A HISTORY OF THE VINEYARD LABORATORY.

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From 1904 to 1908 there was a decrease in concord grape yields in the Chautauqua County Grape Belt. This stimulated the growers to ask the legislature to appropriate funds for investigations on the causes of this decrease. During May 1909 investigations were started in an attempt to solve some of these problems. A laboratory and an insectory was constructed in 1910. The original station land included thirty acres, representing several soil types, to which six acres were added in 1944. The station was named Vineyard Laboratory and is located just west of Fredonia, New York. This laboratory is a sub-station of the New York Agricultural Experiment Station, Geneva, New York. Since 1921 the entire station has been a part of Cornell University. Several entomologists, horticulturists and plant pathologists have been affiliated with the station at Fredonia.

Incidental to this history it should be noted that the first vineyard in Chautauqua County was set in 1818. It was set by Deacon Elijah Fay in the vicinity of Portland, New York. This vineyard was the foundation of the grape industry in this area. Grape growing came into importance about 1845. The climatic conditions of the Chautauqua-Erie Belt is well adapted to concord grape production. It is generally agreed that the flavor of the concord grape grown in this is seldom if ever surpassed.

INSECT INVESTIGATIONS

Some studies on important grape insect pests were made in this belt prior to 1909. From 1900 to 1904 Prof. W. V. Slingerland and Dr. E. F. Felt worked independently on these pests. They made observations on the life history and worked on the control measures for the rootworm and leafhopper. The former also made similar studies on the steely beetle and grape berry moth.

Prof. F. Z. Hartzell began experimental studies on grape insect problems in 1909 and continued this work until 1925. At that time he was transferred to the Geneva Station to work on other fruit pests. However, he has remained in charge of the investigations on grape pests. As a result of his studies he contributed information about the seasonal development of several insects attacking the grapes. He improved various remedial measures for controlling the leafhopper, rootworm and steely beetle.

Much of the information reported herein was obtained by personal communication with Prof. F.Z. Hartzell.
Most of his control experiments were made in cooperation with the growers. He also, made observations on the grape berry moth; worked on the control of the rose chafer; and made a study of the biology and control of the cherry leaf beetle.

In 1926 Prof. D. M. Daniel was sent to this station to continue these studies. He was located here during three growing seasons. While working in this area he found the oriental fruit moth, one of the insects causing wormy peaches. This was the first record of this insect in the state. Since parasites were reared and used to control this insect in other states he followed a similar method. Thus the first parasite rearing in New York was carried on at this laboratory. Later this work was transferred to the Geneva Station. He also worked on the biology and control of the black berry leaf miner.

Investigations on the European corn borer were undertaken by Prof. C. E. R. Nervey in 1927. The purpose of this work was to study the relation of the insect to sweet corn cultivation and to discover some means of protecting the corn crop from the ravages of this borer. His studies were continued for several seasons.

There was a serious outbreak of the berry moth in 1937. Since that time a high level of infestation has prevailed and this insect has spread extensively. Prof. Hartzell conducted control studies in 1939. In the spring of 1940 the writer was appointed to continue this work. Efforts are being made to develop an effective control program, improve the method of application, and determine whether there is an increase in yield as a result of controlling grape insect enemies. Tests are being made to determine the effectiveness of the more recent insecticides on the leafhopper and rootworm.

- HORTICULTURAL INVESTIGATIONS-

Investigations on the horticultural phases of grape production were undertaken by Prof. F. E. Gladwin in 1909. During that season a survey was made to determine the immediate problems confronting the growers. Experiments were conducted to test the value of commercial fertilizers, manure and cover crops in grape growing. These tests were made in vineyards at the station and also in cooperation with the growers. Many of the methods which he recommended were put into practice. Considerable effort was devoted to breeding new varieties. The purposes were (1) to develop a desirable variety that would mature earlier than the Concord, and have better shipping qualities than the Worden; (2) to
improve the shipping qualities of the concord and still retain the desirable characteristics of this variety. Grafting on various rootstalks was tested in an attempt to increase the yield of the Concord and a number of other desirable varieties, and also to determine if vigorous rootstalks would withstand severe rootworm attack. He continued these studies until the time of his death in November 1940.

In 1941 Prof. T. A. Merrill was selected to fill his vacancy. He continued the horticultural work and started several new projects. In the spring of 1943 he returned to Michigan.

At the present time the position is held by Prof. N. J. Shaulis who came to this station in 1944. He is continuing the grape work and is developing new experiments.

- PLANT DISEASE INVESTIGATIONS -

Grape disease studies were started by Prof. Donald Reddick in 1909. He worked for several seasons on the control of powdery mildew. It was concluded that this disease was so easily and cheaply controlled by means of Bordeaux mixture that further investigation was not necessary. The disease known as dead arm was also studied in detail by this worker.

From 1932 to 1935, Prof. L. M. Cooley conducted an investigation of the mosaic infections on black raspberries. During the course of this study he made this station his headquarters. He worked in both Erie and Chautauqua Counties.