

Development of Stress Tolerant Seashore *Paspalum* for Golf Courses

Dr. Ron Duncan

University of Georgia

Goals:

- *Establish an extensive collection of genetic material.*
- *Improve the adaptability of the species with special emphasis on: acid soil stress tolerance with deep rooting and root plasticity in high bulk density (compacted) soil, winter hardiness to expand its adaptation zone, and wear resistance that will meet or surpass golf course requirements.*

Cooperators:

B.J. Johnson

Kris Braman

Wayne Hanna

Bob Carrow

Eight paspalums out of 300 types in the collection, more than 5,000 tissue culture regenerants, and 100-plus hybrids have been identified for evaluation. Three ecotypes (Fwy-1, AP-10 and AP-14) are currently being evaluated on golf courses. Eighteen golf courses are assessing the performance of one or more of these types on fairways, tees, or greens. Four sod companies are attempting to develop management practices for long-term sod and stolon production. A seed company in Arizona is collaborating on assessment of production problems.

Six paspalums (two from Guam, four from Australia) were entered into quarantine grow-out after collection during the summer 1997. Fwy-1, AP-10, and AP-14 were sent to quarantine in Hawaii and will be available for evaluation in the islands beginning in July 1998.

Herbicide studies involving paspalum encroachment into bermuda revealed Trimec (Plus or Classic), Daconate 6, and Asulox would suppress paspalum growth, but more than one type of herbicide and multiple applications may be necessary to eliminate the paspalum. With bermuda encroachment into paspalum, preliminary research has revealed that multiple applications of Prograss (1.5 lb ai/A) + Cutlass (0.75 lb ai/A) may suppress the bermuda (temperatures > 70° F).

Herbicides non-injurious to paspalum turf include: Betasan, Kerb, Balan, Dacthal, Ronstar G, Pre-M (preemergence); Prograss,

Drive, Trimec Southern, Dimension, Super Trimec, Vanquish, Manage, and Mecomec (postemergence).

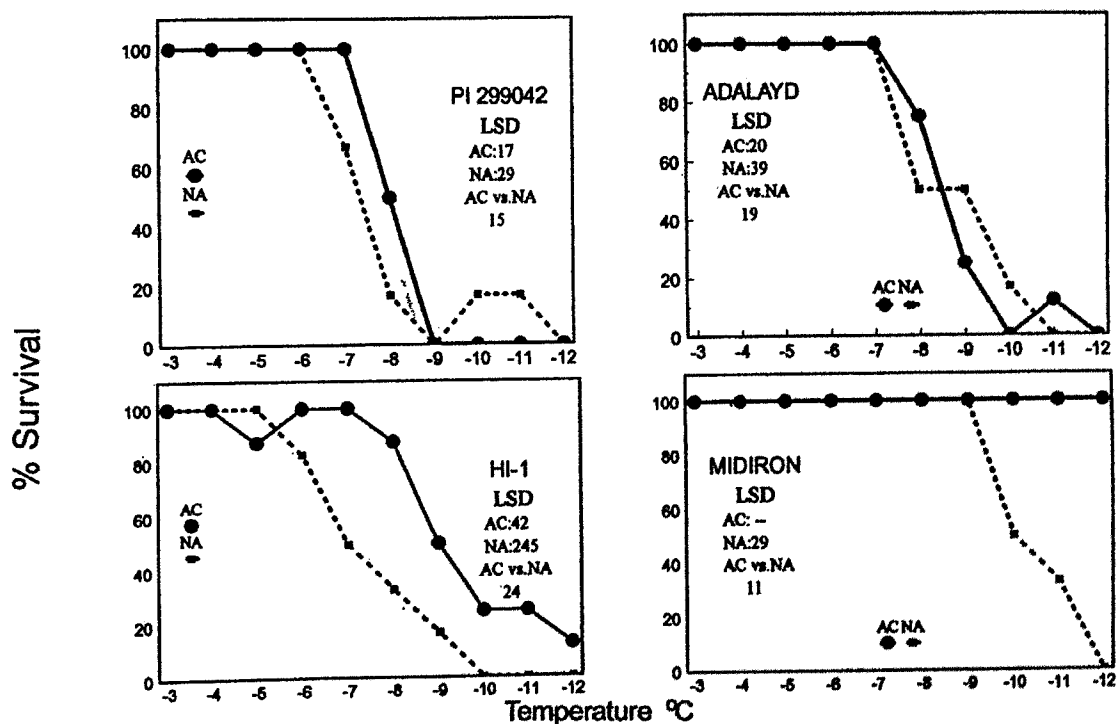


Figure 1. Effect of acclimation on plant survival for three paspalum ecotypes and Midiron bermudagrass under freeze shock-recovery treatments (AC = acclimated; NA = non-acclimated).