

ravages of disease. Soil should never be watered until actually in need as it can then take water, and breath to the greatest possible depth.

Imperfect plant development north of buildings, is directly traceable to insufficient evaporation from the plants or soil due to lack of sunlight. Moisture is applied to the soil more rapidly than it can be taken away by drainage or evaporation. As a result, fresh air will rarely reach the home of our bacteria and nitrate production must stop for want of air with which to carry on chemical operations. Good drainage can be the only correction.

#### TREES AND SHRUBS SHOULD HAVE BACTERIAL HOME

**N**ew tree or shrubbery plantings should not be made without putting about the fine rootage a known, healthy bacterial home. (Not undecayed leaves or undecayed manure.) If planted in a pit to the usual depth of planting, the rootage will likely be established in subsoil having no humus so that nitrate production for the new tree will be impossible. The tree or shrub in its original habitat produced its own humus supply through rootage decay. In the replanting of trees and shrubs the soil should be replaced so as to allow the easy passage of air and water to the new developing rootage.

Poorly drained greens or lawn, whether the surface of subsurface drainage be imperfect, will hold free water sufficient to stop nitrate production. Surface drainage is usually ample except in constantly shaded areas.

Under-watering of turf is most common although over-watering is frequently the practice. A plug taken from the lawn or green will show whether your nitrobacteria have too much or too little water. Remember that water going up through the plant that does not carry feedings, will be of no lasting benefit. Unless your soil is making nitrates and other feedings, you may lose your turf.

Soft maples or other trees producing surface rootage keep the turf rootage area deficient in moisture, and absorb too great a part of all nitrates produced. Surface wetting under such trees encourages surface tree rootage. If these areas are not sprinkled, tree rootage will develop in the lower moist areas rather than at the surface which causes a better possibility of turf growth.

Remember, the success of your plantings, depends upon the welfare of your bacteria laborers, so be interested in their living conditions. Comfortable homes, ample food and a proper environment will allow them to make plantings a success. It would be well for them if they could occasionally send a delegation to you, complaining of the treatment they are receiving.

## Turf Field Day at New Brunswick

By DR. HOWARD B. SPRAGUE

**T**HE annual Turf Field Day was held at the New Jersey Agricultural Experiment Station, New Brunswick, N. J., on June 19, 1933. The weather was favorable and a group of approximately 100 inspected the plots in the early afternoon. Each of the several hundred plots were fully labeled, providing visitors with an

opportunity to draw their own conclusions regarding the effect of the various treatments. A discussion of the recent results was given on the turf plots by Dr. Howard B. Sprague during the course of the afternoon.



DR. HOWARD B. SPRAGUE

At 6:30 p. m. the group adjourned to the Elks' Club in New Brunswick for a dinner and evening program. Mr. Robert F. Arnott, Chairman of the Green Section of the New Jersey Golf Association and also of the Metropolitan Golf Association, was master of ceremonies. The first address of the evening was by Mr. L. P. Christenson, President of the New Jersey Golf Association, whose subject dealt with economy in golf management.

Other speakers of the evening included Dr. John Monteith, Jr., of the United States Golf Association Green Section, Dr. Edward E. Eval of the New Jersey State Experiment Station, and Mr. Louis Weiland, representative of the New Jersey Greenkeepers' Association.

Dr. Howard B. Sprague, Agronomist, in charge of turf investigations at the New Jersey Agricultural Experiment Station, concluded the evening program with a discussion of the proper place of fairway watering in golf course management.