

Virginia Polytechnic Institute
Extension Division

J. R. Hutcheson, Director

PLAN OF WORK FOR PLANT DISEASE CONTROL PROJECT - 1925-26

Subproject I. - The Control of Root, Stalk and Ear Rot Diseases of Corn

1. Facts determining the work undertaken.

During the years of 1922, 1923 and 1924 demonstrations of seed corn testing have shown that at least 15% of the corn planted by the average grower should have been discarded as unfit for planting. Root, stalk and ear rot diseases of corn exact an annual toll of 4 - 6% of the crop.

2. Procedure - advisory and educational, by the use of:

- (1) Recommended "modified rag-doll" method.
- (2) Recommended methods for crop rotation and seed selection.
- (3) Seed corn which has been properly cured and stored.
- (4) Field observations and yield data.

3. Available literature.

Extension bulletin No. E-148 - A New Corn Germinator; Farmers bulletin No. 1176 - Control of the Root, Stalk and Ear Rot Diseases of corn; Illinois Agricultural Experiment Station bulletin No. 255 - Corn Root, Stalk and Ear Rot Diseases, and Their Control Through Seed Selection and Breeding. A new Extension bulletin will be published during the year on this. An illustrated lecture has also been prepared by the Plant Pathology Department.

Subproject II. - The Control of Wildfire and Blackfire Diseases of Tobacco

1. Facts determining the work undertaken.

The loss in Virginia during 1920 from blackfire and wildfire diseases amounted to over \$5,000,000. In the years following 1920 the loss from these two diseases has been severe in several counties of the State.

2. Procedure - a continuation of the work of 1924 and 1925 along the following lines:

- (1) Cleaning, treating and testing the seed (January, February and March)
- (2) Advising the practice of plant bed and field sanitation.

- (3) Inspecting plant beds and fields for the presence of these diseases and checking up on recommended practices.
- (4) Educating and encouraging farmers to treat their own soil with the aid of county agents and local tobacco organizations.

3. Available literature.

Extension bulletin No. 90 - Tobacco Diseases in Virginia and Their Control; Extension circular No. E-233 - Directions for Control of the Blackfire and Wildfire Diseases of Tobacco; Experiment Station bulletin No. 228 - Blackfire and Wildfire of Tobacco and Their Control; Experiment Station technical bulletin No. 25 - Blackfire or Angular-Leafspot of Tobacco.

Subproject III. - The Control of Tomato Diseases

1. Facts determining the work undertaken.

The average annual yield of Virginia tomato fields is low. This condition is due in a large measure to inroads from injurious insects and diseases.

2. Procedure - Demonstrations of the control of tomato diseases and insects in the plant bed by the use of standard copper lime dust. In the elevated areas of Virginia demonstrations in spraying or dusting the tomato fields will be staged for the control of late blight. Standard copper lime dust or Bordeaux mixture 4-5-50 may be used for this work but the latter seems to give better results for late blight control.

3. Available literature.

Extension circular No. 5788 - Growing Tomatoes for Virginia Canneries; Experiment Station bulletin No. 230 - Experiments in Spraying and Dusting Tomatoes.

Subproject IV. - The Control of Cereal Smuts

1. Facts determining the work undertaken.

Loose and stinking smuts of wheat combined caused a loss of over \$300,000 to Virginia during the 1925 season.

2. Procedure - Demonstrations of the control of loose smut of wheat and barley by means of the hot water treatment. Demonstrations of the control of "Bunt" of wheat by means of the copper carbonate dust method.

3. Available literature.

Extension circular E-210 - Loose Smut of Wheat and Its Control; Extension circular - How to Control Stinking Smut of Wheat.

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Subproject V. - Eradication of the Native Barberry Bush

1. Facts determining the work undertaken.

Black stem rust is a serious factor in wheat production in southwest Virginia counties. The native barberry bush propagates and spreads the disease in this section of the State.

2. Procedure - Demonstrations in the eradication of the barberry bush by means of salt shall be continued in Wythe and adjacent counties.

3. Available literature.

United States Department of Agriculture Department Circular No. 332 - Chemical Eradication of the Common Barberry.

Subproject VI. - The Use of Wilt-Resistant Strains of Cabbage Seed.

1. Facts determining the work undertaken.

Wilt or "Yellows" is the most serious disease of cabbage in southwest Virginia counties.

2. Procedure - Seed of resistant varieties of cabbage are being annually procured through the Wisconsin Agricultural Experiment Station for distribution among the growers of southwest Virginia. Study of the resistant sorts as compared to the non-resistant sorts will be continued during 1926.

3. Available literature.

Experiment Station bulletin No. 226 - The Yellows Disease of Cabbage in Southwest Virginia; Journal of Agricultural Research, Vol XXX, No. 11 - Fusarium Resistant Cabbage; Progress with Second Early Varieties.

Subproject VII. - Raspberry Anthracnose Control

1. Facts determining the work undertaken.

Anthracnose is the most serious disease of raspberries in the State, especially of the black varieties.

2. Procedure - Spray demonstrations of the control of this disease have been carried on in Montgomery and Loudoun Counties during 1925. The work will be continued in these two counties during 1926 and additional counties if the work is warranted.

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3. Available literature.

A spray calendar for the control of raspberry diseases will be furnished on request.

Subproject VIII. - Plant Disease Survey

A continuation of the survey conducted in previous years to determine in an approximate way the percentages of economic diseases in the field. Special attention will be given to the cereal and field crop diseases. We will again collaborate this work with the office of the Plant Disease Survey at Washington.

N. B. Plans for the control of local plant disease problems will be worked out upon request in so far as possible or practicable.