and shaking these roots up in melted agar and plating there develops, at 37° C., in the course of a few days, from one to five circular colonies of a fungus which grows rapidly and assumes a salmon-pink color. Cover-glass preparations made from these colonies contain numerous sickle-shaped segmented spores, characteristic of *Fusarium*.

There are, according to Dr. Erwin F. Smith, about twenty-five known varieties of this fungus. Some are strict saprophytes, others are parasitic on grains and plants, and others are pathogenic to plants. No *Fusarium* has, however, been known to be pathogenic to animals. I would, therefore, pending the present investigation, which will require some time, propose the name *Fusarium equinum* nov. spec.

VICTOR A. NÖVGAARD.

WASHINGTON, D. C.,
Nov. 14, 1901.

## RHIZOCTONIA AND THE POTATO.

ATTENTION has been called recently to the parasitic nature of *Rhizoctonia* on various plants in the United States by Dr. B. M. Duggar and Professor F. C. Stewart. Observations at the Colorado Experiment Station on the relation of this fungus to the potato have brought out some interesting facts. During the spring months sclerotia develop freely on tubers and young sprouts in sacks and bins. A few affected tubers in a sack or bin of clean tubers, under favorable conditions, will spread the disease and in a short time render the entire lot worthless for seed. Affected tubers used for seed transmit the disease to the young plants, and these in turn to the following crop of tubers. Under proper conditions the fungus attacks all parts of the potato plant and in all stages of growth, but it is most destructive to the softer tissues. The weaker plants are often killed before they reach the surface of the ground. Those which are able to withstand its earlier attacks are apt to suffer more or less injury from it later in the season.

*Little potatoes* are produced by the fungus injuring the tuber stems in such a manner as to prevent free transportation of plant food between the main stem and tubers, or by completely cutting off the tuber stem while the tubers are small. When the tuber stem receives an injury sufficient to check the free transportation of plant food, the food accumulates above the injury and soon excites the buds on the tuber stem above this point into growth. These buds develop into tubers. The fungus may continue its work and in time kill back the tuber stem, or it may cut off this stem above the newly formed tubers. If the tuber stem is attacked just as it grows out of the main stem adventitious buds may push out on the main stem around the injured point. These usually develop into short-stemmed or stemless tubers, forming bunches of small tubers. If the roots are badly injured the food supply is reduced and the plant puts out weak tuber stems. These stems are easily cut off by the fungus and the plant usually sets few or no tubers. The food which it is able to take up is used mostly in top development. The leaves become thicker, have a tendency to crinkle and take on a yellowish tinge. When the roots are less severely injured but the free transportation of food to the subterranean stems is interfered with, excessive top development is produced, and the axillary buds may develop aerial potatoes.

Aerial potatoes may be produced artificially: (1) By ringing the stem; (2) by tying a line firmly around the growing stem; and (3) by removing the subterranean tubers as soon as formed.

Sclerotia are often found on the surface of the larger tubers. Apparently these sclerotia do no injury, but experiments show conclusively that scabbing and browning of tubers may be produced by this fungus.

The corrosive sublimate treatment is promising as a preventive of this disease.

F. M. ROLFS.

FORT COLLINS, COLO., Nov. 11, '01.

## *THE WORK OF THE 'ALBATROSS.'*

STUDENTS of marine zoology will welcome the appearance of the brochure just issued by the U. S. Fish Commission, compiled by C. H. Townsend, and entitled, 'Dredging and Other Records of the Steamer *Albatross*, with Bibliography Relative to the Work of the Vessel.' This useful paper contains in condensed form