positions in the forest service, testing the fitness of those who wish to become forest officers through outdoor examinations in riding, surveying, timber estimating, and similar matters as well as by more conventional methods; its exhibit will illustrate the duties of these officers. Cooperation also exists in the preparation of exhibit material, between the forest service and the bureau of education. This shows how forest subjects are used in the public schools, in connection with nature study, commercial geography, agriculture and the like. One of the exhibits is a display made by the normal school pupils of the District of Columbia, in which a number of those who are studying for teachers' positions entered a prize contest on tree study. Each of the contestants prepared a separate exhibit showing the life history and the products of individual trees, such as white pine, hickory or sugar maple.

UNIVERSITY AND EDUCATIONAL NEWS

POMONA COLLEGE, Claremont, Cal., has completed the collection of an endowment fund of one million dollars toward which the General Education Board contributed $150,000.

MRS. RUSSELL SAGE, who had undertaken to give $100,000 towards a $500,000 dining hall for Princeton University, has increased her offer to $250,000, provided an equal sum is collected by July 1. Sums amounting to $75,000 have been subscribed, of which $30,000 are due to efforts of the sophomore class.

BY the will of the late Dr. T. Bell, of Newcastle, the sum of £3,000 is bequeathed to the Armstrong College.

DR. P. J. ANDERSON, formerly field pathologist with the Pennsylvania commission for the investigation and control of the chestnut blight disease, has been appointed instructor in botany at the Massachusetts Agricultural College.

DR. HARRY M. ULLMANN has been made professor of chemistry at Lehigh University, in charge of the department. Ralph J. Fogg, assistant professor in the department of civil engineering, has been made associate professor.

DISCUSSION AND CORRESPONDENCE

OCCURRENCE OF SILVER SCURF OF POTATOES IN THE SALT LAKE VALLEY, UTAH

WHILE making a plant disease survey in the Salt Lake Valley, Utah, during the past season the writer's attention was called to some diseased potatoes, which, upon examination, proved to be infected with the silver scurf fungus (*Spondylocladium atrovirens* Hartz). Microscopic examination of the organism together with the study of the fungus in pure culture proved its identity beyond a doubt. Both the conidial and sclerotial stages were found in great abundance on potato tubers collected from various parts of the valley. The conidia are dark brown and elongate-ovate with the apex narrowed and subhyaline. They are found to be five to eight celled, and average approximately 42 microns in length by about 8½ microns in diameter. A large number of measurements gave lengths ranging from 30 to 75 microns, and diameters ranging from 6 to 11 microns. The conidia are borne in more or less irregular whirls on the upper half of the conidiophores which vary considerably in length, but averaging about 125 microns. In addition to the characters of the fungus, the typical appearance of infected spots on the tubers leaves no doubt as to the identity of the disease; the silvery or glistening appearance of the spots showing very plainly. The presence of the minute black sclerotia is also very characteristic. Typical specimens of discolored, shrunken and shriveled tubers showing the later stages of the disease were also found in considerable abundance.

Very little is to be found on this disease in American plant pathological literature. It was first seen by Clinton[1] in 1907; Orton[2] mentions it as spreading rapidly in the eastern states; Melhus[3] states that the disease has been found on potatoes from Maine, Vermont, New York, Virginia, West Virginia,

[1] Clinton, G. P., Connecticut Agricultural Experiment Station, Annual Report, 1908.

[2] Orton, W. A., Farmers' Bulletin No. 544, U. S. Department of Agriculture.

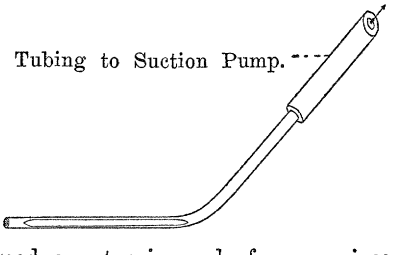
[3] Melhus, I. E., Circular No. 127, Bureau of Plant Industry, U. S. Department of Agriculture.

Florida, Wisconsin and Kansas. Recently silver scurf has been reported from Oregon[4] and Washington.[5] It has been very difficult to trace the introduction of this disease into Utah for the reason that the potato growers are not always informed as to the source of their seed tubers. In most cases the seed was said to have been purchased from other points within the state of Utah, but in some instances it was definitely ascertained that the seed came from Idaho. It is certain, therefore, that seed planted on new soil, with the resultant crop developing the disease, must have been infected previous to being planted. The writer believes that the silver scurf disease of the potato is widespread throughout the intermountain states particularly in Utah and Idaho.

P. J. O'Gara
Pathological Laboratory,
Dept. of Agricultural Investigations,
American Smelting and Refining Co.,
Salt Lake City, Utah,
December 9, 1914

A SIMPLE DEVICE FOR COUNTING SEEDS

In preparing tests of seed germination a great deal of rather monotonous work is required in counting the seeds. The device to be described was worked out to obviate part of this labor, and has proved very efficient in our seed laboratory. In the hope that it will save valuable time for other workers in this field the following description is presented.



The seed counter is made from a piece of brass or copper tubing 20 cm. in length and about .5 cm. in diameter. This is bent in the middle at an angle of 45° and then on one side filed almost paper thin for a distance of 8 cm. At intervals of .7 cm. on this flattened side ten holes of suitable diameter are punched with a needle and hammer. One end of the tube on the side nearest the holes is sealed with solder or sealing wax, and the other end is connected by .5 cm. rubber pressure tubing to a small Richards air pump.

The seeds to be counted are placed in a flat tray and the pump started. The suction through the fine openings holds the seeds in lots of ten to the tube, which are removed by a flick of the finger. In case more than one seed adheres to a hole the extra ones can be quickly removed by tapping the tube, or with the finger. It will be found advisable to have tubes made up with various sizes of holes, one for small seeds such as tobacco, with openings as small as can be made with a No. 7 needle; one with medium-sized holes of .5 mm., which are best adapted to seeds of the size of radish, clover, etc., and one with holes of 1 mm. in diameter. Seeds with a very rough exterior such as beet seed do not lend themselves well to this method of counting as the surface is too uneven to be held by the suction. Large seeds—beans, peas and corn for instance—are too heavy to be held by the suction produced by the small Richards pump, but there is no doubt that with a stronger suction such as that produced by a vacuum cleaner this method could be used in counting these heavier seeds.

Orton L. Clark
Massachusetts Agricultural
Experimental Station,
Amherst, Mass.,
November, 1914

THE JOURNAL "ISIS"

To the Editor of Science: I beg to call your attention to one of the incidents of the war which is likely to be overlooked in the midst of all the excitement of daily battles and the destruction of life and property. I refer to the devotion to scholarship, to duty, and to educational ideals shown by Dr. G. Sarton, of Wondelgem-lez-Gand, editor of *Isis*, in continuing the publication of this im-

[4] Bailey, F. D., "Phytopathology," 4: 321–322, August, 1914.

[5] Rees, H. L., *Western Washington Experiment Station Bulletin*, 1: 15–16, 1914.