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THE UNIVERSITY OF NEBRASKA
AGRICULTURAL COLLEGE EXTENSION SERVICE

February, 1926 Extension Circular 1259

Potato Diseases Controlled by Seed Treatment

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POTATO DISEASES CONTROLLED BY SEED TREATMENT

R. W. GOSS AND H. O. WERNER

The principal diseases carried on the surface of the seed potato and which can be controlled by seed treatment are Scab and Rhizoctonia (black scurf). Frequently potatoes which look healthy may be carrying the organisms which produce these diseases. Therefore, the treatment of all seed potatoes is good insurance. Returns from seed treatment may be looked for in increased yields and improved quality.

Since Scab and Rhizoctonia (black scurf) live in the soil, treated potatoes should not be planted in land that produced a crop of potatoes within the last few years. Seed treatment will not protect potatoes against infection from soil containing the disease. The planting of diseased untreated potatoes will result in the land becoming infected to the detriment of future crops.

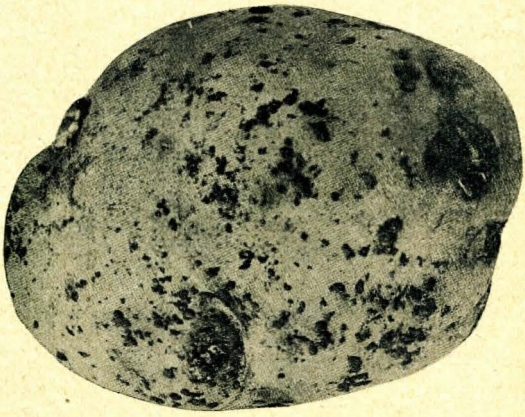

Fig. 1. Potato showing Rhizoctonia Spots

RHIZOCTONIA (Black scurf)

This disease appears on the surface of the seed potatoes as small hard black dirt-like spots (see figure 1). The disease carried over in these small spots affects the stems, roots, and tubers of the new crop. The young sprouts may be killed before they break thru the ground thus resulting in a poor stand.

The roots or underground stems may show brown streaks or become girdled (see figure 2). This either kills the plant or causes the production of a number of small potatoes at the surface of the ground. This disease will cause considerable sprout injury with early plantings (at low temperatures).

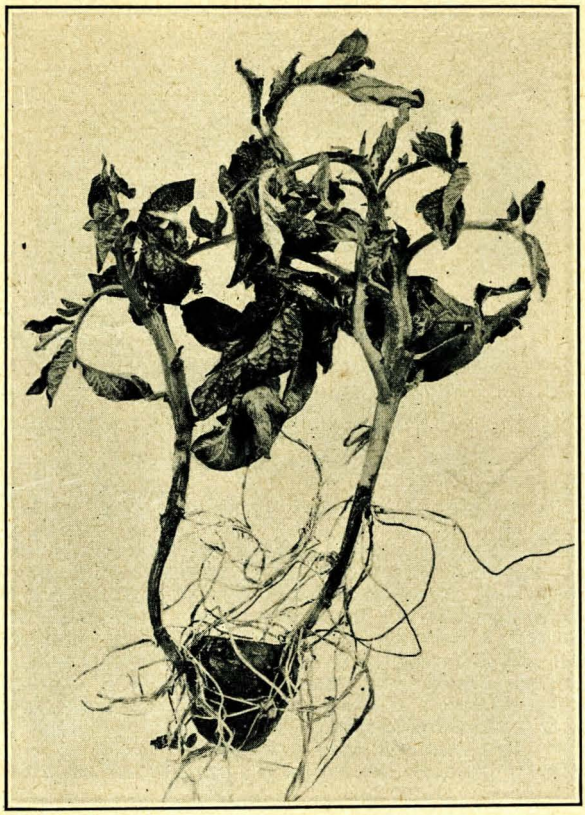

Fig. 2. Young plant showing Rhizoctonia injury

SCAB

This disease shows on potatoes as rough brown corky patches varying in size from small spots to half an inch in diameter. The disease is carried over in these spots and will cause similar injury on the new potatoes. This disease is generally most prevalent during hot seasons.

BLACK LEG

Potatoes affected with this disease show a soft slimy black rot at the stem end. The disease may be spread from these tubers to healthy potatoes by contact. The disease starts from these infected seed pieces and travels up the stem causing a soft slimy black rot of the underground stem. The entire plant turns yellow and wilts. Seed

treatment will not kill the organism in the rotted spots but will disinfect the potatoes that were smeared over by the rotted tubers.

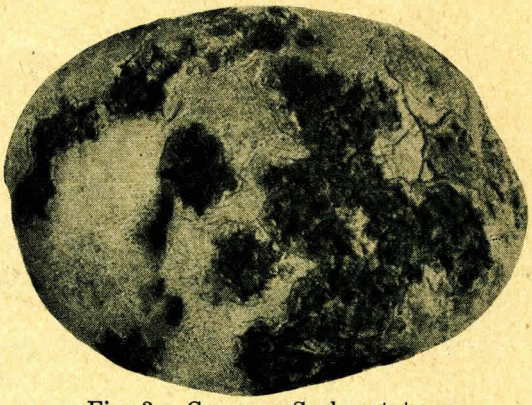

Fig. 3. Common Scab potatoes

SEED POTATO TREATMENTS

These diseases can be eradicated from infected lots of seed potatoes by treating the seed with solutions of corrosive sublimate (mercuric bichloride) or hot formaldehyde. (Detailed information concerning both of these methods will be supplied upon application to the Agricultural Extension Service, Lincoln, Nebr.) As the treating of small lots of seed potatoes may be considered rather bothersome, the Agricultural College has enlisted the cooperation of a number of carlot dealers in seed potatoes, who this year are offering seed potatoes treated by the hot formaldehyde method. This treatment does not injure the potatoes for table use. It does not prevent infection from the soil but does control diseases carried on the surface of potatoes.

SEED POTATO DISEASES NOT CONTROLLED BY TREATING

There are a number of other diseases that are carried over inside the potato but which cannot be controlled by seed treatment.

Potatoes affected with the spindle-tuber disease are elongated, pointed, light colored and have numerous shallow eyes and should not be used for seed, because they produce low yields of poor quality potatoes. Potatoes showing any stem end rot or a brown ring discoloration inside the potato should not be planted as they may result in wilted plants producing stem end rot tubers.

Another disease, mosaic — causing decreased yields, cannot be detected in the tubers, but can be observed in the growing plants. The remedy for this disease is the use of potatoes produced by disease free plants.

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(2-26-10M)