

was no separation in these plots, as usually occurs with mixed species, but strains were completely separated in the plots receiving the other fertilization programs (Plots B and C). This difference was noticed after the first year of growth.

### Significant Observations

Over this five-year period the following significant observations were made with regard to the various fertilization programs.

1. In the spring Plots A and C always looked better than the plots B. The powdered ureaform Plots (A) always stayed greener longer in the fall.

2. All plots looked extremely good in the middle of the summer and in early fall.

3. The species in the plots that received the ureaform fertilization programs recovered from disease attack quicker and with less reduction of vigor.

4. One of the most interesting observations (See bottom right.) was to see the powdered ureaform plots real pretty and green when the temperature was 7 below zero!

### Program Recommended

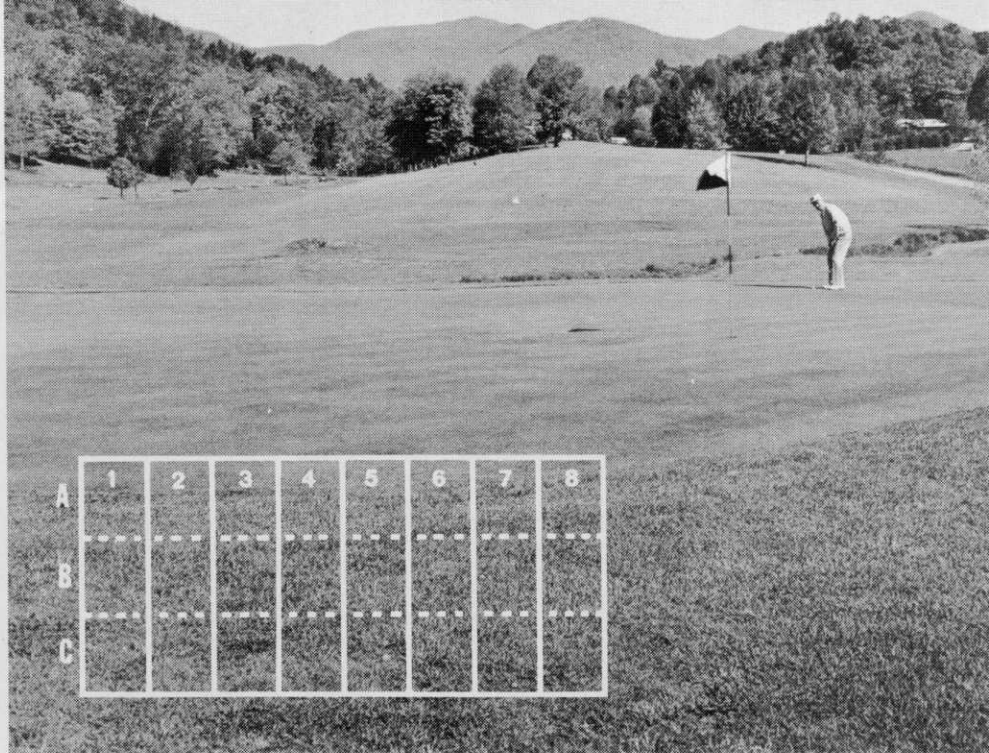
After evaluating these results and analyzing our economics, the turf maintenance program outlined below is followed for all 18 greens to keep them healthy with good color.

1. The Seaside species was selected for use on the larger greens that are seeded at Black Mountain. C7 Cohansey and Old Orchard are the choice for vegetative propagation.

2. Based on our soil analysis and the nutrient removal, we know we need a 4-1-2 fertilizer ratio.

3. Based on this fertilizer study, we selected a 16-4-8 with 60% ureaform nitrogen, and apply annually 10 to 15 lbs. of nitrogen/1,000 square feet to greens.

We make only three applications



Black Mountain's bentgrass experiment setup is superimposed above (not the location) showing three replications of eight bentgrasses. The plot size was 5x32 feet. Strains were: 1—C1 Arlington; 2—C7 Cohansey; 3—C15 Toronto; 4—C50 Washington; 5—C52 Old Orchard; 6—C1-C19 Arlington and Congressional; 7—Penncross; and 8—Seaside. Fertilization: Nitrogen, 10 lbs./1,000 sq. ft. annually. (A) Powder-type of ureaform: 6.5#N/1,000 sq. ft. 38-0-0; 15#/1,000 sq. ft. 0-10-20 in spring; and 3.5#N/1,000 sq. ft. 38-0-0; 15#/1,000 sq. ft. 0-10-20 in the fall. (B) Activated sewage sludge plus 3#KC1/50#, monthly applications April through October. (C) 10-6-4 commercial product with 60% N from ureaform, monthly applications April through October. The ureaform used in these experiments was "Powder Blue type of Nitroform"; the activated sewage sludge was "Milorganite."

a year to greens with the first about April 1 (12-15 lbs.), the second (10-12 lbs.) about May 30, and the final application (20-25 lbs.) between Sept. 1 and 5. This third application is the heaviest to be sure to have good nitrogen residual to carry us into the next spring.

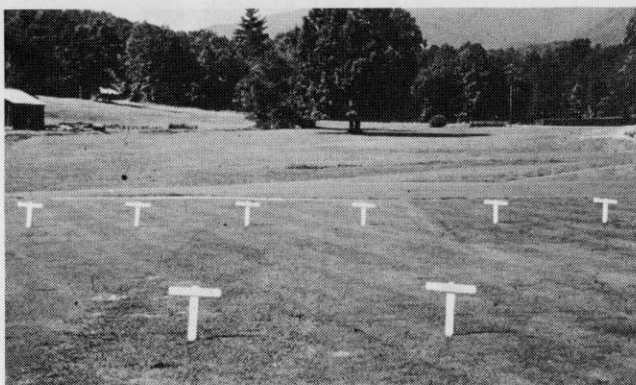
4. Proper cultural practices are also followed which include regular mowing at the proper height, and aerifying and/or verticutting.

5. On our bluegrass fairways we use a 12-4-8 (with 60% N from ureaform) and apply 300 lbs. per acre in the spring and 400 lbs. per acre in the fall.

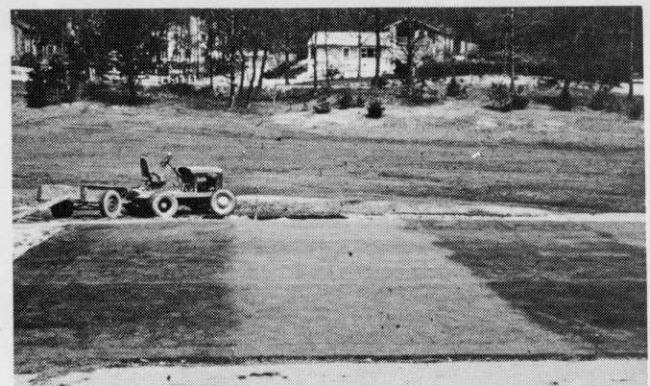
## Home Irrigation Guide Available From Buckner

A brochure for planning a home lawn sprinkling system is available from Buckner Sprinkler Co., Fresno, Calif.

Called "Six Easy Steps to Permanent Home Irrigation," the brochure covers design of an underground sprinkler system, sprinkler head positioning to insure uniform watering, pipeline layout, material needs, installation directions, and conversion to automatic controller operation. For more details, circle (712) on the reply card.



Experimental plots showed this good coverage in 10 weeks. Stolons were topdressed after first cutting.



Temperature: 7 degrees below zero! Darker color of ureaform plots indicates superior cold weather resistance.