

Non-selective Herbicide Demonstration Study

Barbara R. Bingaman, Nick E. Christians, and David S. Gardner

Finale from AgrEvo, Roundup from Monsanto, and Reward from Zeneca were screened in a non-replicated study for efficacy of non-selective herbicides in creating even border areas. This trial was conducted at the Iowa State University Horticulture Research Station north of Ames, Iowa as a demonstration plot for the 1996 Turfgrass Field Day.

The experimental area consisted of Kentucky bluegrass surrounding permanent ornamental grass beds. Finale, Roundup, and Reward were applied to approximately 6-inch wide border strips around individual ornamental plantings. Finale was applied at a rate of 4.0 oz a.i./A, Roundup at 2.7 oz a.i./A, and Reward at the label rate of 20 ml product/gal water. The materials were applied with a carbon dioxide backpack sprayer equipped with #8006 nozzles at 25-30 psi. Applications were made July 3, July 12, and July 15. These dates correspond with 14, 5, and 2 days, respectively, before Field Day on July 18.

A survey of the experimental area was made prior to treatment and the bluegrass in the border areas was uniform in color and overall quality. Data on the overall condition of the plants within the treated area and the evenness of the border areas were taken on July 10, July 15, July 25, and August 20 (Table 1).

All materials worked satisfactorily and produced even border strips with brown, dead grass in approximately 12 days (Table 1). Even, brown, dead borders were observed on July 15 in all plots treated on July 3 (Table 1). The herbicides produced different phytotoxic symptoms. Finale treated bluegrass exhibited severe chlorosis before turning orange-brown and dying. Grass treated with either Roundup or Reward turned from healthy green to shades of brown.

Border areas treated with Reward were not as persistent as those treated with either Finale or Roundup. By July 25 (five days after Field Day), regrowth of green turf was present in the border areas treated with Reward on July 3. On August 20, (33 days after Field Day) all grass in the Reward treated border areas had regrown but there was no regrowth of either turfgrass or weeds in the areas treated with either Finale or Roundup (Table 1).