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The Agricultural Experiment Station

FORT COLLINS, COLORADO

A NEW ALFALFA DISEASE.

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Up to the present time the alfalfa plant in Colorado has been practically free from diseases. It is true that leaf-spot is always present and in damp situations a mildew often makes its appearance. The former disease causes a considerable amount of damage in the aggregate but after all its presence is not usually considered. But recently a bacterial blight has appeared and in some localities it has been quite destructive. The purpose of this bulletin is to call attention to this newer disease and through this means get in touch with infected localities.

Complaints have come to the Experiment Station from one locality for the past three seasons of the dying out of alfalfa plants in the spring. The growers could scarcely believe that the trouble was due to winter injury since it had not occurred before under similar conditions, and since dead plants were found alike on high and on low land, and on wet and on dry situations. The presence of numbers of small maggots in the decaying crowns was the most popular theory advanced to account for the dead plants. On visiting the fields early in the spring it was evident that winter injury could not have caused the damage and that the maggots were only present because of the decay and not as a cause of it.

In June of the present year, we had the first opportunity of inspecting the fields during the growing season. The cause of the injury was now apparent as the numerous blackened stems from which a thick juice was oozing plainly indicated a bacterial blight, and subsequent examination has shown this to be the probable cause of the trouble.

The first evidence of disease to be noticed by the casual observer is a short, weak and light colored growth of the first crop, and the stems, even over a large field, may not average over a foot in height

at the time the first cutting is usually made. A close examination shows that a majority of these stems are discolored, in fact nearly black, for a portion of their length, and drops of dried juice will be found on many of them. Such stems are also very brittle, and easily broken. The disease apparently does not kill many plants the first year, but in time so many of the plants die that the fields are useless.

The disease evidently runs its course for the season with the first crop and those plants which have sufficient vigor make satisfactory growth for the second and third cuttings and little or no trace of blight is seen during the remainder of the season. But the following spring a renewal of the outbreak may be expected.

The plants begin to die after the blight has been abundant for more than one season as the decay appears in the crowns of the plants and may involve the tap root. The crown buds are thus destroyed or the nutrition may be so interfered with that the plants die.

Almost nothing is known of this blight as yet, consequently remedial measures cannot be discussed except that it seems to be advantageous to cut the first crop early and to delay the date of the first irrigation until after this time if possible.

The horticultural section of the experiment station solicits correspondence with any one who has reason to believe that this disease is present in his fields. Means have been devised for combatting most plant diseases and we believe that this one will be no exception. However, it is important that its nature be understood at the earliest possible moment and one of the important means to this end is through the experience of growers. It is for this reason that we invite co-operation.