freshly collected spores are available the proportion of spores to talc should be increased. The spore-talc mixture was applied with a DeVilbiss powder insufflater No. 119. After seedlings were dusted, the fog nozzles were turned on and a fine mist filled the chamber. Seedlings usually were inoculated in late afternoon and left in the moist chamber over night. Fog nozzles were shut off the following morning and the moist chamber opened slightly to permit gradual drying of the plants.

Excellent results have been obtained with this inoculation procedure. Infection has been uniform, with seedlings suitable for reading rust reactions in about 12 to 14 days. Both the sprayer and duster are easily filled and cleaned or sterilized when different sources of inoculum are to be used.

Neither the toxic properties of Dreft nor the relative merits of other detergents was studied in detail, but it was observed that Dreft was slightly toxic both to rust spores and the seedlings when applied in high concentrations. With the 10 cc. per gallon of water concentration, however, no toxic effects were evident.

With the procedures described, over 6,000 seedlings could be handled conveniently in one inoculation group. If needed, an additional rack could be placed several feet above the bench to hold additional flats of seedlings.—R. E. FINKNER, Formerly Graduate Assistant in Farm Crops; R. E. ATKINS, Associate Professor of Farm Crops, and H. C. MURPHY, Principal Pathologist BPISAE, Iowa Agr. Exp. Sta., Ames, Iowa.

NEW TURF PESTS

DISCOVERY of new turf pests, Rhodesgrass scale, *Antonia graminis* Mask, and Ruth’s scale, *Odonaspis ruthae* Kot. in southern Texas, Louisiana and Florida indicate more problems are in store for greenkeepers, ranchers and other people responsible for turf production and maintenance. These pests are scale insects, spherical in shape, and varying according to species from shiny to dull white in color and from two to three thirty-seconds inch in diameter. These scales are in general appearance very similar to many of those found on shrubs and trees.

The first authentic record of the presence of the pests in Continental North America was reported in November 1942 at Kingsville, Texas. The scales have since been reported in most south Texas, Louisiana and Florida counties.¹

Damage caused by the scales consists of a reduction in numbers and size of individual grass plants which results in a gradual thinning of the turf. One to several species have been observed on all types of turf—pasture, lawn, fairway, tee or putting green—attacking both grass seedlings and mature plants. The turf in early stages of infestation, displays a yellow to light brown color not readily distinguishable from the symptoms of many other turf ailments. As the season advances, areas heavily infected turf turn

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