

Location of Focal Point Indicated

A study of the more general stem-rust epidemic of 1927 indicated that its focal point was located in southeastern Minnesota. In 1928 field agents of the Department of Agriculture surveyed approximately one-tenth of the area of the 30 counties in southeastern Minnesota and the adjacent portions of Iowa, Illinois, and Wisconsin, whence rust spores might have blown into this part of Minnesota. A total of more than 80,000 large barberry bushes and seedlings was found in these counties. These bushes had escaped from cultivation. They were found growing in dense timber, on steep hillsides, and along the stream banks, and therefore had not been found on the farmstead survey.

In this way the record obtained each year, showing localized or definite large areas of stem-rust infection, serves as a basis for finding the barberries in each community that have been missed in the systematic survey, or have grown from seed since the survey was made. By its tell-tale appearance, each local rust epidemic betrays the approximate location of the causative barberry bushes and leads to their discovery and destruction.

L. D. HUTTON.

SEED-BORNE Diseases of Cereals Succumb to Dust Fungicides The chief seed-borne diseases of small grains in the United States are the loose and covered smuts of wheat, of oats, and of barley, and the stripe disease of barley. With the exception of loose smut of wheat, all of these diseases have been controlled fairly well for a number of years by immersing the seed in some fungicidal solution before sowing. Chief among these chemicals are formaldehyde and copper sulphate. In recent years organic mercury compounds have been used to a limited extent.

The outstanding disadvantages of these liquid treatments are: They are disagreeable and cumbersome to apply.

The germination of the seed frequently is reduced because the chemical often impairs the viability of the seed, or the seed may be frozen or otherwise injured when unfavorable weather prevents immediate sowing after treatment.

The swelling of the treated seed interferes somewhat with drilling operations.

The first dust fungicide to be extensively used in this country was copper carbonate. This was found to be an effective preventive of bunt in wheat and in recent years has supplanted almost entirely the common liquid fungicides previously used for this purpose. It also controls certain diseases of sorghum. The success with copper carbonate led to the rapid development of dusts for combating other seed-borne cereal diseases more difficult to control. There are now on the market several such dusts which in recent experiments have proved satisfactory in preventing the smuts of oats and of barley and the stripe disease of barley.

These dust fungicides have such distinct advantages as:

They are easy to apply. The grain is mixed with the dust at the rate of 2 to 3 ounces per bushel in a barrel churn or other simple mechanical mixer.

Seed thus treated is not injured even when stored for months. Therefore, treating may be done during the slack season.

Dust fungicides protect stored grain from weevils and to a considerable extent from rats and mice.

Several disadvantages of dust fungicides may be mentioned:

They are poisonous and may cause physical discomfort when inhaled. A respirator should be worn while applying the dusts or handling dusted grain.

Dust fungicides are more expensive as a rule, although this objection may be largely outweighed by the smaller cost of application.

Dusted grain can not be used for animal or human consumption; therefore, only enough seed should be treated to suffice for sowing. This, however, applies also to some liquid fungicides.

Some dust fungicides interfere somewhat with the ready flow of the grain through the drill.

Germination of the seed in very dry soil is not conducive to good disease control by dust fungicides.

Despite these disadvantages, dust fungicides are being welcomed by farmers because of their advantages over the liquid fungicides hitherto used.

R. W. LEUKEL.

SEED Law Forbids the Interstate Shipment of Misbranded Seed

Forty-five States now have laws regulating the sale of agricultural seeds within their respective borders. These laws vary in their requirements, but are all intended to give the farmer information as to the quality of the seed he is buying. The individual States do not have control over interstate commerce and therefore can not prevent the shipment of agricultural seed into a State because it is misrepresented in any respect.

Section 6 of the Federal seed act prohibits the shipment in interstate commerce of misbranded seeds and is intended to supplement State laws. This legislation enables the United States Department of Agriculture to cooperate with the States in cases where gross misrepresentation occurs. This section of the act applies to false statements of all kinds, including origin, kind, and variety, as well as purity and vitality. Thus far the following types of cases have been prosecuted under this section:

The sale of mill-run cottonseed as pedigreed seed of a specific variety.

The sale of nonhardy alfalfa seed as seed of a hardy variety grown in a northern tier State.

The sale of soy beans that failed to germinate as of good germination.

The sale of common grain rye as rye of a particular variety.

E. BROWN.

SEED Samples of Introduced Plants Make Big Collection

Beginning with the first recorded introduction of Bronka cabbage from Moscow in 1898 and extending in a continuous stream since, the Office of Foreign Plant Introduction of the Bureau of Plant Industry, up to June 30, 1928, had numbered 77,260 plant importations. Since samples have been kept of practically all of these importations that were made