chart ranged from 9.8 through 28.8.

A comparison of the chart showing the highest average with the chart showing the lowest average as to amount of wear is shown in Table VI.

The most usual numbers of times a pair of hose was worn were twelve and fifteen. Twenty-one pairs of hose were worn twelve times and twenty-one pairs were worn fifteen times. The fewest number of times any pair of hose was worn was two, while the greatest number of times a single pair was worn was 35. A comparison of these two pairs is shown in Table VII.

TABLE VI
COMPARISON OF TWO CHARTS SHOWING LOWEST AVERAGE AND HIGHEST
AVERAGE NUMBER OF WEARINGS

	No. of Pairs Purchased	Total No. of times Worn	Total Price Paid	Average Price Paid	Number of Launderings	Average Number of Launderings	Price per Wearing
Highest Average No. of Wearings	5	144	\$6.80	\$1.50	141	28.2	\$0.0472
Lowest Average No. of Wearings	5	49	\$4.69	\$0.938	49	9.8	\$0.0957

TABLE VII

COMPARISON OF PAIR OF HOSE WORN FEWEST NUMBER OF TIMES
WITH PAIR WORN GREATEST NUMBER OF TIMES

	Place Purchased	Price	Gauge Number	Thread Count	Number of Launderings	Im.	After 12 Hours	Soap	First Break	Comments
Pair Worn Two Times	Dept. Store	\$1.15	48	2	2	2	0	None	Heel Seam Split - Runs up Leg - Snags	Probably Old Stock
Pair Worn 35 Times	Agent	\$1.50	45	3	30	15	15	Flakes	Runs From Snags	Runs From Snags

A comparison of the pair of 2-thread hose worn the fewest number of times with the pair worn the highest number of times:

	Place Purchased	Price Paid	Gauge	Place of First Break	Comments
Pair Worn 2 Times	Dept. Store	\$1.15	48	Heel-seam split; Snags; Runs up leg	Probably old stock
Pair Worn 23 Times	Dept. Store	\$0.69	45	Foot (runs)	Rubbed by strap on shoe

A comparison of the pair of 3-thread hose worn the fewest number of times with the pair worn the highest number of times:

	Place Purchased	Price Paid	Gauge	Place of First Break	Comments
Pair Worn 3 Times	Dept. Store	\$1.00	45	Leg at shin	Snagged
Pair Worn 35 times	Dept. Store	\$1.50	48	Foot - heel	No snags

A comparison of the pair of 4-thread hose worn the fewest number of times with the pair worn the highest number of times:

	Place Purchased	Price Paid	Gauge	Place of First Break	Comments
Pair Worn 6 Times	Dept. Store	\$0.79	45	Runs	Snags
Pair Worn 32 Times	Dept. Store	\$1.00	45	Foot - toe - heel	No snags

A total number of 3,964 launderings were recorded for the total number of 253 pairs of hose purchased. This averages 15.6 launderings for each pair of hose. The average number of times worn was 16.5 per pair. Launderings on the whole were rather consistent with the number of wearings recorded, the only appreciable difference being in the \$0.79 price group of 3-thread hose. This group of 53 pairs of hose was worn a total number of 903 times and laundered a total number of 792 times, a difference of 111 times worn without laundering. All two-thread hose were worn a total of 300 times, an average of 14.2 times per pair, and laundered 268 times, an average of 12.7. All three-thread hose were worn a total of 2,711 times, an average of 17.8 times per pair, and laundered 2,502 times, an average of 16.6 times per pair.

A comparison of the individual charts showing the lowest and highest average launderings will be found in Table VIII.

A comparison of the highest ten average number of times laundered according to the time of laundering will be found in Table IX.

More women who participated used the garter as a mode of support. Actual numbers as to mode of support were:

TABLE VIII
COMPARISON OF TWO CHARTS SHOWING THE LOWEST AND HIGHEST
AVERAGE LAUNDERINGS

	Laundry Average	No. of Pairs of Hose	Total Price	Average No. of Times Worn	Time of Launderings		Soap Used
					Immediately	After 12 Hours	
Chart Showing Lowest Average	4.8	6	\$4.74	15.1	71	22	Toilet Soap
Chart Showing Highest Average	28.2	5	\$6.80	28.8	65	74	Soap Flakes

TABLE IX
A COMPARISON OF THE HIGHEST TEN AVERAGE
LAUNDERINGS ACCORDING TO TIME OF
LAUNDERING

Average No. of Launderings	Laundered Immediately	Laundered After 12 Hours	Average No. of Times Worn
22	88	0	23.5
22.1	76	57	21.3
22.6	31	35	22.3
23.6	69	54	24.6
25.8	65	64	26.8
26.0	26	40	15.7
26.4	77	56	27.8
26.5	65	60	27.2
26.7	107	0	24.5
28.2	65	74	28.8

Mode of Support:	Garter	Supporter	Both Garter and Supporter	Knit-in	Rolled
Nos. Using this Mode	32	15	3	2	2

There were variations on four charts.

Sixteen different brands of soap were used. These included bar soap, both toilet and laundry, soap flakes, and soap powders. Eighty-eight per cent of the participants had no variation as to type or brand of soap used during the three months period. The remaining 12% used as many as three kinds of soap during the three months. One person occasionally used no soap at all when washing her hose.

In giving information about the place in the stocking where the first break came, most of those participating indicated some reason. Of these reasons given, breaks in the foot of the stocking occurred in 113 pairs of hose. Some of these were listed as "foot holes", "toe holes", and "side foot breaks". Runs were the first break indicated in 82 pairs of hose. Supporters and garters were responsible for breaks in three pairs of hose.

Holes, with no indication as to location, were given as reasons for the first breaking point in 16 pairs of hose. Comparing these results with the chart concerning hosiery defects published by the United States Testing Com-

pany¹, it was found that 38.09% of these breaks, those of snags, runs, and garter runs, might be accredited to consumer use. The manufacturer may be blamed for defects such as split seams, poor union of leg and foot, and slugs or knots.

¹ Hosiery Defects, United States Testing Company, Inc.,
Hosiery Service, Hoboken, N. J.

OCCUPATIONS

Those Participating in Questionnaire			Those Participating by Keeping Chart		
Occupation	Number	Per Cent of Total	Occupation	Number	Per Cent
Teachers	48	48	Teachers	21	42
Stenographers	10	10	Secretaries	6	12
Secretaries	7	7	Stenographers	9	18
Office Clerks	6	6	Salesladies	4	8
Office Workers	4	4	Nurses (Public Health)	2	4
Beauticians	5	5	Bookkeeper	1	2
Dental Assistants	3	2	Doctors' Asst.	1	2
Cashier	3	3	Treasurer	1	2
Tea Room Operators	2	2	Beauty Operator	1	2
Librarians	2	2	Office Worker	1	2
Salesgirls	2	2	Cashier	1	2
Bookkeeper	1	1	Librarian	1	2
Teller	1	1	Dental Assistant	1	2
Timekeeper	1	1			
Dental Hygienist	1	1			
Laboratory Worker	1	1			
Manager of Cafeteria	1	1			
Housekeeper	1	1			

CHAPTER III

SUMMARY AND CONCLUSIONS

Part I

Summary of the Results of the Questionnaire

In summarizing the information gained from the questionnaires, it was found that:

1. The greatest number of those answering the questionnaire, 67%, buy two pairs of hose at once.

2. One per cent of those answering the questionnaires buy circular knit hose, while 47% buy irregular hose sometimes.

3. Fifty-three per cent of these shoppers think they judge carefully the weight of hose in considering the use; 84% inspect the hose at the instep for rings, the leg for vertical stripes and for rings; and 66% request specific leg length.

4. Sixty-six per cent think price should give a fair indication of service expected.

5. Appearance is considered as a buying guide before price or serviceability by the majority, 59%, of those answering the questionnaire.

6. Records show that forty-five per cent consider gauge in buying hosiery. Fifty-three per cent indicated they know the meaning of the term, but in giving their ideas of the

meaning of the term only 16 gave what might be judged a correct answer as to the relationship between gauge and service, and only 11 answered correctly as to the relationship between gauge and appearance.

Part II

Summary of the Results of the Records of Buying, Wear, and Care of Hose

In analyzing the information gained from the records of buying, wear, and care, the following summary is made:

1. The average number of pairs of hose purchased was 5.06 pairs per person for the three months period.
2. A summary of the individual purchases shows that hose were purchased 56.25% of the time in single pairs, two pairs at once 29.38% of the time, and three pairs at once 14.38% of the time.
3. During the three months period no circular knit hose were purchased by those participating in keeping the records. Two and thirty-seven hundredths per cent of the hose purchased were irregulars.
4. Records show that a 45-gauge stocking was the most usual gauge purchased, the most usual leg length 31", the most usual foot size $9\frac{1}{2}$, and that 3-thread hose were the most usual weight purchased.

5. Forty-five gauge hose were worn an average number of 18.17 times per pair, and 42-gauge hose were worn an average number of 16.3 times per pair.

6. Seventy and three-tenths per cent of all hose purchased (253 pairs) were 3-thread hose. Twenty-seven purchasers consistently bought the same weight hose within the period of time the records were kept. All 2-thread hose (32 pairs), regardless of price and gauge, were worn an average of 10.09 times per pair; all 3-thread hose (178 pairs) were worn an average of 18.08 times per pair; and all 4-thread hose (37 pairs) were worn an average of 20 times per pair.

7. Seventy-one and two-tenths per cent of the hosiery shopping was done in department stores.

8. Twenty-nine different brands of hose were purchased during the time these records were kept. Forty per cent of the number participating bought only one brand during this time. This may be due to the fact that most of these consumers have formed the habit of buying in one store, thus they buy the brand most advertised by each store.

9. The average cost of the hose was \$0.9629 per pair. The range in price was from \$0.49 a pair to \$2.00 a pair. More hose were bought at \$0.79 than at any other price.

10. Garter support was the most usual mode of support. Very few knee length hose were worn.

11. The average number of wearings received from the total number of hose purchased was 16.52 per pair. The fewest number of times a single pair of hose was worn was 2 times, and the highest number of times a single pair was worn was 35 times.

12. Hose were laundered an average of 15.6 times per pair. Sixteen brands of soap were listed. Eighty-eight per cent used only one brand during the time the records were kept, while some used any kind of toilet soap or soap flakes at hand.

13. Those keeping records indicated that the first break occurred in the feet in 113 pairs of hose and in runs in 82 pairs.

Conclusions

The writer has drawn the following conclusions based on this study of the buying practices of a selected group of fifty employed women:

(1) Some concerted effort should be made to teach people the meaning of terms used in advertising and selling hose.

(2) Appearance and serviceability seem to be important factors in buying hose, but appearance makes a stronger appeal.

(3) Generally speaking, price paid does not seem to be an indication of service which can be expected.



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Occupation _____ Date _____

In answering the questions calling for "yes" or "no" please use a check mark () in the correct blank. If you do not know the meaning of any term used, indicate by an (x) rather than guessing.

1. Do you buy hose: a. in single pairs _____ b. two pairs at once _____ c. more than two pairs _____.
2. If you buy more than one pair at a time are they alike?
Yes _____ No _____.
3. Do you buy: a. full-fashioned _____ b. circular knit _____.
4. Do you judge carefully the weight of hose in considering the use? Yes _____ No _____.
5. Are "irregular" hose ever included on your shopping list?
Yes _____ No _____.
6. Do you request specific leg length as well as foot size when you buy hose? Yes _____ No _____.
7. Do you consider the "run-stop" feature at the top of some hose of much value? Yes _____ No _____.
8. Do you inspect your hose at the instep for rings, the leg for vertical lines, and for rings? Yes _____ No _____.
9. Do you consider the price paid a fair indication of the service expected? Yes _____ No _____.
10. Number the following buying guides in the order of their importance to you:
a. appearance _____
b. price _____
c. serviceability _____
11. Gauge means the number of: (check the correct answer)
a. threads used in a stocking _____
b. needles on each $1\frac{1}{2}$ inch of the needle bar _____
c. day's wear expected _____
12. What is the relationship between:
a. gauge and service _____
b. gauge and appearance _____
13. In buying hose, check the following items which influence your purchase:
Price _____ Percentage of Metallic Weighting _____ Gauge _____
Fiber _____ Color _____ Color Fastness _____ Full-fashioned or
Circular Knit _____ Brand _____ "Regular" or "Irregular" _____
Number of Threads _____ Size, shape, and No. of re-
inforcements _____ Kind of yarns used in reinforcements _____

The charts on the following pages are to be kept over a period of three months. This is for the purpose of helping me acquire data to be used for a thesis as a partial requirement for a Master's degree. I wish to gain an insight into many varieties of hose, so please keep a record of each pair you buy regardless of price or type. I suggest that you fill in the blanks frequently rather than all at once. If you do not understand any of the items please let me explain before you begin. Please keep the records as accurately as possible. If the number of blanks provided is not enough, I shall be very glad to supply you with more.

Some of the terms used in reference to hosiery and their meanings are:

- Full-fashioned:** Hose which are knit flat, shaped to fit the leg, and seamed together down the back of the leg and along the bottom of the foot. Circular knit hose are made in tubular forms so that no seam is required, although a mock seam is sometimes added. Full-fashioned hose fit much better and thus give longer wear and better appearance.
- Threads:** The number of strands of silk twisted together to form the yarn, varying from 2 to 10. A 4-thread stocking is recommended for business wear, a 2- or 3-thread for dress occasions where only beauty and sheerness are required.
- Gauge:** Determines the fineness or coarseness of texture. The gauge is the number of needles to each $1\frac{1}{2}$ inches of the needle bar. Gauge numbers range from 39 to 60. 42, 45, and 48 are the gauge numbers most commonly used. A 45 or 48 gauge is recommended for general wear.
- Size:** The foot size refers to the actual measurements. A size $9\frac{1}{2}$ measures approximately $9\frac{1}{2}$ inches. Hose should be slightly longer than the foot of the wearer. Leg lengths include knee length and the full length hose. Long hose measure approximately 28 inches for the short figure, 30 inches for the average figure, and 31 inches for the tall figure.

Your hose should be sufficiently reinforced where there is extra wear such as at the toe, sole, and heel.

Inspect your hose before buying for yarn defects, snags, and stripes. Test them for elasticity at the instep and knees. A stocking should spring back into shape after being stretched. A satisfactory stocking will stretch until it measures $11\frac{1}{2}$ inches to 14 inches at the top, and $8\frac{1}{4}$ inches at the instep.

I appreciate very much the help you will give me by keeping this chart. I hope it will help you to know something more about your hose.

Signed - Ruth DeFord

BUYING RECORD:

Date Begun _____

Occupation _____

Date Ended _____

Designation	Brand	Date Purchased	No. of Pairs	Place Purchased	Price	Size		Gauge	No. of Threads	Full-Fashioned or Circular Knit	Regular or Irregular
						Foot	Length of leg				
A	Knolde & Horst	July 3rd, 1937	1	Miller's	\$1.15	10 $\frac{1}{2}$	31"	45	3	Full-Fashioned	Regular

RECORD OF WEAR AND CARE:

Designation	No. of Times Laundered	When Laundered		Kind of Soap used	Place where first break comes	Mode of Support	No. of Times Worn	Comments
		Immediately	After 12 hrs.					
A				Octagon	Foot (holes)	Garter		No snags

APPENDIX

Comments Taken From Individual Charts

Some of the comments which grew out of the experience of keeping the records of wear and care are:

"It seems I got more service out of (a) brand of hose, but I really liked (b) brand better. Maybe (a) brand for wear but (b) brand for looks."

"Enjoyed keeping the record - think it helped me too."

"I think it is interesting to note that the hose which I paid \$0.49 for wore me longer than the more expensive ones. There were more snags on them, and they didn't look as good, but for school they wore longer."

"I attribute such unusual service to the fact that they were not worn over 8 - 10 hours at any one time and were laundered immediately after. Also, all slight breaks were mended as soon as possible."

"Seemed to just break into runs where there were no snags. Could it be that buying them Dec. 26 and not wearing them until Feb. 26 two months later had anything to do with this? I was very careful with them in that they were very sheer, but can see no reason for these breaks unless it was that the silk was weakening or rotting."

"Used alternately from 7 A. M. until 5 P. M. on week days."

"Silk in arch of foot was worn by 4th day from sport shoes."

"Run began at heel joining."

"Probably old stock."

"Oxfords rubbed heel."

"Worn with suede shoes."