Mr. McConnell has shown the actual financial value of these nodules to the farmer as compared with the cost of sodium nitrates.

PRESIDENT H. T. FERNALD: In the case of the papers remaining on the program, the authors are either absent or wish the papers presented by title.

At the close of this session, the regular business was transacted and the meeting adjourned at 11.30 a. m.

A New Pest, The Chrysanthemum Midge (*Rhopalomyia hypogaea* H. Lw.)

Specimens of badly infested chrysanthemum plants were received under date of March 27, 1915, from Prof. R. H. Pettit of the Michigan Agricultural College, accompanied by the statement that the above named insect, determined by the writer, was causing serious injury in the houses of a commercial chrysanthemum grower. Certain varieties, particularly mistletoe, appear to be very susceptible to injury. The plant submitted for examination had the stem from a point at about the surface of the ground to the region of the leaves, a distance of 1.5 cm., enlarged to practically twice the normal diameter, the swelling being composed of nearly approximate oval cells, each of these having a length of about 2 mm. Similar masses of infested tissue occurred in and near the midribs of the developing leaves and arrested the growth of the foliage, producing a close, ill-shaped head and the probable ruin of the plant for commercial purposes. A study of the midges and the deformities they produce convince us that this is an European species recorded from central and southern Europe as infesting *Chrysanthemum leucanthemum*, *C. corymbosum*, *C. atratum* and *C. japonicum*, and producing galls on the stalks, leaves, buds and presumably also on subterranean root stalks. The individual galls frequently form sub-conical projections from the swollen surface of the plant tissues.

This insect, like allied greenhouse species, probably breeds continuously when conditions are favorable, the initial attack being usually confined to buds (including the subterranean ones on root stalks) or tissues just unfolding from the buds. The midges transform in the gall and it is probable that hibernation or aestivation occurs either in the adult or possibly as larvæ in slowly developing, subterranean buds. The probabilities favor this insect being a serious local pest, since it has presumably become established in this country without its full complement of parasites. It is certainly desirable to ascertain the present distribution of the chrysanthemum midge in America, and growers of this popular flower would do well to adopt every reasonable precaution to keep their stock free from this insect. Badly infested plants should be burnt, and it is possible that, by cutting off and destroying infested portions of others, it may be practical to exterminate the insect in localities where it has become established without resort to more drastic measures. Fumigation with hydrocyanic acid gas, while deadly to the midges on the wing, would have little or no effect on the larvæ and could not be expected to accomplish more than prevent the insect from becoming excessively abundant.

E. P. FELT.