

It was suggested that a portion of the field remain untreated to serve as a check for comparison and that seed production records be taken in both areas.

Following the harvesting of the seed crop, Mr. Flaa reported as follows:

"Mr. Wyckoff sprayed 20 acres of alfalfa with the DDT as recommended and allowed 10 acres to remain untreated. The spray was not applied until after sundown to prevent injury to the pollinating insects.

"Mr. Wyckoff harvested 2800 pounds of clean alfalfa seed from the 20 acres which has been sprayed, but only 180 pounds of clean seed from the 10 acres which had not been sprayed."

This represents 140 pounds of alfalfa seed per acre from the treated area, as compared with 18 pounds per acre from the untreated area. This is clear cut evidence of the value of controlling injurious insects, and would indicate that application of the spray after sundown may have had no harmful effect on the pollinating insects.

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## INSPECTION AND REGULATION of HORTICULTURAL AND FOREST NURSERIES

By

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**Inspection and Regulation of Nurseries:** The service of certifying nurseries, while regulatory in function, enables the Experiment Station to keep in close touch with insect and disease problems particularly as affecting trees and shrubs and is a required service to the public and the nurserymen. The nursery inspection program is by law established in the N. Dakota Agricultural Experiment Station and the entomologist serves as the representative of the Director in carrying out the provisions of this law.

During the past year the department has inspected and certified a total of 37 nurseries, two of which are operated by the USDA at Mandan and one by the State School of Forestry at Bottineau. The remainder are privately owned nurseries.

In connection with this work in 1947 a state-wide survey was conducted to determine the situation with reference to elm diseases. This work was done in conjunction with the inspection of nurseries and other related travel by members of the department. The survey failed to reveal the presence of Dutch elm disease or Phloem necrosis;—two serious diseases of the elm especially in eastern states. The results of this survey are of particular value in certifying shipments of elm nursery stock to California, inasmuch as California has established a quarantine against all elm stock liable to carry either of these diseases. Recently this information was the basis for special certification on a shipment of 500 young elm trees grown in North Dakota and shipped to California.

Another recently established quarantine by California refers to the European corn borer. Inasmuch as this insect occurs in North Dakota and there is no intrastate quarantine on it, California regulations require shipments of ear corn to be subject to the heat treatment (168° F. for two hours) or fumigated with Methyl Bromide (2 pounds per 1000 cubic feet) for 6 hours at 70° F. or above. Other California quarantines which affect North Dakota shipments relate to Colorado potato beetle, greenhouse white fly and grape phylloxera. Shipments of nursery stock destined to Canada require an official inspection immediately prior to shipment and an official certificate to this effect.