



Turfgrass research review

by Dr. James B. Beard

Seed production
and maturation in
annual bluegrass

Breeding systems in annual bluegrass, *Poa annua* L.

T. K. Koshy. 1969. *Crop Science*. 9:40-43. (from the Department of Genetics, Macdonald College, McGill University, Montreal-2, Canada).

The purpose of this work was to investigate the breeding systems of annual bluegrass. Plants utilized for this study were collected from northeastern England. Apomixis was not operative in the plant materials evaluated. Seed production and viability was good after both self- and cross-fertilization.

Seed maturation was very rapid. Annual bluegrass is able to mature viable seeds on panicles which are removed from the plant only one or two days after pollination. In some cases viable seeds were formed from panicles or seed heads cut from the plant

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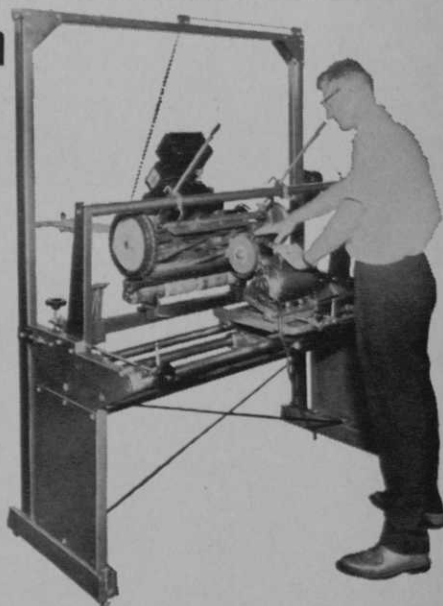
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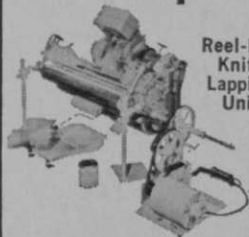
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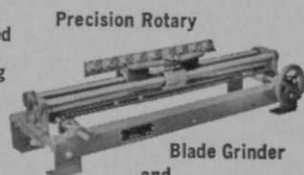
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on the same day that pollination occurred.

Comments: This ability of annual bluegrass to produce viable seed so rapidly is unique. The ability to form seed heads at a cutting height of one-quarter inch is already well known. These two characteristics are important factors in the ability of annual bluegrass to produce an abundance of viable seed under normal putting green maintenance and contributes to its success as a weed. One annual bluegrass plant was found to produce over 350 viable seeds in a single growing season. This rapid, abundant seed producing ability results in a high population of annual bluegrass seeds in the greens soil. Injured, damaged or thinned areas in the green provide an ideal avenue for the germination and establishment of annual bluegrass from seeds lying at the soil surface.

Response of seedlings of *Festuca Rubra* varieties to environmental conditions.

L. W. Nittler and T. J. Kenny. *Crop Science*. 7(5):463-465. 1967. (from the Department of Seed Investigations, New York State Agricultural Experiment Station, Geneva, N.Y. 14456).

The effects of light intensity, photoperiod and temperature on the growth habit of chewing fescue and two varieties of red fescue, Illahee and Pennlawn, were investigated. The two light intensities were 1,150 and 2,300-foot candles; the two photoperiods eight and 16 hours; and the temperature treatments involved a daily cold treatment at temperatures of 40° and 50° F.

Results of this study indicated that a daily cold treatment stimulated a more decumbent type of growth habit. The percentage of

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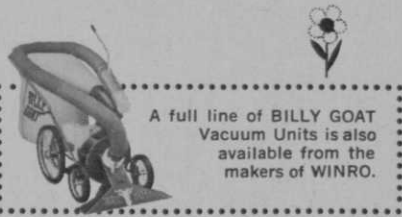


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decumbent plants produced increased as the length or intensity of the daily cold treatment was increased. The greatest decumbent type growth was produced by a combination of a daily exposure to low temperature, a sixteen-hour photoperiod and a light intensity of 2,300-foot candles.

The growth habit or the degree of erect versus decumbent type growth was highly correlated with the color of the lower leaf sheath of red fescue. Decumbent plants tended to have an entirely green lower leaf sheath while the upright plants tended to have a concentration of red pigment caused by the presence of anthocyanin pigments. Low temperatures tended to favor the development of green color in the lower leaf sheath while red pigmentation was enhanced by the higher light intensity and the longer photoperiod. The more decumbent type shoot growth of red fescue when exposed to low temperatures is similar to that which has been previously observed in Kentucky bluegrass. □

Other papers of interest:

1. *Golf course operations: How does yours compare.* Florida Turfgrass Assn. Bulletin. 14(1): 6-8. 1967. (Florida Turfgrass Assn., 4065 University Boulevard North, Jacksonville, Fla.)

2. *Subsurface irrigation.* D. Bingham. Proceedings of the 1967 Midwest Regional Turf Conference. pp. 47-50. 1967. (Department of Agronomy, Purdue University, West Lafayette, Ind.)

3. *History of Poa annua.* J.C. Harper II. 1967 Massachusetts Turfgrass Conference Proceedings pp. A-2 to A-9. 1967. (Department of Plant and Soil Science, University of Massachusetts, Amherst, Mass. 01003).