1975

Eighty-Eighth Annual Report of the Tennessee Agricultural Experiment Station, 1975

University of Tennessee Agricultural Experiment Station

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Eighty-Eighth
Annual Report
of the
Tennessee Agricultural
Experiment Station
1975

The University of Tennessee
Knoxville
THE UNIVERSITY OF TENNESSEE
AGRICULTURAL EXPERIMENT STATION

1 Main Station
2 University of Tennessee at Martin

Branch Stations
4 Dairy Experiment Station
5 Highland Rim Experiment Station
6 Middle Tennessee Experiment Station
7 Plateau Experiment Station
8 Tobacco Experiment Station
9 West Tennessee Experiment Station

3 UT Energy Research and Development Administration Comparative Animal Research Laboratory

Field Stations
10 Ames Plantation
11 Cumberland Forestry Field Station
12 Friendship Forestry Field Station
13 Highland Rim Forestry Field Station
14 Milan Field Station
15 Oak Ridge Forest and Arboretum
Eighty-Eighth
Annual Report
1975

Tennessee
Agricultural Experiment Station

Edward J. Boling ............... President of the University
Webster Pendergrass ............. Vice President for Agriculture
E. J. Chapman .................. Assistant Vice President for Agriculture
John A. Ewing .................. Dean
D. M. Gossett .................. Assistant Dean
T. J. Whatley .................. Assistant Dean

The University of Tennessee
Knoxville
LETTER OF TRANSMITTAL

Knoxville, Tennessee
January 2, 1976

To His Excellency, Ray Blanton
Governor of Tennessee:

SIR: I have the honor of transmitting herewith, on behalf of the Board of Trustees of the University of Tennessee, a report of the work and expenditures of the Agricultural Experiment Station for the year 1975.

This report is submitted in accordance with the law requiring that such a report be submitted annually by the administrators of the Experiment Station to the Governor of the State.

Respectfully submitted,
Edward J. Boling, President

CONTENTS

| Foreword | 3 |
| Active Projects | 3 |
| Financial Statement | 4 |
| Projects Terminated | 5 |
| Publications | 5 |
| Agricultural Biology | 5 |
| Agricultural Economics and Rural Sociology | 8 |
| Agricultural Engineering | 13 |
| Animal Science | 16 |
| Child Development and Family Studies | 20 |
| Food Science, Nutrition, and Food Systems Administration | 20 |
| Food Technology and Science | 21 |
| Forestry | 22 |
| Ornamental Horticulture and Landscape Design | 25 |
| Plant and Soil Science | 26 |
| Textiles and Clothing | 29 |
| UT-Comparative Animal Research Laboratory | 30 |
| University of Tennessee at Martin | 32 |
| Station Personnel | 33 |
| Personnel Changes | 40 |
The Eighty-Eighth Annual Report
of the
Tennessee Agricultural Experiment Station
1975

Foreword

Included in this report are listings by departments of the following information:

1) Research projects active as of December 31, 1975;
2) Research projects terminated during the calendar year 1975;
3) Bulletins, articles, and reports prepared by Experiment Station staff members and published during the calendar year 1975.

In addition, this report contains the financial statement for the Agricultural Experiment Station covering the period July 1, 1974 to June 30, 1975. Also included is a list of the Experiment Station personnel for the calendar year 1975.

Active Projects

As of December 31, 1975, there were 157 Hatch projects and 16 State projects. Hatch projects are supported in part with Federal-Grant funds made available by Congress to the Agricultural Experiment Stations of the country under the Hatch Act Amended. State projects are supported entirely by University funds.

In addition, there were 11 McIntire-Stennis and 7 University of Tennessee-Energy Research and Development Administration projects, and 2 CSRS projects.

The headquarters of the Tennessee Agricultural Experiment Station is located on the agricultural campus of the University of Tennessee at Knoxville. The UT-Comparative Animal Research Laboratory is located some 20 miles distant at Oak Ridge, Tennessee. In addition, there are other research centers which represent soil and climatic conditions in the major regions of Tennessee. These other research centers are listed at the end of this report, and their locations are shown on the inside front cover.

Many of the projects involving studies of soils, crops, and livestock may include experimental work at one or more of the outlying stations as well as at the Main Station at Knoxville.
Hatch 438  
(S-74)  

Hatch 440  
Pest Management of Vegetable Insect Pests.

Hatch 455  
The Effects and Control of Ectoparasitic Nematodes and Associated Root-Inhabiting Fungi on Tomatoes, Soybeans and Corn.

Hatch 468  
(S-105)  
Host Plant Resistance in Cotton to Insects, Mites, Nematodes and Diseases.

Hatch 469  
(S-76)  
Nature and Extent of Variation in Root-Knot and Cyst Nematodes.

Hatch 472  
Control of Target-Insect Pests on Vegetable Crops.

Projects Concluded in 1975

Hatch 98  
A Study of the Life History and Means of Control of Insects that Affect the Growth of Cotton.

Hatch 138  
Biology, Pathogenicity, and Control of Plant Parasitic Nematodes.

Hatch 299 R  
Biology and Ecology of House Dust Mites.

Hatch 315  
(S-76)  
Nature and Extent of Variation in Root-Knot and Cyst Nematodes.

Bulletins, Articles, and Reports—1975

Chambers, A. Y.

Edwards, D. I., and J. M. Epps

Gerhardt, R. R.

Hamon, A., P. L. Lambdin, and M. Kosztarab

Hilty, J. W., and C. A. Mullins
Chemical Control of Snap Bean Rust. Tennessee Farm and Home Science Progress Report 93, March 1975.
Hilty, J. W., and C. A. Mullins

Johnson, L. F., and N. B. Shamiyeh

Josephson, L. M., J. W. Hilty, and H. C. Kincer

Lambdin, P. L., and M. Kosztarab

Lambdin, P. L., and M. Kosztarab

Lentz, G. L., and L. P. Pedigo

Mohtahedi, H., B. F. Lownsbery, and E. H. Moody

Newman, M. A., and James M. Epps

Newman, M. A., and A. Y. Chambers
Cotton Diseases and Their Control. University of Tennessee Agricultural Extension Service Publication EC 809 (Revised), 1975.

Pendergrass, J. E., and G. Lentz

Pendergrass, J. E., G. Lentz, W. C. Johnson, and E. E. Burgess

Reed, H. E., and A. Y. Chambers

Reed, H. E., and A. Y. Chambers

Reed, H. E., and A. Y. Chambers
Projects Concluded in 1975

Research Project Titles

<table>
<thead>
<tr>
<th>Proj. No.</th>
<th>Research Project Titles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hatch 303</td>
<td>Regional Income and Employment Effects of Investments in Natural Resources (contributing to Regional Proj. S-71).</td>
</tr>
<tr>
<td>Hatch 326</td>
<td>Factors Affecting Utilization and Expansion Potential for Ornamental Plants and Turf (contributing to Regional Proj. SM-44).</td>
</tr>
<tr>
<td>Hatch 365</td>
<td>Evaluation of Vocational Training for Rural People.</td>
</tr>
</tbody>
</table>

Bulletins, Articles, and Reports—1975

Badenhop, M. B.

Badenhop, M. B.

Badenhop, M. B.

Badenhop, M. B., and George F. Smith

Badenhop, M. B.

Bauer, Larry L., and Curtis R. Hancock

Brooker, John R.

Brooker, John R., and Jack Lafferty
Brooker, John R.

Brooker, John R., and Joe A. Martin

Brooker, John R., and James L. Pearson

Brooker, John R., and James L. Pearson

Brown, David W.

Deaton, Brady J., and Larry C. Morgan

Deaton, Brady J., B. R. McManus, J. R. Brooker, and D. R. Humberd
Policy Considerations for Commercial Agriculture and Rural Development. Agricultural Experiment Station Bulletin 540, Agricultural Experiment Station, University of Tennessee, 1975.

Deaton, Brady J., and S. D. Mundy

Deaton, Brady J.

Dubov, Irving

Dubov, Irving, and Gerald E. Smolen
Costs of Solid Waste Management in the Knoxville, Tennessee Metropolitan Area. Tennessee Agricultural Experiment Station Bulletin 550, 1975.

Klindt, Thomas H., and Leo J. Guedry

Klindt, Thomas H., and Leo J. Guedry
Klindt, Thomas H., and Leo J. Guedry  
Economic Impact of Agricultural Production in West Carroll Parish.  
DAE, Research Report 485, Louisiana State University, Department of  
Agricultural Economics, 1975.

Klindt, Thomas H., Daniel R. Robertson, and Leo J. Guedry  
The Effects of Output Changes on Income, Employment and Output in  
Assumption Parish. DAE, Research Report 486, Louisiana State Uni-  
versity, Department of Agricultural Economics, 1975.

Leuthold, Franklin O., and B. R. McManus  
Decline of the U.S. Rural Farm Population. Tennessee Farm and Home  
Science Progress Report 95, September 1975.

Martin, Joe A., and David A. Hake  
Agriculture: Short-Term Analysis, Agriculture: Long-Term Analysis.  
An Economic Report to the Governor of the State of Tennessee, TN-STAE-  

Martin, Joe A., and John R. Brooker  
Contract Vegetable Production in Tennessee: Attitudes and Characteristics  
of Growers, Agricultural Experiment Station Bulletin 544, March 1975.

Martin, Joe A.  
Outlook: Agriculture. Tennessee Survey of Business 11(2):24-25, No-  
vember and December, 1975.

McManus, Ben R., and Frank O. Leuthold  
Decline of the U.S. Rural Population. Tennessee Farm and Home Science  
Progress Report 95, September 1975.

McManus, Ben R., and D. O. Baxter  
The Structural Condition of Rural Housing in Tennessee. Tennessee Farm  

Mundy, Steven D.  
Interrelationships Between Spatial Distribution of Agricultural Land  
and Land Requirements for Future Food and Fiber Production. Southern  

Orr, Robert H.  
The Additive and Interactive Effects of Powerlessness and Anomie in  
Predicting Opposition to Pollution Control. Rural Sociology 39:471-486,  
1975.

Sappington, Charles B., James Stallings, and James Harris  
Grain Movements Between Southern and Corn Belt States. Southern  
Cooperative Series Bulletin 209, Auburn Agricultural Experiment Sta-  
tion, 1975.

Sappington, Charles B., L. D. Hill, and E. D. Baldwin  
Spatial Price Differentials for Corn. Southern Cooperative Series Bulletin  
196, Tennessee Agricultural Experiment Station, 1975.

Trevena, Billy J.  
The Rapid Increase in Retail Food Cost: 1972-1974 Who Benefited?  


AGRICULTURAL ENGINEERING

Research Project Titles

<table>
<thead>
<tr>
<th>Proj. No.</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hatch 294</td>
<td>Engineering Systems for Cotton Production (contributing to Regional Proj. S-69).</td>
</tr>
<tr>
<td>Hatch 333</td>
<td>Evaluation and Improvement of Low-Cost Rural Housing in Tennessee; cooperative with the Agricultural Economics Department.</td>
</tr>
<tr>
<td>Hatch 362</td>
<td>Transportation and Temporary Storage of Tennessee Vegetables Between Harvesting and Processing; cooperative with the Food Technology and Science Department.</td>
</tr>
<tr>
<td>Hatch 363</td>
<td>Machinery for Harvesting Fruit and Pod Vegetables; cooperative with the Food Technology and Science and Plant and Soil Science Departments.</td>
</tr>
<tr>
<td>Hatch 379</td>
<td>Development of Compatible Erosion-Control Practices and Machinery Systems; cooperative with the Plant and Soil Science Department and The University of Tennessee Water Resources Research Center.</td>
</tr>
<tr>
<td>Hatch 424B</td>
<td>Management of Runoff and Effluent from a Dairy; cooperative with the Animal Science Department, Plant and Soil Science Department, and Dairy Experiment Station.</td>
</tr>
<tr>
<td>Hatch 432B</td>
<td>Alternative Systems of Swine Production; cooperative with the Animal Science Department, Plant and Soil Science Department, Agricultural Economics Department, and Ames Plantation.</td>
</tr>
<tr>
<td>Hatch 441</td>
<td>Animal Waste Treatment and Recycling Systems; cooperative with the Animal Science and Plant and Soil Science Departments (contributing to Regional Proj. S-89).</td>
</tr>
<tr>
<td>Hatch 445</td>
<td>Minimizing Energy and Labor in Harvesting and Curing Air-Cured Tobacco; cooperative with the Plant and Soil Science Department.</td>
</tr>
<tr>
<td>CSRS-TN 316-15-92</td>
<td>Optimizing Cotton Tillage; cooperative with the Plant and Soil Science Department.</td>
</tr>
<tr>
<td>State 66</td>
<td>Machines for Low-Cost Hay Making on Small Farms; cooperative with the Plant and Soil Science and Animal Science Departments.</td>
</tr>
<tr>
<td>State 75</td>
<td>Electrical Equipment for the Treatment of Water; cooperative with USDA.</td>
</tr>
</tbody>
</table>

Projects Concluded in 1975

Hatch 204 | Factors Affecting Water Yields from Small Watersheds in Tennessee; cooperative with the Plant and Soil Science Department, Comparative Animal Research Laboratory, and Soil Conservation Service (contributing to Regional Proj. S-53). |
Hatch 338  Reducing Labor and Costs in the Dark-Fired Tobacco Harvest-Curing Operation; cooperative with the Agricultural Biology Department.

AGRICULTURAL ENGINEERING

Bulletins, Articles, and Reports—1975

Baxter, D. O., B. J. Bearden, J. J. McDow, and J. T. Miles

Baxter, D. O., and B. R. McManus

Bledsoe, Bobby L.

Duckett, Kermit E., C. C. Cheng, and R. S. Krowicki

Duckett, Kermit E., and C. C. Cheng

Duckett, Kermit E., R. S. Krowicki, and C. C. Cheng

Duckett, Kermit E., and Z. A. Henry

Duckett, Kermit Earl

Ewald, P. R., and R. Lawson

Ewald, P. R., H. Hutchens, E. E. Norman, A. M. Sands, G. Western, and P. W. Elliott

Hawkins, William P., Kermit Earl Duckett, and Zachary A. Henry
Henry, Zachary A., Editor

Henry, Zachary A., and Henry D. Bowen

Jordan, K. A., and John I. Sewell

Krowicki, R. S., K. Duckett, and S. Worley, Jr.

Lawson, R., and K. L. Hertel

Lawson, R., H. H. Ramey, and P. W. Elliott

Lawson, R., P. R. Ewald, and H. H. Ramey

Lawson, R.

Mullins, J. A., Tom McCutchen, W. L. Parks, F. F. Bell, and Steve Parks

Pile, Robert S., J. B. Wills, and John I. Sewell

Ramey, H. H., W. R. Meredith, and R. R. Bridge


Sewell, John I., J. B. Wills, and W. L. Parks

Sewell, John I., James A. Mullins, and H. O. Vaigneur

Sewell, John I., H. D. Bartlett, and R. J. Smith

Sewell, John I.

Sewell, John I., and C. H. Shelton

Sewell, John I.

Shelton, Curtis H., James H. Lillard, John I. Sewell, and T. Virgil Wilson

Wilhelm, Luther R., Charles A. Mullins, and J. L. Collins

Worley, S., R. S. Krowicki, and Edwin L. Cox

Worley, S., Jr., and H. H. Ramey, Jr.

**ANIMAL SCIENCE**

**Research Project Titles**

<table>
<thead>
<tr>
<th>Proj. No.</th>
<th>Research Project Titles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hatch 61</td>
<td>The Improvement of the Producing Ability of Beef Cattle; cooperative with the Aluminum Company of America (contributing to Regional Proj. S-10).</td>
</tr>
<tr>
<td>Hatch 92</td>
<td>The Effects of Maximum Selection Pressure for Milk Production on Rate of Improvement in Production and Its Effect on Other Dairy Cattle Traits (contributing to Regional Proj. S-49).</td>
</tr>
</tbody>
</table>
The Influence of Light Upon Performance of Domestic Chickens.
Hatch 268
The Identification and Control of Factors Affecting Reproductive Performance in the Bovine Female.
Hatch 284
Factors Affecting the Rate of Genetic Improvement of Dairy Cattle.
Hatch 297
Feed Requirements for Growth of Heifers.
Hatch 298
Bovine Mammary Gland Development During Gestation and Initial Stages of Lactation.
Hatch 300
Role of the Ultomobranchial Gland in Avian Osteoporosis.
Hatch 306
Breeding Methods for Beef Cattle in the Southern Region; cooperative with the U.S. Department of Agriculture (contributing to Regional Proj. S-10).
Hatch 307
Efficiency of Beef Production—Amount of Variation and Criteria for Improvement.
Hatch 310
The Relationship of Body Length to Economically Important Traits in Meat Type Swine.
Hatch 317
Feeding Programs for Maximum Efficiency and Optimum Body Composition in Meat Type Swine.
Hatch 323
Relationship Between Properties of Southern Forages and Animal Response.
Hatch 339
Hatch 342
The Mineral Nutrition of Egg-Production-Type Laying Hen.
Hatch 345
Management of Pastures for Beef Cow Herds.
Hatch 347
Hatch 371
Stress and Laying Hen Performance.
Hatch 390
Micro and Macro Elements in Animals.
Hatch 424A
Dairy Waste Management Systems.
Hatch 432A
Alternative Systems of Swine Production.
Hatch 433
Pre- and Post-Weaning Management of Beef Calves.
Hatch 449
Reproductive Efficiency in the Bovine Male.
Hatch 456
Etiology and Prevention of Hypomagnesemia in Ruminants.
Hatch 457
Complete Feed Rations Using Home Grown Forages for Dairy Cattle.
Hatch 458
Photoperiods and Poultry Diseases.
Hatch 459
Efficiency of Beef Production of Different Size Cows Giving Different Amounts of Milk on Different Quality Pastures.
Hatch 460
Effect of Initial Weight and Winter Feeding Level of Subsequent Performance of Slaughter Beef Heifers.
Hatch 461
Maximum Utilization of High Quality Forages for Dairy Cattle.
Winter Feeding "Dry" Brood Cows for Efficient Beef Production.  
Improvement of Reproductive Performance in Cattle.  
Development of Improved Feeder Calf Classification Procedures.  
Random Sample Testing of Chickens Available to Tennessee Poultrymen.  
Swine Testing and Evaluation.  
Beef Cattle Improvement.  
Bull Evaluation.  
"Exotic Breeds" of Sheep to Increase Lamb Production in Tennessee.  
Variation in Appetite of Angus Heifers Differing in Growth Pattern.

Projects Concluded in 1975

Pasture Mixtures and Pasture Management Systems for Beef Production.  
Factors Affecting Feed Utilization by Ruminants.  
Evaluation of Roughages for Beef Cattle.  
Efficient and Economical Use of Forages in Dairy Cattle Rations.  
Performance of Beef Cows as Affected by Initial Winter Condition and Level of Winter Feeding.  
The Nutrition of Egg-Producton-Type Chickens.  
Ovarian Germ Cell Complement and Reproductive Capacity in Beef Cattle.  
Hypomagnesemia Relationships to Grass Tetany in Ruminant Animals.  
Endocrinology of Reproduction in Cattle.  
Effect of Silage Quality on the Performance of Slaughter Animals.  
Effects of Fluorine Levels of Soil and Water on Grazing Cattle Under Different Systems of Management.  
Placental Transfer of Minerals in Farm Animals.  
Feeding Floor System Effects Upon Performance on Beef Animals.  
Criteria for Allotment of Feeder Calves into Uniform Slaughter Outcome Groups.
Bulletins, Articles, and Reports—1975

Bell, M. C., J. A. Bacon, and J. O'Neal

Brooks, R. D., C. C. Chamberlain, and J. H. Felts

Brown, A. Hayden, Jr., Haley M. Jamison, and James B. McLaren

Culvahouse, E. W., B. R. Hathcock, and M. J. Montgomery

Hollon, F., H. D. Baxter, J. R. Owen, and M. J. Montgomery

Jamison, Haley M., Thomas E. Fortune, Sam K. Winfree, William R. Backus, and Curtis Melton
Factors Affecting Carcass Traits of Beef. Tennessee Farm and Home Science Progress Report 95, September 1975.

Jeffrey, L. S., J. K. Bletner, and C. P. Pless
Effects of a Possible Coccidiostat Contaminant on Tobacco Growth. Tobacco Science 177:9, 40-42, 1975.

Johnson, Ronald R., R. D. Wyatt, and E. T. Clemens

Johnson, Ronald R., R. Panciera, H. Jordon, and L. R. Shuyler

Lane, C. D., K. M. Barth, J. B. McLaren, W. F. Sanders, and M. J. Constantin
Relationship of Plant Color to Nutritive Value and Yield of Tall Fescue Within Season. Tennessee Farm and Home Science Progress Report 94, June 1975.


McLaren, J. B., and R. E. Morrow
McLaren, J. B., and G. M. Merriman

Miller, J. K., E. W. Swanson, W. A. Lyke, and W. F. Byrne

Miller, J. K., E. W. Swanson, W. A. Lyke, and B. R. Moss

Miller, J. K., E. W. Swanson, and G. E. Spalding

Sasser, L. B., M. C. Bell, and G. E. Jarboe

Swanson, E. W., and J. E. Claycomb

Totusek, Robert, J. W. Holloway, D. F. Stephens, and J. V. Whitman

Totusek, Robert, J. W. Holloway, D. F. Stephens, and J. V. Whitman

CHILD DEVELOPMENT AND FAMILY STUDIES

<table>
<thead>
<tr>
<th>Proj. No.</th>
<th>Research Project Titles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hatch 354</td>
<td>Assessment of Family Functioning in Rural Areas of Tennessee.</td>
</tr>
<tr>
<td>Hatch 405</td>
<td>Vocational and Educational Aspirations of Rural School Children and Their Mothers.</td>
</tr>
</tbody>
</table>

FOOD SCIENCE, NUTRITION, AND FOOD SYSTEMS ADMINISTRATION

<table>
<thead>
<tr>
<th>Proj. No.</th>
<th>Research Project Titles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hatch 314</td>
<td>The Effect of Nutrition on Biological Aging in the Rat.</td>
</tr>
<tr>
<td>Hatch 353</td>
<td>Non-Oxidative Reactions of Meat Lipids During Heating and Their Relation to Cooked Meat Quality.</td>
</tr>
<tr>
<td>Hatch 355</td>
<td>Effect of Sulfur on Neutral Sulfur Metabolism.</td>
</tr>
<tr>
<td>Hatch 361</td>
<td>Chemical and Physical Characteristics of Muscle Foods as Affected by Heating and Freezing.</td>
</tr>
<tr>
<td>Hatch 384</td>
<td>Patterns of Food Intake and Nutritional Health of Girls.</td>
</tr>
<tr>
<td>Hatch 396</td>
<td>Effect of Stress on Sulfur Metabolism.</td>
</tr>
</tbody>
</table>
Bulletins, Articles, and Reports—1975

Beauchene, R. E., R. L. Mason, and S. M. Tucker

Kurzynske, J. S., and J. T. Smith

White, J. V., and J. T. Smith

FOOD TECHNOLOGY AND SCIENCE

<table>
<thead>
<tr>
<th>Proj. No.</th>
<th>Research Project Titles</th>
</tr>
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<tbody>
<tr>
<td>Hatch 173R</td>
<td>Enterococci in Nonsterile Foods.</td>
</tr>
<tr>
<td>Hatch 193</td>
<td>Enzymes as Related to Chemical and Physical Characteristics of Vegetables for Freezing.</td>
</tr>
<tr>
<td>Hatch 282R</td>
<td>Studies on the “Lacks Freshness” Flavor of Cottage Cheese.</td>
</tr>
<tr>
<td>Hatch 374</td>
<td>Development and Improvement of Vegetable Products and Processing; Quality Factors of Cultivars.</td>
</tr>
<tr>
<td>Hatch 376</td>
<td>Food Color Identification, Notation, and Amelioration with Natural Compounds.</td>
</tr>
<tr>
<td>Hatch 387</td>
<td>Combined Enzymatic-Extraction Procedure for Protein Recovery from Selected Crops and Food Wastes.</td>
</tr>
<tr>
<td>Hatch 391</td>
<td>Quality and Shelf Life of Food Products in the Marketing Channels.</td>
</tr>
<tr>
<td>Hatch 393</td>
<td>Flavor Precursors in Protein Concentrates and Isolates.</td>
</tr>
<tr>
<td>Hatch 394</td>
<td>Histological and Histochemical Relationships of Muscle to Meat Quality and Cutability.</td>
</tr>
<tr>
<td>Hatch 397</td>
<td>Characterization and Treatment of Tennessee Food Processing Wastes.</td>
</tr>
<tr>
<td>Hatch 436</td>
<td>Influence of Milk Processing Upon Biological Availability of Xanthine Oxidase.</td>
</tr>
<tr>
<td>Hatch 437</td>
<td>The Influence of Processing Factors on Dry-Cured Ham Quality.</td>
</tr>
<tr>
<td>Hatch 448</td>
<td>Safety Evaluation of Raw and Processed Foods.</td>
</tr>
<tr>
<td>Hatch 452</td>
<td>Use of Protein Isolates and Vegetable Fats in Manufactured Meat Products.</td>
</tr>
<tr>
<td>Hatch 453</td>
<td>Utilization of Acid Cheese Whey for Food Products.</td>
</tr>
<tr>
<td>State 73</td>
<td>Pesticides in/on Raw and Processed Foods.</td>
</tr>
<tr>
<td>Hatch 356</td>
<td>Development of a Product Prototype for the Utilization of Cottage Cheese Whey.</td>
</tr>
</tbody>
</table>

Projects Concluded in 1975
Hatch 375  Fibrous Protein from Cheese Whey.
Hatch 389  Toxigenic Fungi Evaluation of Selected Crops.

**Bulletins, Articles, and Reports—1975**

Childs, E. A.

Collins, J. L. and A. K. Yu

Demott, B. J.

Demott, B. J.

Jaynes, H. O.

Jaynes, H. O., and W. N. Chou

Melton, C. C., S. T. Hoard, and J. L. Wilson
Catfish Slaughter Methods and Their Effect on Quality. The Commercial Fish Farmer 1 (3) :35-37, 1975.

Mundt, J. O.

Pretanik, J. S., E. A. Childs, and C. J. Wilmes

Riemann, M. J.

**FORESTRY**

<table>
<thead>
<tr>
<th>Proj. No.</th>
<th>Research Project Titles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hatch 102</td>
<td>Forest Management.</td>
</tr>
<tr>
<td>Hatch 107</td>
<td>Relationship of Soil and Other Site Factors to Forest Composition and Productivity.</td>
</tr>
<tr>
<td>Hatch 207</td>
<td>Forest Tree Fertilization; cooperative with the Hiwassee Land Company.</td>
</tr>
<tr>
<td>Hatch 271</td>
<td>Forest Tree Breeding.</td>
</tr>
</tbody>
</table>
Breeding Strategies for Genetic Improvements of Commercial Forest Trees in the South.

Effects of Fertilization and Irrigation on Tree Growth.

Quail Management on Forest and Associated Lands in West Tennessee.

Blight Resistance in American Chestnut.

Christmas Tree Breeding.

Characteristics of Juvenile and Branch Wood in Hardwoods.


Ecology of Mammalian Species of the Great Smoky Mountains National Park.

Effect of Seedling Root Deformation on Growth and Allocation of Auxins.

Economic Importance of Tennessee Forest Resources and Wood Products Industries.

Attitudes and Preferences Related to Forest Recreation Opportunities.

Computer Processing of Forest Inventory Data.

The University of Tennessee Arboretum.

The Ecological and Economic Implications of Improving Wildlife Habitat on Farms in Tennessee.

Forest Cutting and Water Yield; cooperative with the Agricultural Engineering Department.

Competitive Position of and Practices in the Hardwood Dimension Industry; cooperative with the Industrial Management Department.

Economics of Timber Resource Availability in a Tennessee Timbershed.

Projects Concluded in 1975

Wood Duck Ecology on Rivers and Impoundments in East Tennessee.

Bulletin, Articles, and Reports—1975

Bell, Herbert, and Ralph W. Dimmick

Chilcoat, Terry S., and M. R. Pelton

Hay, Ronald L., and Frank W. Woods
Minser, William G. III

Ostermeier, David M., and G. R. Wells

Ostermeier, David M., and G. R. Wells

Ostermeier, David M.

Ostermeier, David M.

Ostermeier, David M.

Pelton, Michael R.

Rennie, J. C., B. L. Geldmeier III, and E. E. Birth

Rennie, J. C., and W. D. Boehmer

Rennie, J. C., and D. H. Cress

Schell, Kerry F.
Recreation on Large Forest Ownerships in Tennessee: Opportunities and Potential. Agricultural Experiment Station Bulletin 545, April 1975.

Thor, E.

Thor, E.
Thor, E.

Thor, E.

Woods, Frank W., Homero Cabrera, and Ronald L. Hay

ORNAMENTAL HORTICULTURE AND LANDSCAPE DESIGN

<table>
<thead>
<tr>
<th>Proj. No.</th>
<th>Research Project Titles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hatch 370</td>
<td>Shade Tree Cultivars.</td>
</tr>
<tr>
<td>Hatch 377</td>
<td>Production Systems of Nursery Stock.</td>
</tr>
<tr>
<td>Hatch 392</td>
<td>Mutation Breeding in Vegetatively Propagated Flowering Pot Plants and Garden Perennials.</td>
</tr>
<tr>
<td>Hatch 425</td>
<td>Pesticide Evaluations, Their Residual Effects and Phytoxicity in Turfgrasses.</td>
</tr>
<tr>
<td>Hatch 426</td>
<td>Cultural and Mechanical Management and Evaluation of Turfgrasses.</td>
</tr>
<tr>
<td>Hatch 429</td>
<td>Chemical Control of Plant Growth in Florist Pot Plants and Bedding Plants.</td>
</tr>
</tbody>
</table>

Bulletins, Articles, and Reports—1975

Callahan, L. M.
Effects of Shade on Stand and Sod Quality of Selected Turf and Forage Grasses. Tennessee Farm and Home Science Progress Report 96, December 1975.

Callahan, L. M.

McDaniel, Gary L.

van de Werken, Hendrik

van de Werken, Hendrik
<table>
<thead>
<tr>
<th>Proj. No.</th>
<th>Research Project Titles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hatch 211</td>
<td>Forage Crop Breeding.</td>
</tr>
<tr>
<td>Hatch 256</td>
<td>Burley Tobacco Breeding.</td>
</tr>
<tr>
<td>Hatch 301R</td>
<td>Viruses and Mycoplasma-Like Organisms Causing Diseases of Corn and Sorghum (contributing to Regional Proj. S-70).</td>
</tr>
<tr>
<td>Hatch 320</td>
<td>Weed Control in Agronomic Crops.</td>
</tr>
<tr>
<td>Hatch 335</td>
<td>Herbicide Movement from Application Sites and Effects on Non-Target Species (contributing to Regional Proj. S-78).</td>
</tr>
<tr>
<td>Hatch 337</td>
<td>Diagnosis and Correction of Zinc Problems in Corn and Rice Production (contributing to Regional Proj. S-80).</td>
</tr>
<tr>
<td>Hatch 341</td>
<td>Fertilizers and Organic Wastes Applied to Soils in Relation to Environmental Quality (contributing to Regional Proj. S-82); cooperative with the Agricultural Engineering Department.</td>
</tr>
<tr>
<td>Hatch 352</td>
<td>Weed Control in Horticultural Crops.</td>
</tr>
<tr>
<td>Hatch 360</td>
<td>Mutation Breeding of Soybeans; cooperative with the Agricultural Biology Department.</td>
</tr>
<tr>
<td>Hatch 399</td>
<td>Soil and Plant Nutrient Status and Environmental Factors in Relation to Crop Yields.</td>
</tr>
<tr>
<td>Hatch 400</td>
<td>Effect of Plant Environment on Its Photosynthetic Capability.</td>
</tr>
<tr>
<td>Hatch 402</td>
<td>Cotton Seed and Fiber Development.</td>
</tr>
<tr>
<td>Hatch 403</td>
<td>Cotton Production and Varietal Adaptation.</td>
</tr>
<tr>
<td>Hatch 404</td>
<td>Forage Crop Production and Metabolic Patterns Under Different Management and Environmental Conditions.</td>
</tr>
<tr>
<td>Hatch 406</td>
<td>Small Grain Improvement Through Breeding (wheat, oats, barley, rye).</td>
</tr>
<tr>
<td>Hatch 407</td>
<td>Selectivity and Mode of Action of Herbicides and Antidotes.</td>
</tr>
<tr>
<td>Hatch 408</td>
<td>Corn Improvement.</td>
</tr>
<tr>
<td>Hatch 409</td>
<td>Development and Evaluation of Rootstocks for Peach (contributing to Regional Proj. S-97).</td>
</tr>
<tr>
<td>Hatch 411</td>
<td>Vegetable Crop Production.</td>
</tr>
<tr>
<td>Hatch 412</td>
<td>Interfacial Reactions in Soils.</td>
</tr>
<tr>
<td>Hatch 413</td>
<td>Liming and Its Effects on Nutrient Availability.</td>
</tr>
<tr>
<td>Hatch 414</td>
<td>Field Crop Variety Evaluation.</td>
</tr>
<tr>
<td>Hatch 416</td>
<td>Plant Growth Regulator Effects on Fruit, Vegetable and Agronomic Crops.</td>
</tr>
<tr>
<td>Hatch 417</td>
<td>Fruit Crop Investigations.</td>
</tr>
<tr>
<td>Hatch 444</td>
<td>Forage Crops, Ecology and Management.</td>
</tr>
</tbody>
</table>
PLANT AND SOIL SCIENCE

Projects Concluded in 1975

Hatch 186

Forage Crops Management; Establishment, Persistence, and Productivity.

PLANT AND SOIL SCIENCE

Bulletins, Articles, and Reports—1975

Arnold, J. M., L. M. Josephson, W. L. Parks, and H. C. Kincer

Arnold, J. M., and L. M. Josephson

Best, J. O., and D. L. Coffey
Effects of Ethephon on Sex Expression and Yield of Summer Squash. Tennessee Farm and Home Science Progress Report 95, September 1975.

Brown, James F., Lawson Safley, B. S. Pickett, and W. E. Roever
Peach Variety Trials at the University of Tennessee. Tennessee Farm and Home Science Progress Report 96, December 1975.

Brown, James F., Lawson Safley, B. S. Pickett, and W. E. Roever

Buntley, G. J.

Coffey, David L., James F. Brown, Charles A. Mullins, and Homer D. Swingle

Fribourg, H. A., J. R. Overton, and J. A. Mullins


Fribourg, H. A., W. E. Bryan, G. M. Lessman, and D. M. Manning

Gallaher, R. N., W. L. Parks, and L. M. Josephson

Graves, Charles R.

Graves, Charles R., G. M. Lessman, and L. M. Safley

Gupton, C. L.

Gupton, C. L., M. O. Neas, and V. E. Kirk

Hoskinson, P. E.

Jeffery, Larry S., Charles D. Pless, and James K. Bletner


Jeffery, Larry S., A. Wayne Jackson, and Tom C. McCutchen

Morgan, Herman, Jr., and Henry A. Fribourg

Mullins, Charles A., and Homer D. Swingle

Overton, Joseph R., and Henry A. Fribourg

Overton, Joseph R., W. L. Parks, and Charles R. Graves

Overton, Joseph R., James A. Mullins, and Larry S. Jeffery

Overton, Joseph R., L. S. Jeffery, Thomas H. Morgan, and Tom McCutchen
Overton, J. R., J. I. Sewell, and G. M. Lessman

Overton, Joseph R., James A. Mullins, and Larry S. Jeffery

Reich, V. H., J. R. Overton, H. E. Reed, and A. Y. Chambers
Effect of Small Grain Planting Date on Infestation of Barley Yellow Dwarf Virus. Tennessee Farm and Home Science Progress Report 95, September 1975.

Reynolds, John H.
Yield and Chemical Composition of Stockpiled Tall Fescue and Orchardgrass Forages. Tennessee Farm and Home Science Progress Report 94, June 1975.

Smith, Horace C., and Tom McCutchen

Smith, Horace C., and Lawson M. Safley

Stewart, J. McD.

Swingle, Homer D., James F. Brown, David L. Coffey, and Charles A. Mullins

Turner, John H., and David Ferguson

TEXTILES AND CLOTHING

<table>
<thead>
<tr>
<th>Proj. No.</th>
<th>Research Project Titles</th>
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</thead>
<tbody>
<tr>
<td>Hatch 358</td>
<td>Performance of Fabrics Treated with Flame-Retardant Fabrics (contributing to Regional Proj. S-86).</td>
</tr>
<tr>
<td>Hatch 434</td>
<td>An Evaluation of Selected Laundry Variables on Commercially Available Flame Retardant Children's Sleepwear Garments.</td>
</tr>
</tbody>
</table>

Projects Concluded in 1975

State 65
The Effects of Mold Fungus and Bleach on Two Flame-Retardant Finishes.
UT-COMPARATIVE ANIMAL RESEARCH LABORATORY

Proj. No. | Research Project Titles
---|---
1 | Comparative Mammalian Genetics and Reproduction.
2 | Metabolism and Effects of Toxic Agents Produced by Non-nuclear Energy Sources.
3 | Metabolism of Internally Deposited Radionuclides.
4 | Biomodeling.
5 | Cytological Studies in Irradiated Mammals.
6 | Late Somatic Effects of Radiation.
7 | Plant Mutagenesis and Metabolism

Hatch 390 | Comparative Metabolism and Micro- and Macro-Elements in Animals.
Hatch 401R | Mutagenesis and the Development of Mutant Germplasm in Economic Plants.
Hatch 410 | Species Comparisons of Pre- and Post-Natal Utilization of Mineral Elements.

**Bulletins, Articles, and Reports—1975**

Brown, D. G.

Burton, G. W., W. G. Monson, W. W. Hanna, and M. J. Constantin

Clapp, N. K., M. C. Jernigan, and E. B. Darden

Conger, B. V.

Conger, B. V.

Conger, B. V.

Hansard, S. L., and F. C. Madsen
Hansard, S. L., F. C. Madsen, G. M. Merriman, and J. B. McLaren

Kelman, B. J., and A. B. Twardock

Killion, D. D., and M. J. Constantin

Lane, C. D., K. M. Barth, J. B. McLaren, W. L. Sanders, and M. J. Constantin


Mikkelsen, J. C., J. Ryan, and M. J. Constantin

Miller, J. K., B. R. Moss, E. W. Swanson, and W. A. Lyke

Miller, J. K., E. W. Swanson, and G. E. Spalding

Miller, J. K., E. W. Swanson, W. A. Lyke, and W. F. Byrne

Mraz, F. R., and G. R. Eisele
Increased 14Ce Uptake in Fetal Rats After the Addition of Carrier. Radiation Research 64:399-400, 1975.

Sasser, L. B., M. C. Bell, and G. E. Jarboe

Strange, J. R.

Walburg, H. E.
### Research Project Titles

<table>
<thead>
<tr>
<th>Proj. No.</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Hatch 161</td>
<td>Evaluation of Forages for Dairy Cattle; cooperative with the Animal Science Department.</td>
</tr>
<tr>
<td>Hatch 186</td>
<td>Adaptation of New Bermudagrass Cultivars Under Different Managements; cooperative with the Plant and Soil Science Department.</td>
</tr>
<tr>
<td>Hatch 211</td>
<td>Breeding and Genetics of Forage Crops; cooperative with the Plant and Soil Science Department.</td>
</tr>
<tr>
<td>Hatch 296</td>
<td>Phenology of Selected Indicator Plants; cooperative with the Plant and Soil Science Department.</td>
</tr>
<tr>
<td>Hatch 302</td>
<td>Corn Disease Monitoring Program; cooperative with the Agricultural Biology Department.</td>
</tr>
<tr>
<td>Hatch 323</td>
<td>Relationship Between Properties of Southern Forages and Animal Response; cooperative with the Animal Science Department.</td>
</tr>
<tr>
<td>Hatch 414</td>
<td>Field Crop Variety Evaluation; cooperative with the Plant and Soil Science Department.</td>
</tr>
</tbody>
</table>

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**Bulletins, Articles, and Reports—1975**

Hathcock, B. R., E. W. Culvahouse, and M. J. Montgomery

STATION PERSONNEL—1975

The University of Tennessee
Agricultural Experiment Station
Knoxville, Tennessee 37901

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Donald Mark Gardner, Jr., Graduate Research Assistant
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Neil Ogg, Graduate Research Assistant
Gayle V. Parrish, Graduate Research Assistant

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Howard E. Reed, Associate Professor
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Joe D. Simpson, Graduate Research Assistant
Robert P. Smith, Graduate Research Assistant
Melvin Warren, Graduate Research Assistant
James L. Wilson, Associate Professor
William B. Wyatt, Graduate Research Assistant

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M. B. Badenhop, Professor
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W. D. Bolton, Graduate Research Assistant
J. R. Brooker, Associate Professor
D. W. Brown, International Professor
C. L. Cleland, Professor and Ombudsman
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C. M. Cuskaden, Associate Professor
B. J. Deaton, Associate Professor
J. M. Devine, Graduate Research Assistant
Irving Dubov, Professor
J. L. Garrett, Graduate Research Assistant
T. D. Hewitt, Graduate Research Assistant
L. H. Keller, Professor
K. M. Kennedy, Graduate Research Assistant
T. H. Klindt, Assistant Professor
T. H. Lederer, Graduate Research Assistant
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B. R. McManus, Associate Professor
W. A. Miller, Graduate Research Assistant
S. D. Mundy, Assistant Professor
W. D. Pitt, Jr., Graduate Research Assistant
R. M. Ray, Assistant Professor
Jerome Reece, Graduate Research Assistant
C. B. Sappington, Associate Professor
Morgan J. C. Scudi, Graduate Research Assistant
J. G. Snell, Associate Professor
B. J. Trevena, Assistant Professor

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K. E. Duckett, Associate Professor
D. D. Eller, Graduate Research Assistant
Z. A. Henry, Associate Professor
J. S. Jablonski, Instructor

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Reba Lawson, Assistant Professor
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J. K. McDonald, Graduate Research Assistant
J. T. Melton, Graduate Research Assistant
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C. S. Purdum, Graduate Teaching Assistant
H. H. Ramey, Professor
D. R. Robertson, Graduate Research Assistant

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J. E. Temple, Graduate Research Assistant
F. D. Tompkins, Assistant Professor
J. T. Walker, Graduate Research Assistant
L. R. Wilhelm, Assistant Professor

ANIMAL SCIENCE

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K. M. Barth, Associate Professor
B. J. Bearden, Assistant Professor
M. C. Bell, Professor
J. K. Bletner, Professor
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W. T. Butts, Jr., Associate Professor
J. A. Corrick, Assistant Professor
C. C. Chamberlain, Professor
H. H. Dowlen, Assistant Professor
R. E. Fish, Graduate Research Assistant in Animal Science
M. E. Fryer, Instructor
H. C. Goan, Assistant Professor
J. Herr, Graduate Research Assistant in Animal Science
J. P. Hitchcock, Assistant Professor
J. W. Holloway, Assistant Professor
J. T. Hopper, Graduate Research Assistant in Animal Science
M. Hunter, Graduate Research Assistant in Animal Science
R. Ingram, Graduate Research Assistant in Animal Science
C. M. Irwin, Graduate Research Assistant in Animal Science
H. M. Jamison, Professor

E. R. Lidvall, Associate Professor
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G. C. McGhee, Laboratory Assistant
J. R. McCurley, Graduate Research Assistant in Animal Science
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F. B. Masincupp, Assistant Professor
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J. F. Pearson, Graduate Research Assistant in Animal Science
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R. R. Shrode, Professor
J. D. Smalling, Assistant Professor
E. W. Swanson, Professor
Sandra Tegge, Graduate Research Assistant in Animal Science
R. L. Tugwell, Professor
T. B. Turner, Graduate Research Assistant in Animal Science
J. E. Wilkinson, Graduate Research Assistant in Animal Science

2 In cooperation with U.S. Department of Agriculture.
CHILD DEVELOPMENT AND FAMILY STUDIES

Judith L. Kuipers, Head of Department
Helen Reed, Assistant Professor
Lois E. Southworth, Assistant Professor

COMMUNICATIONS

G. W. F. Cavender, Director
Frederick E. Bregggen, Assistant Communications Specialist
Conrad A. Reinhardt,
Communications Specialist
Elaine K. Wiedemann, Assistant Communications Specialist

FOOD SCIENCE, NUTRITION, AND FOOD SYSTEMS ADMINISTRATION

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Marta L. Axelson, Graduate Research Assistant
Roy E. Beauchene, Professor
Ada M. Campbell, Professor
Gail W. Disney, Assistant Professor
Janet S. Kurzynske, Graduate Research Assistant
Rossie L. Mason, Assistant Professor
Marjorie P. Penfield, Assistant Professor
Janna H. Scruggs, Graduate Research Assistant
John T. Smith, Professor
Martha B. Stone, Graduate Research Assistant
Troy Wakefield, Jr., Graduate Research Assistant
Lois A. Wodarski, Graduate Research Assistant

FOOD TECHNOLOGY AND SCIENCE

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J. L. Collins, Associate Professor
B. J. Demott, Associate Professor
F. A. Draughon, Graduate Research Assistant
C. S. Gaines, Graduate Research Assistant
H. O. Jaynes, Associate Professor
J. C. Harrison, Graduate Research Assistant
J. W. Lusby, Graduate Research Assistant
J. E. Marcy, Graduate Research Assistant
C. C. Melton, Associate Professor
S. L. Melton, Assistant Professor
R. E. Moyers, Graduate Research Assistant
J. O. Mundt, Professor
W. W. Overcast, Professor
M. J. Riemann, Assistant Professor
O. G. Sanders, Graduate Research Assistant
C. J. Wilmes, Graduate Research Assistant
In cooperation with the U.S. Department of Agriculture.

2 In cooperation with the UT-AEC Comparative Animal Research Laboratory.
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B. G. Harville, Graduate Research Assistant
P. E. Hoskinson, Associate Professor, Jackson
L. S. Jeffery, Associate Professor
L. M. Josephson, Professor
H. C. Kincer, Assistant Professor
W. A. Krueger, Associate Professor
G. M. Lessman, Assistant Professor
R. J. Lewis, Associate Professor
D. W. Lockwood, Assistant Professor
James L. Magness, Graduate Research Assistant
W. Miller, Graduate Research Assistant
T. H. Morgan, Jr., Assistant Professor, Spring Hill
T. E. Morgan, Graduate Research Assistant
S. L. Morris, Graduate Research Assistant
C. A. Mullins, Assistant Professor, Crossville

B. C. Nichols, Associate Professor, Greeneville
J. R. Overton, Associate Professor, Jackson
W. L. Parks, Professor
Robert Ratliff, Graduate Research Assistant
D. L. Reasons, Graduate Research Assistant
V. H. Reich, Assistant Professor
J. H. Reynolds, Associate Professor
L. D. Robertson, Graduate Research Assistant
R. H. Rogers, Graduate Research Assistant
C. E. Sams, Graduate Research Assistant
J. B. Sikes, Jr., Graduate Research Assistant
L. N. Skold, Professor
H. C. Smith, Associate Professor
M. E. Springer, Professor
J. M. Stewart, Assistant Professor
H. D. Swingle, Professor
J. Turner, Associate Professor
S. Worley, Associate Professor

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Carolyn T. Ashley, Graduate Research Assistant
Sara M. Zimmerman, Graduate Research Assistant

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D. M. Robie, Assistant to the Director
J. M. Bird, Superintendent
P. J. Bredderman, Associate Professor
J. W. Brown, Administrative Assistant
L. E. Browne, Chief Engineer
R. J. Chertok, Associate Professor
B. V. Conger, Associate Professor

M. J. Constantin, Professor
E. B. Darden, Professor
G. R. Eisele, Assistant Professor
C. Joan Ellis, Editor
B. H. Erickson, Professor
S. L. Hansard, Professor
R. R. Henke, Assistant Professor
B. J. Kelman, Postdoctoral Research Associate
W. J. Kopp, Professor

1 In cooperation with U.S. Department of Agriculture.
A: F. McFee, Professor
F. C. Madsen, Postdoctoral Research
Associate
Polly G. Martin, Associate Professor
J. K. Miller, Associate Professor
F. R. Mraz, Professor
T. R. Noonan, Professor
F. M. Osborne, Purchasing Agent

R. A. Reynolds, Assistant
Superintendent
L. B. Sasser, Assistant Professor
M. D. Schneider, Professor
G. E. Spalding, Associate Professor
K. M. Wallace, Applied Health
Physicist
J. F. Weiss, Assistant Professor
Wei-O V. Wong, Biostatistician

THE UNIVERSITY OF TENNESSEE AT MARTIN

H. J. Smith, Dean, School of
Agriculture
E. W. Culvahouse, Associate
Professor of Dairying
B. N. Duck, Assistant Dean and
Professor of Agronomy

B. R. Hathcock, Associate Professor
of Agronomy
H. A. Henderson, Farm Manager
N. W. Robinson, Professor of Animal
Science

MAIN STATION, KNOXVILLE
John Hodges III, Superintendent of Farms

BRANCH STATIONS

Dairy Experiment Station, Lewisburg, J. R. Owen, Superintendent
Highland Rim Experiment Station, Springfield, L. M. Safley, Superintendent
Middle Tennessee Experiment Station, Spring Hill, J. W. High, Jr., Superintendent
Plateau Experiment Station, Crossville, R. D. Freeland, Superintendent; R. Q. Snider, Manager
Tobacco Experiment Station, Greeneville, Donald D. Howard, Superintendent
West Tennessee Experiment Station, Jackson, H. W. Luck, Superintendent

FIELD STATIONS

Ames Plantation, Grand Junction, James M. Bryan, Superintendent
Forestry Field Stations at Tullahoma, Wartburg, and Oak Ridge, Richard
M. Evans, Superintendent
Milan Field Station, Milan, T. C. McCutchen, Superintendent

1 In cooperation with U.S. Department of Agriculture
PERSONNEL CHANGES

Appointments

Arlene M. Allen, Graduate Research Assistant in Food Science, Nutrition, and Food Systems Administration, September 1, 1975

F. L. Allen, Assistant Professor of Plant and Soil Science, June 16, 1975

Marta Lynne Axelson, Graduate Research Assistant in Food Science, Nutrition, and Food Systems Administration, September 15, 1975

William D. Bolton, Graduate Research Assistant in Agricultural Economics, August 29, 1975

Gloria S. Boone, Senior Research Assistant, UT-Comparative Animal Research Laboratory, April 14, 1975

P. J. Bredderman, Associate Professor, UT-Comparative Animal Research Laboratory, March 17, 1975

Dan T. Brown, Graduate Research Assistant in Animal Science, April 1, 1975

J. W. Brown, Administrative Assistant, UT-Comparative Animal Research Laboratory, April 7, 1975

L. E. Browne, Chief Engineer, UT-Comparative Animal Research Laboratory, February 1, 1975

Peter Bruno, Graduate Research Assistant in Plant and Soil Science, June 16, 1975

M. F. Callaham, Senior Research Assistant, UT-Comparative Animal Research Laboratory, September 2, 1975

James Castellaw, Graduate Research Assistant in Plant and Soil Science, July 7, 1975

G. W. F. Cavender, Director of Office of Communications, March 1, 1975

R. J. Chertok, Associate Professor, UT-Comparative Animal Research Laboratory, March 3, 1975

Charles W. Cook, Jr., Graduate Research Assistant in Agricultural Biology, May 16, 1975

T. J. Coppinger, Graduate Research Assistant in Forestry, September 16, 1975

D. D. Eller, Graduate Research Assistant in Agricultural Engineering, April 1, 1975

R. English, Graduate Research Assistant in Plant and Soil Science, January 1, 1975

Richard E. Fish, Graduate Research Assistant in Animal Science, September 8, 1975

D. C. Flynn, Graduate Research Assistant in Forestry, January 1, 1975

G. S. Foster, Jr., Graduate Research Assistant in Forestry, April 1, 1975

Donald M. Gardner, Jr., Graduate Research Assistant in Agricultural Biology, September 1, 1975

G. H. Hardy, Graduate Research Assistant in Forestry, September 16, 1975

Deborah S. Harnden, Research Assistant, UT-Comparative Animal Research Laboratory, July 1, 1975

R. R. Henke, Assistant Professor, UT-Comparative Animal Research Laboratory, January 2, 1975

J. W. Brown, Administrative Assistant, UT-Comparative Animal Research Laboratory, April 7, 1975

P. J. Bredderman, Associate Professor, UT-Comparative Animal Research Laboratory, March 17, 1975

Dan T. Brown, Graduate Research Assistant in Animal Science, April 1, 1975

J. W. Brown, Administrative Assistant, UT-Comparative Animal Research Laboratory, April 7, 1975

L. E. Browne, Chief Engineer, UT-Comparative Animal Research Laboratory, February 1, 1975

Peter Bruno, Graduate Research Assistant in Plant and Soil Science, June 16, 1975

M. F. Callaham, Senior Research Assistant, UT-Comparative Animal Research Laboratory, September 2, 1975

James Castellaw, Graduate Research Assistant in Plant and Soil Science, July 7, 1975

G. W. F. Cavender, Director of Office of Communications, March 1, 1975

R. J. Chertok, Associate Professor, UT-Comparative Animal Research Laboratory, March 3, 1975

Charles W. Cook, Jr., Graduate Research Assistant in Agricultural Biology, May 16, 1975

T. J. Coppinger, Graduate Research Assistant in Forestry, September 16, 1975

D. D. Eller, Graduate Research Assistant in Agricultural Engineering, April 1, 1975

R. English, Graduate Research Assistant in Plant and Soil Science, January 1, 1975

Richard E. Fish, Graduate Research Assistant in Animal Science, September 8, 1975

D. C. Flynn, Graduate Research Assistant in Forestry, January 1, 1975

G. S. Foster, Jr., Graduate Research Assistant in Forestry, April 1, 1975

Donald M. Gardner, Jr., Graduate Research Assistant in Agricultural Biology, September 1, 1975

G. H. Hardy, Graduate Research Assistant in Forestry, September 16, 1975

Deborah S. Harnden, Research Assistant, UT-Comparative Animal Research Laboratory, July 1, 1975

R. R. Henke, Assistant Professor, UT-Comparative Animal Research Laboratory, January 2, 1975

J. W. Brown, Administrative Assistant, UT-Comparative Animal Research Laboratory, April 7, 1975

P. J. Bredderman, Associate Professor, UT-Comparative Animal Research Laboratory, March 17, 1975

Dan T. Brown, Graduate Research Assistant in Animal Science, April 1, 1975

J. W. Brown, Administrative Assistant, UT-Comparative Animal Research Laboratory, April 7, 1975

L. E. Browne, Chief Engineer, UT-Comparative Animal Research Laboratory, February 1, 1975

Peter Bruno, Graduate Research Assistant in Plant and Soil Science, June 16, 1975

M. F. Callaham, Senior Research Assistant, UT-Comparative Animal Research Laboratory, September 2, 1975

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R. English, Graduate Research Assistant in Plant and Soil Science, January 1, 1975

Richard E. Fish, Graduate Research Assistant in Animal Science, September 8, 1975

D. C. Flynn, Graduate Research Assistant in Forestry, January 1, 1975

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J. W. Brown, Administrative Assistant, UT-Comparative Animal Research Laboratory, April 7, 1975

P. J. Bredderman, Associate Professor, UT-Comparative Animal Research Laboratory, March 17, 1975

Dan T. Brown, Graduate Research Assistant in Animal Science, April 1, 1975

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L. E. Browne, Chief Engineer, UT-Comparative Animal Research Laboratory, February 1, 1975

Peter Bruno, Graduate Research Assistant in Plant and Soil Science, June 16, 1975

M. F. Callaham, Senior Research Assistant, UT-Comparative Animal Research Laboratory, September 2, 1975

James Castellaw, Graduate Research Assistant in Plant and Soil Science, July 7, 1975

G. W. F. Cavender, Director of Office of Communications, March 1, 1975

R. J. Chertok, Associate Professor, UT-Comparative Animal Research Laboratory, March 3, 1975
J. S. Jablonski, Instructor in Agricultural Engineering, October 1, 1975
Kimball M. Kennedy, Graduate Research Assistant in Agricultural Economics, January 1, 1975
J. W. Lusby, Graduate Research Assistant in Food Technology and Science, July 1, 1975
Walker McNeill, Assistant Professor of Animal Science, July 1, 1975
B. A. Manalan, Graduate Research Assistant in Forestry, January 1, 1975
J. T. Melton, Graduate Research Assistant in Agricultural Engineering, July 1, 1975
William A. Miller, Graduate Research Assistant in Agricultural Economics, October 1, 1975
Ernest L. Moody, Graduate Research Assistant in Animal Science, March 1, 1975
Sheila M. Moore, Graduate Research Assistant in Agricultural Biology, September 1, 1975
Roger A. Munsinger, Instructor in Animal Science, April 7, 1975.
F. M. Osborne, Purchasing Agent, UT-Comparative Animal Research Laboratory, June 2, 1975
Joseph F. Pearson, Graduate Research Assistant in Animal Science, April 1, 1975
Robert Ratliff, Graduate Research Assistant in Plant and Soil Science, July 1, 1975
M. D. Schneider, Professor, UT-Comparative Animal Research Laboratory, January 2, 1975
Janna H. Scruggs, Graduate Research Assistant in Food Science, Nutrition, and Food Systems Administration, September 15, 1975
Morgan J. C. Scudi, Graduate Research Assistant in Agricultural Economics, July 15, 1975
D. P. Shepard, Graduate Research Assistant in Ornamental Horticulture and Landscape Design, September 1, 1975
Jane W. Storm, Senior Research Technician, UT-Comparative Animal Research Laboratory, November 17, 1975
Sandra Tegge, Graduate Research Assistant in Animal Science, October 1, 1975
Cindy Thomsen, Graduate Research Assistant in Ornamental Horticulture and Landscape Design, April 1, 1975
Troy Wakefield, Jr., Graduate Research Assistant in Food Science, Nutrition, and Food Systems Administration, September 15, 1975
J. T. Walker, Graduate Research Assistant in Agricultural Engineering, January 1, 1975
Birgitta K. Walter, Senior Research Assistant, UT-Comparative Animal Research Laboratory, October 15, 1975
M. D. Schneider, Professor, UT-Comparative Animal Research Laboratory, January 2, 1975
E. L. Warr, Graduate Research Assistant in Forestry, July 17, 1975
Lois A. Wodarski, Graduate Research Assistant in Food Science, Nutrition, and Food Systems Administration, September 1, 1975
PERSONNEL CHANGES

Title Changes

John R. Brooker, to Associate Professor of Agricultural Economics, July 1, 1975
Brady J. Deaton, to Associate Professor of Agricultural Economics, July 1, 1975
B. R. Hathcock, to Associate Professor of Agronomy, UT Martin, July 1, 1975
John Hodges III, to Assistant Superintendent of Farms, Main Station, Knoxville, April 1, 1975, and to Superintendent, October 1, 1975
L. S. Jeffery, to Associate Professor of Plant and Soil Science, July 1, 1975
W. A. Krueger, to Associate Professor of Plant and Soil Science, July 1, 1975
A. F. McFee, to Professor, UT-Comparative Animal Research Laboratory, July 1, 1975
Don O. Richardson, to Professor of Animal Science, July 1, 1975
Herschel V. Shirley, to Professor in Animal Science, July 1, 1975
Lois Southworth, to Assistant Professor, Department of Child and Family Studies, September 1, 1975
G. R. Wells, to Associate Professor of Forestry, July 1, 1975
Elaine K. Wiedemann, from Assistant Extension Agent in Johnson County to Assistant Specialist, Office of Communications, August 11, 1975
James Larry Wilson, to Associate Professor of Agricultural Biology, July 1, 1975

PERSONNEL CHANGES

Terminations

Laurel M. Adams, Research Assistant, UT-Comparative Animal Research Laboratory, August 20, 1975
B. F. Anderson, Graduate Research Assistant in Forestry, August 1, 1975
Mia M. Armitage, Graduate Research Assistant in Food Science, Nutrition, and Food Systems Administration, August 31, 1975
W. D. Barber, Assistant Professor in Plant and Soil Science, June 30, 1975
Joan L. Bare, Graduate Research Assistant in Textiles and Clothing, August 31, 1975
L. Bassano, Graduate Research Assistant in Ornamental Horticulture and Landscape Design, June 13, 1975
D. K. Burt, Graduate Research Assistant in Forestry, September 16, 1975
H. Cabrera, Graduate Research Assistant in Forestry, September 16, 1975
Larry A. Carver, Graduate Research Assistant in Animal Science, March 31, 1975
J. A. Culver, Graduate Research Assistant in Agricultural Economics, May 23, 1975
Raymond Daniel, Associate Professor in Agricultural Economics, February 28, 1975
Tony A. Fitz, Graduate Research Assistant in Animal Science, August 31, 1975
D. W. Flynn, Graduate Research Assistant in Forestry, December 31, 1975
Fred H. Fox, Jr., Graduate Research Assistant in Agricultural Economics, July 13, 1975
Morgan D. Gray, Graduate Research Assistant in Agricultural Economics, June 13, 1975
D. B. Hannaway, Graduate Research Assistant in Plant and Soil Science, June 30, 1975
John C. Hodges, III, Graduate Research Assistant in Animal Science, March 31, 1975
J. M. Holt, Research Assistant in Ornamental Horticulture and Landscape Design, May 31, 1975
J. S. Jablonski, Graduate Research Assistant in Agricultural Engineering, August 31, 1975
Janet S. Kurzynske, Graduate Research Assistant in Food Science, Nutrition, and Food Systems Administration, August 31, 1975
Marianne Leese, Graduate Research Assistant in Ornamental Horticulture and Landscape Design, May 31, 1975
William P. Ligon, Graduate Research Assistant in Animal Science, March 31, 1975
R. W. Loveland, Graduate Research Assistant in Plant and Soil Science, October 31, 1975
Nancy A. Lovro, Senior Research Technician, UT-Comparative Animal Research Laboratory, June 26, 1975
Gonzalee Martin, Graduate Research Assistant in Agricultural Economics, July 31, 1975
W. H. McCracken, Graduate Research Assistant in Forestry, December 31, 1975
A. R. McDaniel, Graduate Research Assistant in Plant and Soil Science, June 30, 1975
Donny McFall, Graduate Research Assistant in Agricultural Biology, September 1, 1975
Larry C. Morgan, Assistant Professor in Agricultural Economics, October 13, 1975
Neil Ogg, Graduate Research Assistant in Agricultural Biology, August 19, 1975
Gayle Parrish, Graduate Research Assistant in Agricultural Biology, November 1, 1975
Doris E. Phillips, Graduate Research Assistant in Food Science, Nutrition, and Food Systems Administration, August 31, 1975
J. S. Pretanik, Graduate Research Assistant in Food Technology and Science, January 31, 1975
J. L. Richeson, Graduate Research Assistant in Forestry, October 17, 1975
D. R. Robertson, Graduate Research Assistant in Agricultural Engineering, October 15, 1975
Judith B. Robinson, Senior Research Technician, UT-Comparative Animal Research Laboratory, July 31, 1975
Charles D. Safley, Graduate Research Assistant in Agricultural Economics, December 31, 1975
Joe D. Simpson, Graduate Research Assistant in Agricultural Biology, September 1, 1975
L. W. Skinner, Graduate Research Assistant in Plant and Soil Science, November 30, 1975
Daryl A. Taylor, Graduate Research Assistant in Forestry, July 15, 1975
Verdis L. Taylor, Graduate Research Assistant in Food Science, Nutrition, and Food Systems Administration, August 31, 1975
R. C. Terry, Graduate Research Assistant in Food Technology and Science, June 30, 1975
Cindy Thomsen, Graduate Research Assistant in Ornamental Horticulture and Landscape Design, July 31, 1975

Elizabeth A. Yetley, Assistant Professor in Food Science, Nutrition, and Food Systems Administration, August 31, 1975

Lois A. Wodarski, Graduate Research Assistant in Food Science, Nutrition, and Food Systems Administration, December 13, 1975

Mervin J. Yetley, Assistant Professor in Agricultural Economics, September 4, 1975

**On Leave**

Gail W. Disney, Assistant Professor, Food Science, Nutrition, and Food Systems Administration, January 29, 1975

**Returned From Leave**

Gail W. Disney, Assistant Professor, Food Science, Nutrition, and Food Systems Administration, March 1, 1975

**Retirements**

Henderson M. Crowder, Instructor in Animal Science, February 28, 1975

P. R. Ewald, Associate Professor of Agricultural Engineering, July 31, 1975

A. H. Morgan, Associate Professor of Agricultural Engineering, September 1, 1975

J. Newt Odom, Superintendent of Farms, Main Station, Knoxville, August 31, 1975

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1 In cooperation with U.S. Department of Agriculture.