AGRICULTURAL ENGINEERING EXTENSION

PLAN OF WORK

For

1934

STATE OF VIRGINIA

By

Chas. E. Seitz

Agricultural Engineer

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MAJOR PROJECTS:

Emphasis will be placed on the Soil Erosion Area, Terracing, Farm Structures, Rural Electrification and Farm Development projects during 1934. Outlines of these five major projects are included in the following pages of this statement of plan.

MINOR EXTENSION PROJECTS:

Irrigation: Work will be done during the spring and summer months on irrigation. Field demonstrations in orchard irrigation, truck irrigation and general crop irrigation are under way in Wythe, Roanoke, Botetourt, Albemarle, Shenandoah, Page, Amherst, Bedford, Henrico, Nansemond, Norfolk and Princess Anne Counties.

Drainage: Only the most urgent requests for work on this project will be handled.

Farm Water Supply: Due to economic conditions this project has been discontinued as a major project this year. No water supply campaigns will be conducted during the year but requests for help on this subject will be taken care of.

Farm Water Power: Only urgent requests for surveys will be taken care of on this project when the engineer is in the community on other project work.

Farm Operating Equipment: All requests for orchard stationary spraying plants will be taken care of. Surveys for the installation of stationary spray plants will be made in some dozen orchards. Requests for help to meet emergency conditions will be taken care of as far as possible.

Emergency Projects: The farm housing survey conducted in ten counties of the state under C. W. A. will be completed. As a continuation of this project two architects or draftsmen will be employed in the office under F. E. R. A. funds to complete plans for small farm houses.

A rural electrification survey is being conducted of the entire state as a continuation of the farm housing project. At least five engineers and five helpers will be employed in this work.

One engineer will be employed on research studies of low cost electric stoves for farm use.

Several agricultural engineers will be employed by F. E. R. A. under the direction of this office to assist with the farm rehabilitation program of the state.

Requests for information on miscellaneous engineering problems will be handled through correspondence as far as possible.

Calendar of Work:

Extension Staff: Extension work in agricultural engineering is of such nature that considerable office work is necessary in the preparation of estimates, plans, blue prints, and other engineering data. Probably a longer percentage of office time is therefore required than for specialists in other departments.

The administration duties as head of the agricultural engineering department comprising resident instruction and research as well as extension require considerable time.

Professor C. E. Seitz, in addition to his administrative duties will be responsible for the preparation of all radio talks and the extension subject matter in rural electrification, irrigation, drainage and orchard equipment. He will be responsible for the Soil Erosion Area project. He will spend about 125 days in the field and 160 days in the office.

Professor J. A. Waller will be responsible for the extension subject matter in terracing, farm water supply, and farm water power. He will also be responsible for training inspectors in the measurement of acreage in the A. A. A. program. He will spend about 160 days in the field and 125 days in the office.

Professor H. H. Gordon will be responsible for the extension subject matter in farm structures and farm development. He will spend about 180 days in the field and 105 days in the office.

College and Experiment Station Staff: Professor V. R. Hillman of the college staff will devote about 30 days to extension, assisting with the farm structures project, answering letters and mailing plans, etc., and also with the rural electrification project. (Fifteen days of which will be field work or demonstrations and fifteen days office work on equipment, reports, short courses, etc.)

Professor J. W. Sjogren of the College and Experiment Station staff, will devote about 15 days to extension, assisting in farm machinery, answering letters, assisting in short courses, etc.

Professor P. B. Potter of the College and Experiment Station staff, will devote about 15 days to extension, assisting with short courses, delivering radio talks, answering letters, etc., on household equipment.

(Project outlines for Soil Erosion Area, Terracing, Farm Structures, Rural Electrification and Farm Development follow.)

AGRICULTURAL ENGINEERING EXTENSION

Project: Soil Erosion Area

Leader: C. E. Seitz

Object: To demonstrate all practical measures for the control of soil erosion, in accordance with the adaptability of the land, using vegetative as well as mechanical methods, on a controlled watershed.

Procedure:

1. Cooperate with the Soil Erosion Service of the U. S. Department of Interior in the selection of one or more watersheds of at least 100,000 acres. The funds to be supplied by the Public Works Administration.
2. Assist the Soil Erosion Service in the selection of the director and the technical personnel for conducting the demonstration.

Locality:

1. Select 100,000 acres of land on the upper Banister River watershed in Pittsylvania County, Virginia. This area is in the bright tobacco section where soil erosion is a serious problem.
2. Select an additional area of 150,000 acres or more on the upper Appomattox River watershed. This area is such that a combined erosion, forestry, game and land use program can be conducted with general advantage to the state.

Plan of Work:

A. Specialist's Duties:
Assist and advise the Director of the Soil Erosion Area in the organization of his staff and the conducting of the technical phases of the control program.

B. Duties of the Director of Area:
The Director will be responsible to the Soil Erosion Service for the organization of his staff and the satisfactory conducting of the whole program.

C. Technical Staff:
The technical staff will consist of the director, a soil erosion specialist, chief agronomist and two assistant agronomists, two or three soils men, a forester and a chief agricultural engineer with two assistants.
The agronomists will be responsible for field plantings, contracts with farmers, gully planting, fertilizers, etc.
The soils men will be responsible for the making of soil maps and classifications.
The forester will be responsible for plantings and forestry management.
The agricultural engineers will be responsible for terracing, surveying, gully control work, mapping and drafting and all equipment.

D. E. C. W. Camp:
An E. C. W. camp consisting of 200 men will be used in work of a general nature. A staff of supervisors will be selected for the camp consisting of a superintendent and eight technical foremen.

Results: Results will be measured by the completeness of erosion control after a period of years.

AGRICULTURAL ENGINEERING EXTENSION

Project: Terracing

Leader: J. A. Waller, Jr.

Object: To teach the practice of terracing for the purpose of checking soil erosion, conserving moisture and improving the soils of the state.

Procedure:

1. Hold terracing demonstrations in as many counties as possible.
2. Conduct terracing demonstrations in all counties needing erosion control and having standard community organizations, in cooperation with the community organization leaders.
3. Hold two day soil erosion schools (community or district) for adults in at least 10 counties.
4. Enroll 150 boys in terracing classes at 4-H Club camps.
5. Visit all 10 county terracing demonstration farms twice.
6. Give instructions to 200 boys in Smith-Hughes Schools.

Locality: The greatest need for this project is in Southside and Piedmont Virginia. However, practically every section of the state is effected to a more or less extent by soil erosion.

The model terrace demonstration farms will be in Buckingham, Charlotte, Campbell, Franklin, Pittsylvania, Halifax, Appomattox, Mecklenburg, Dinwiddie and Brunswick Counties.

Terracing work will be conducted throughout the entire year.

Plan of Work:

A. County Agents' Duties:

1. Assist specialist in selecting groups to work with, (work with Hummel organizations when possible) demonstrators for demonstration farms, secure good attendance, and distribute publicity supplied by specialist.
2. Assist specialist in laying out and building terraces at demonstrations.
3. Secure equipment needed by specialist and arrange with local school authorities for club work.

B. Specialist's Duties:

1. Be responsible for accuracy of work and supply publicity material to agents, and handle lecture and instruction work at schools and demonstrations.
2. In all cases, but especially in connection with the model terrace farms, get all data possible to compare yields before and after terracing.
3. Furnish plans for homemade level and terracer.
4. Get as many terracing levels in use in the state as possible and teach farmers to use level.

Results: Results will be measured by the number of adult farmers instructed in methods of erosion control, number of acres terraced and the number of Club boys trained to do terracing work.

AGRICULTURAL ENGINEERING EXTENSION

Project: Farm Structures

Leader: H. H. Gordon

Object: To help the farmer secure the most efficient type and design of farm structures for the money available.

Procedure:
1. Instruct farmers in remodeling buildings and in the construction of new buildings.
2. Prepare new plans for farm structures and building equipment and an "Information Series" of mimeographed circulars on buildings and equipment, methods of construction and other data supplementing plan service.
3. Instruct agents and cooperating agencies, such as building supply dealers, milk producers associations, architects, etc., on plans available.

Locality: Cooperative work in dairy barns and equipment will be carried on with the Maryland & Virginia Milk Producers' Association in Northern Virginia, the Richmond Milk Producers' Association in Henrico County, and with the dairymen in Norfolk, Princess Anne, Nansemond, Warwick, York and Elizabeth City Counties throughout the year.

Work on fruit storage and packing houses, etc., will be done in the fruit section during the spring, summer and early fall.

Work on sweet potato storage houses will be done in Southside Virginia, the Northern Neck, Caroline County, Eastern Shore and Norfolk section during the summer and early fall.

Plan of Work:

A. County Agents' Duties:
1. Use all publicity means at his command to advise farmers in his county on the value and availability of the plan service.
2. Make efficient use of plan booklet, sending to the department for plans needed by the farmer.
3. Keep record of the farm buildings constructed in the county, alterations made in plans, costs, etc.
4.

B. Specialist's Duties:
1. Make such field trips as are necessary to insure complete and efficient use of plans prepared and study conditions involved in preparation of new plans or remodeling plans.
2. Cooperate with State Dairy and Food Division, Dairy Department, V. P. I., and all dairy associations, milk inspectors, etc., in the use of plans for dairying.
3. Cooperate with Horticultural Assn. and Horticultural Department, V. P. I. in fruit packing and storage plans.
4. Cooperate with Vegetable Department, V. P. I. in sweet potato storage plans, Poultry Department with poultry plans and Home Demonstration Agents in farm house plans.
5. Supply county agents with plans, specifications, bills of material, publicity material and all other material as well as necessary field field assistance to make project a success.

RESULTS: Results will be measured by number of plans prepared and furnished farmers, buildings constructed or remodeled, etc.

AGRICULTURAL ENGINEERING EXTENSION

Project: Rural Electrification

Leader: C. E. Seitz

Object: To improve living conditions on the farm and in rural communities and to reduce production costs through the efficient use of electricity.

Procedure:
1. Instruct farmers on ways of securing electric service, proper wiring of farmstead, and proper use of electric service in the home and in productive operations on the farm.
2. Advise on the organization of rural service departments in power companies and cooperate with the staffs of such departments in educational activities.
3. Cooperate with commercial interests to insure high standards in farm contacts.
4. Make available to farmers and other interested parties the results of research and experimental work in electricity on the farm.
5. Make a survey of existing rural lines, number of customers, etc., in every county of the state with F. E. R. A. funds.

Locality: This project will be carried throughout the year for the whole state. The field demonstrations will be conducted mainly in the following counties:

Pulaski	Montgomery	Bedford	Chesterfield	Norfolk
Wythe	Roanoke	Franklin	Essex	Prin. Anne
Washington	Botetourt	Hanover	Henrico	Nansemond
		King William	King & Queen	Caroline

Plan of Work:

A. County Agent's Duties:
1. Select farms for demonstrations.
2. Arrange for meetings, conferences, etc., of farmers interested in securing electric service.
3. Use publicity material, etc., furnished by specialist.
4. Assist in follow-up work to check results and measure progress.

B. Specialist's Duties:
1. Prepare progress reports on demonstrations, articles, radio talks, etc., on special uses of electricity.
2. Make such field trips as are necessary to advise with farmers, agents and rural service representatives in handling demonstrations and educational activities.
3. Cooperate with other departments of college especially concerned in demonstrations.
4. Advise with rural service representatives of power companies in selecting demonstrations, methods of handling demonstrations, keeping records, making reports, assisting farmers with engineering problems, etc.

Results: Results will be measured by number of farmers and rural residents securing electric service, number farmers making new uses of electricity, benefits derived by use of electric power, increased use of current on farms, results of special demonstrations, number farmers instructed, etc.

AGRICULTURAL ENGINEERING EXTENSION

Project: Farm Development

Leader: H. H. Gordon

Object: To promote the adoption of improved engineering practices in farm organization on typical Virginia farms.

Procedure:
1. Cooperate with Agricultural Economics Department, Agronomy Department and other interested departments of V. P. I. and the Bureau of Agricultural Engineering of U. S. Department of Agriculture.
2. Select additional typical farms for demonstrations as funds become available for mapping farms.

Locality: Twenty-four farms have been selected in the following counties: Princess Anne, Warwick, York, Elizabeth City, Albemarle, Botetourt, Rockingham, Tazewell, Wythe, Smyth, Scott, Lee, Appomattox. Plans for development have been worked out and visits to farms are made at certain intervals throughout year. Accurate records are being kept in all cases.

Plan of Work:

A. County Agent's Duties:
1. Help select farms for demonstrations.
2. Assist various specialists in formulating program of development.
3. Confer and advise with farmer in carrying out recommended improvements, rotations, etc.
4. Conduct follow-up work and get records of results.

B. Specialist's Duties:
1. Assist in selecting farms for demonstration.
2. Cooperate with other parties in making plans for the development of the farms.
3. Make detailed estimates of, plans for, and supervise construction of such improvements as may be recommended when and if they are undertaken by the farm owner.

C. Other Cooperators:
1. The Department of Agricultural Economics of V. P. I. will obtain farm records of each farm, keep cost and income records throughout the life of the demonstration and cooperate with other parties in developing plans for and improvement of these farms.
2. The Agronomy Department of V. P. I. will make soil surveys of each farm and assist in developing plans for crop rotations, improvements, etc.
3. Other departments, such as Dairy, Poultry, etc. will assist in making recommendations in regard to developing plans in their particular fields.
4. The Bureau of Agricultural Engineering, U. S. D. A., will make necessary field surveys of selected farms, prepare and provide maps of the same and cooperate with other parties in preparation of plans for the development of these farms.

Results: Results will be measured by improved income, crops, layout, etc., resulting from following recommended development.