

leaves, and the odour of the disease is easily detected when passing a diseased crop, particularly early in the morning or late at night, in muggy damp weather; that is the time when this disease is developed quickest, and spreads. Its first appearance is as a downy mildew beneath the leaves. Here the spores, minute bodies analogous with seeds, are borne, and from these subsequent infestation comes; these are blown on to other plants located near the injured plant, where they produce more rust. At the same time many of these spores fall to the ground, and by the first rain are washed down into the ground, where they reach the tubers, and the rot sets in. Like many other fungus diseases, conditions favourable for its development may not be present; the spores may simply fall on the outside of the potato, and if we have clear dry weather, they may go into the root-house with the potatoes and never develop at all. In such cases we may have a good deal of rust, but no rot; but at the same time they may develop, and generally do. When you find rot developing, late in the autumn after the potatoes are put into the root-house, then it is simply because the conditions are favourable for the growth of the parasite. In a well ventilated root-house there is less danger than in one where the ventilators are closed, and it becomes hot and muggy. There is no way in which you can prevent this loss better than by spraying the potato foliage about the first of August with Bordeaux mixture, which is a mixture of blue-stone, lime, and water, and is very destructive to all fungus growths. This destroys the rust or prevents its spread to other plants in the field. We have found at the Central experimental farm, where we have carried on experiments for many years, as object lessons, that where potatoes had been sprayed on a strip right through the middle of a field, potatoes which are sprayed will hold their leaves five or six weeks longer than those close to them, which were not sprayed. By the first of September many potato fields are brown, and all the leaves are dead. This is not because the leaves are ripened, but because they have been killed by the disease. The potatoes of sprayed plants in the same field are twice the size of those of the plants of which the leaves have been destroyed by the rust. This is because the leaves are preserved so much longer in a green condition, and continue all the time doing their work of manufacturing starch and storing it up in the tubers.

By Mr. Ross (Ontario):

Q. You say you can smell the rot in the field?

A. You can when it is in the rust stage on the foliage.

Q. Is that fungus injurious to the animals that consume it?

A. They cannot consume it, because when the disease is developed it rots the whole tissue of the potato; but, even when the spores are on the potato, if the potato does not rot, it is perfectly sound, because the disease has not worked into it. As soon as it begins, the potato very soon turns into a liquid rotten mass.

Q. Then the fungus is not injurious to cows and horses?

A. No, unless the tuber rots; it is then. The spores are so infinitesimally small; they are absolutely invisible to the unaided eye. If potatoes begin to rot in the root-house, they should be picked over and the sound ones used at once.

POTATO SCAB,—TREATMENT.

By Mr. Robinson (Elgin):

Q. Do you suffer anything from the potato scab?

A. We do. This again is another fungous disease which is easily controlled by soaking the tubers before planting in a solution of Formalin. I prepared some years ago, with the Horticulturist, what we call our Spraying Calendar, this gives in a