

## DISEASES AFFECTING THE GRAPE.

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Having received replies from 551 persons to whom circulars were sent through the medium of the Department of Agriculture for information regarding diseases affecting the grape, the writer is able to present a summary of these replies, and, as the time is now opportune, give a description of four of the most common parasitic plants attacking the grape, and also give information as to the best means to prevent the spread and effect of these diseases.

Of the correspondents making returns, 120 report Downy Mildew, 105 Powdery Mildew, 106 Black Rot, and 14 Anthracnose.

The county of Welland reported 60 per cent. loss, Wentworth 70 per cent., Lincoln 75 per cent., and Essex 50 per cent.

As to varieties most liable to attack, 116 correspondents report Rogers' hybrids, 35 Concord, 23 Clinton, 20 Niagara, 15 Brighton, and 12 Delaware.

The year 1889 is frequently referred to as the season when these diseases were first noticed to any considerable extent, and they have been on the increase since. Grape growers are awakening to the importance and necessity of fighting these foes, as may be seen from the fact that of those in communication with the Department in reply to the circular above referred to, 59 report using sulphur, 45 Bordeaux mixture, 12 copper sulphate, 10 ammoniacal solution of copper sulphate, and 3 eau celeste. The consensus of opinion is that favorable results followed the use of the above name fungicides, especially in the case of the Bordeaux mixture.

Thirty-two persons report that they found farmyard manure to favor the development of these fungoid pests. Many find ashes an excellent fertilizer for the grape vine.

### FUNGOID PESTS.

The grape being a plant that produces a large amount of foliage and fruit, it is not a matter of surprise that it should have a number of enemies among insects and parasitic plants. In this Bulletin we wish to direct the attention of readers to four plants that are found affecting the grape injuriously, by deriving their nourishment from it as parasites upon its leaves, canes and fruit.

No group of plants has received more attention, since the establishment of experiment stations, than what is called the fungi, and no investigations have been more productive in practical results than those which have been followed to ascertain the nature and remedy for plant diseases, caused by species of fungi. Until the microscope was discovered and its manipulation simplified, we knew very little