



## Turfgrass research review

by Dr. James B. Beard

### Response of three bluegrasses to varied temperatures

Growth and carbohydrate storage of three *Poa Pratensis* L. strains as influenced by temperature.

V.B. Youngner and F.J. Nudge. 1968. *Crop Science*. 8:455-457. (from the Department of Agronomy, University of California at Riverside, Riverside, Calif. 92502).

In this study three Kentucky bluegrass cultivars were evaluated in relation to their response to varying temperatures. The responses evaluated were shoot growth, turfgrass density and total available carbohydrate accumulation. The varieties included in the test were 0217 Fyking, Merion and Newport. Various day-night temperature combinations ranging from 45° to 80° F. were utilized in the experiment.

A differential response in re-

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lation to the three turfgrass cultivars was observed. Merion and 0217 Fylking produced higher densities at higher temperatures whereas Newport produced the highest shoot density at lower temperatures. The density of 0217 Fylking was higher than either of the other two cultivars

included in the study. Carbohydrate accumulation in all three cultivars was greatest at the lower temperatures, with Newport not being able to accumulate as high a level of reserve carbohydrates as the other two cultivars. Shoot growth was the highest at the higher temperatures for all three cultivars.

*Comments:* It is evident from

these studies that Newport has a distinct adaptation to cooler temperatures as indicated by tillering and carbohydrate accumulation. In contrast, both Merion and 0217 Fylking had exhibited better adaptation to warmer temperatures. This more favorable adaptation to higher temperatures was evident in terms of tillering, rate of shoot growth and carbohydrate accumulation. These comparative responses of different cultivars of Kentucky bluegrass to high versus low temperature regimes should be considered in selecting the turfgrass variety or varieties to be used in a given climatic situation. □

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### Other references of interest:

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2. *The economics of turfgrass sprinkler irrigation.* W.W. Wood. California Turfgrass Culture. 17 (2):15-16. 1967. (from the Extension Service, University of California at Riverside, Riverside, Calif. 92502).

3. *Chemical control of Fusarium blight of turfgrasses.* G.A. Bean, R.N. Cook, and A.E. Rabbitt. Plant Disease Reporter. 51(10): 839-841. 1967. (from the Department of Botany, University of Maryland, College Park, Md.).

4. *Residue of Bensulide in turfgrass soil following annual treatments for crabgrass control.* S. W. Bingham and R. E. Schmidt. Agronomy Journal. 59(4):327-329. 1967. (from the Department of Agronomy, Virginia Polytechnic Institute, Blacksburg, Va. 24061).