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Stronger Grasses, Nitrogen, Poa Annua Answer?

By B. P. ROBINSON
(At GCSA convention)

Turf research workers since 1917 have been trying to find the answer to poa annua control. Some of their findings are cited by Robinson as indications that poa annua might be crowded out by dense, strong grasses and nitrogen treatments.

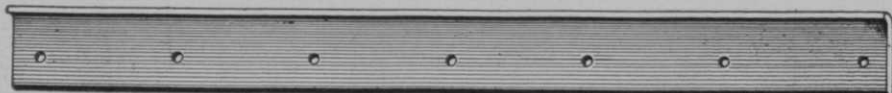
In 1917 Hartwell and Damon found that Rhode Island bent was resistant to invasion of grasses and weeds. The density of turf was given as the reason by North and Odland why velvet bent selections were more resistant to poa annua invasion than creeping or Colonial bent. De France and Odland found a similar relationship existed in Piper velvet bent. Differences between bent selections and between South German mixed bent and Kentucky bluegrass to weed invasion was reported by Welton and Carroll. Virginia creeping bent was reported by the same workers as being less resistant to adverse conditions and having a high nitrogen requirement. Strains of both velvet and creeping bent were found by Sprague and Burton to be resistant to poa annua invasion. Several improved turf grasses have been reported by Grau and

Robinson and Burton as being resistant to weed invasion.

On checking Virginia creeping bent (3-year average), Sprague and Evaul found that 2.83 lbs. of actual nitrogen per 1000 sq. ft. annually from sodium nitrate or ammonium sulfate decreased the incidence of poa annua 50% or more. Slowly acting nitrogen carriers had little influence. Acid forming inorganic nitrogen sources were reported by Sprague and Burton to be more effective than other nitrogen carriers in reducing annual bluegrass invasion. It was also found that 60 lbs. of nitrogen per acre reduced the seed yield of poa annua one half under that of 30 lbs. of nitrogen per acre. De France and Odland found that the invasion of grasses into creeping bents was highest on organic and lowest on inorganic nitrogen plots. South African workers have reported that high nitrogen treatments encourage grasses to compete successfully with weeds. Nitrogen applications previous to or at the time of cool season grass establishment has resulted in improved turf.

Either in the North or South it appears as if the normal time for germination of poa annua seed coincides with the period when permanent turf grasses are suscepti-

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ble to invasion. It is apparent, however, that the reason why annual bluegrass occupies turfed areas is not clear. Sprague and Burton conclude that the occupation of turfed areas by annual bluegrass, apparently, does not lie in greater tolerance to conditions of unfavorable nutrient supply, but in the ease of re-establishment of the bluegrass by seed in seasons when unfavorable soil conditions have been temporarily corrected by moderated weather conditions.

From the experimental data on hand, it is possible to conclude that grasses resistant to poa annua invasion may be obtained. Management studies are needed, however, to test this resistance, determine the effect of amount, kind, and time of nitrogen applications on invasion resistance, and to determine interaction effects on southern turf of seeding rates and nitrogen applications.

Reduces Poa Annua in Greens

By A. R. Twombly

Poa Annua and I had our first meeting at the Pelham Country Club in the late spring of 1938. That summer proved to be a hard and unpleasant one for me. The greens there were supposed to be of

South German mixed, Seaside & Colonial bents. As the years passed Poa annua had come in to such an extent that all 18 greens were infested and some of them so badly that it was 90 per cent annual bluegrass and ten per cent bents. That spring the greens were beautiful but after a few hot, humid days in the summer those greens presented a discouraging problem. In the early fall just when I had reached the zero point we had a few cool, damp days and the fall crop of poa annua became established and turned the greens into a beautiful sight once more and gave the golfers a fine putting surface.

After that first season I realized the potential danger in our greens becoming entirely Poa annua. The next few years I spent studying the growth and habits of this grass. I found that with the heavy, tight clay soil and the poor drainage we had, compaction was prevalent. This made an ideal condition for Poa annua but it caused the permanent grasses to have a very shallow root system.

To correct this condition I carefully checked all the sprinklers we used to determine the proper size and capacity so each green would receive only the amount of water it could absorb. Local-

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