

AGRICULTURAL ENGINEERING EXTENSION

PLAN OF WORK

For

1935

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STATE OF VIRGINIA

By

Chas. E. Seitz

Agricultural Engineer

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MAJOR PROJECTS:

Emphasis will be placed on the Soil Erosion Control, Farm Structures, Rural Electrification and Farm Development Projects during 1935. Outlines of these four major projects are included in the following pages of this statement of plan.

MINOR EXTENSION PROJECTS:

Farm Water Supply: There is a greatly increased interest in farm home improvement and as water supply is one of the most essential needs in over 80% of our farm homes, considerable attention will be given to this project. While no major water supply campaigns will be conducted all requests for assistance will be taken care of as far as possible.

Drainage: The wet weather so far this year has resulted in increased interest in land drainage. All requests for drainage surveys will be taken care of as far as possible.

Irrigation: Work will be conducted during the spring and summer months on irrigation. Field demonstrations in orchard, truck and general crop irrigation have been under way for several years. These demonstrations will be continued and additional projects developed as the demands arise.

Farm Water Power: There is still considerable interest in farm water power development. Surveys and plans will be made for such developments as the requests for such assistance come in.

Sewing Machine Schools: Requests have been received from a number of home demonstration agents for sewing machine schools in their counties. Several schools or clinics will be conducted this spring in cooperation with the home demonstration agents.

Farm Operating Equipment: Numerous requests have been received for assistance in planning stationary spray plants for orchards. Surveys and plans will be made for the installation of such equipment, in some dozen orchards this year. A number of farm cold storage plants for fruit will also be planned for orchards. There will also be some field work in demonstrating lespedeza and soybean harvesters and other equipment as the needs arise.

4-H Club Short Courses: Requests have been received from county agents for agricultural engineering instruction at all the 4-H Club Short Courses that will be held during the summer. We will give instruction in various subjects at all these schools and will also give a four day short course in agricultural engineering subjects at the State 4-H Club meet at V. P. I. during the summer.

Emergency Projects: The various emergency activities of the Federal Government have created a tremendous demand for engineering advice and assistance from this department. Our policy has been and will continue to be that of whole-hearted cooperation with all the various agencies.

Cooperation will be maintained with the rural rehabilitation division of the V. E. R. A. by preparing plans and specifications for farm structures, etc., on their subsistence farms. It is expected that they will give us some assistance in the way of personnel to handle this work. We will also continue our cooperation with the Soil Erosion Service, the Tennessee Valley Authority, the crop adjustment division of the A. A. A., the marginal land project and the Public Works Administration on various projects.

We will cooperate with the State Corporation Commission and the State Planning Board and other agencies interested in rural electrification development such as the completion of the preliminary rural electrification survey, conducting of an educational and research program in rural electrification, extension of rural lines, etc.

With the new public works and relief allotments it is expected that greater demands will be made upon us for assistance. We will cooperate to the fullest extent of our ability. These relief and emergency projects may force us to make adjustments in our regular plan of work for the year.

Requests for assistance in miscellaneous engineering problems will be handled as far as possible through correspondence.

#### CALENDAR OF WORK:

##### Extension Staff--

A larger percentage of office time is probably required of specialists in agricultural engineering than for those in other departments due to nature of engineering projects requiring the preparation of estimates, maps, plans, blueprints and other engineering data.

Professor C. E. Seitz, extension agricultural engineer, as administrative head of the agricultural engineering department directs the resident instruction and research work as well as all extension work in this field. The following new deal activities require considerable of his time and no doubt will continue to do so during the year. He represents the college and state as contact man for the T. V. A. is on the advisory council of the state for the Soil Erosion Service demonstration area.

He is a member of the College Committee on Marginal Land which passes on all land that is to be taken out of cultivation. As a member of the State Planning Board he is often called in consultation for advice on public works projects and the planning of a long time program for the state. He will no doubt be closely associated with the proposed public works and relief agencies in charge of the expenditure of Federal funds for the extension of rural electric lines in the state. A number of agricultural engineering projects have been submitted for public works which require considerable attention if they are approved.

In addition to the emergency activities and administrative duties, Professor Seitz will be responsible for the preparation of radio talks and the extension subject matter in rural electrification, irrigation, drainage, and orchard equipment. He will spend about 125 days in the field and 160 days in the office.

Professor J. A. Waller, associate extension agricultural engineer, will be responsible for the extension project in soil erosion control (terracing). He will devote his entire time to this project during the year. He will spend about 160 days in the field and 125 days in the office.

Professor M. M. Johns, assistant extension agricultural engineer, will be responsible for the extension project in farm structures, farm water supply and farm water power. He will spend about 185 days in the field and 100 days in the office.

#### College and Experiment Station Staff--

Professor V. R. Hillman of the college staff will devote one-fourth of his time or 90 days to extension work in farm structures, especially farm housing. Most of this time on extension will be in the field holding meetings, advising on farm structures and cooperating with the Federal Housing Administration in their farm program and the rural rehabilitation division of the V. E. B. A. on buildings and equipment for rehabilitation farms.

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 and answering letters on household equipment.

Professor J. W. Sjogren of the college and experiment station staff will devote about 30 days to extension, assisting with short courses, handling field meetings in farm machinery and answering letters pertaining to farm machinery.

Miss Frances Hicks of the experiment station staff will devote about 15 days to extension, assisting with household equipment short courses and meetings.

Mr. F. G. Payne, Jr., architectural draftsman, of the college staff, will devote all his time to the preparation of plans for farm structures and handling the general drafting work of the department.

Mr. Max Beane of the T. V. A., who is conducting research work in electrical equipment will assist us in some field studies in rural electrification and help with rural electrification short courses.

(Project outlines for Terracing, Farm Structures, Rural Electrification and Farm Development projects follow.)

AGRICULTURAL ENGINEERING EXTENSION

Project: Soil Erosion Control (Terracing)

Leader: J. A. Waller, Jr.

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

- Procedure:
1. Get at least <sup>five additional</sup> ~~one~~ large terracing unit<sup>2</sup> operating in <sup>selected areas</sup> ~~each of 10~~ counties.
  2. Hold county meetings to explain and discuss <sup>soil conservation</sup> ~~the~~ program.
  3. Cooperate with Agronomy Department, V. P. I., for follow-up work in reference to cropping, etc.
  4. Cooperate with extension forester and all Federal or State agencies working on soil erosion so that work may be coordinated.
  5. Supply and train qualified terracing specialists to be assistant county agents in charge of terracing program.

Locality: The greatest demand for soil erosion control work has always come from Southside and Piedmont Virginia. However, few counties in the state escape serious soil erosion losses.

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The counties where terracing associations will be first set up are: ~~Halifax, Campbell, Mecklenburg, Dinwiddie, Charlotte, Brunswick, Prince Edward, Appomattox, Buckingham and Albemarle. Other counties will be organized later.~~

Plan of Work: A. County Agent's Duties:

1. The county agent will have general supervision over the entire project.
2. Give what advice, information and assistance he can to the assistant county agent.

B. Assistant County Agent:

1. The assistant county agent will also act as agricultural engineer in direct charge of this project and be responsible for its success.
2. Make farmer contacts, secure agreements, lay out terrace grades, and supervise the work generally. *(In cooperation with ECW Comp engineer if in county.)*
3. Lay out and build terraces in accordance with instructions of the *provision Extension Agricultural Engineer State program*

C. Specialist's Duties: *soil conservation areas as needed*

1. Organize ~~terracing~~ associations in ~~ten (10)~~ counties. Incorporate these associations. Secure cooperation of all departments and agencies.
2. Secure the cooperation of the equipment companies manufacturing large Diesel engine tractors and large terracers in giving demonstrations.
3. Select engineer to act as Assistant County Agent to have direct charge of terracing program and arrange for demonstrations and schools.

Results: Results will be measured by the number of terracing units actually operating in the counties, the number of counties adopting this plan, number of acres terraced.

AGRICULTURAL ENGINEERING EXTENSION

Project: Farm Structures

Leader: M. M. Johns

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 Dairy-men 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.

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, as well as necessary 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. Cooperate with state and Federal agencies that will have charge of the expenditure of Public Works and relief funds for rural line extensions.

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	Mansemond
		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 and with Federal and State agencies interested in this project.
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 of 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: C. E. Seitz and M. M. Johns

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.
3. Cooperate with T. V. A. in the selection and engineering phase on 160 farms in the Tennessee Valley Area.

Locality: Approximately 200 farms have been selected in the following counties: Princess Anne, Warwick, York, Elizabeth City, Albemarle, Botetourt, Rockingham, Tazewell, Wythe, Smyth, Scott, Lee, Russell, Bland, Wise and 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. and T. V. A., when possible, 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.



