

Intermountain Greenstripping and Rehabilitation Research Project  
Native Grass Seed Production Study  
1997 Progress Report  
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In 1995, the Aberdeen Plant Materials Center (PMC) entered into a cooperative study with the Bureau of Land Management (BLM) and the Forest Service Shrub Laboratory to study the effects of agronomic practices on the production of seed from two grasses native to the intermountain west: Thurber's needlegrass *Stipa thurberiana* and bottlebrush squirreltail *Elymus elymoides*. The agronomic practices being evaluated are: irrigation; no irrigation; fertilization plus irrigation; and fertilization with no irrigation.

This report describes work completed by the PMC during 1997. For a detailed description of the project see the report completed in 1995 titled "Intermountain Greenstripping and Rehabilitation Research Project - Native Grass Seed Production Study".

In late March, the bottlebrush squirreltail plots were beginning to green up but the Thurber's needlegrass had not. On April 17 the plots were sprayed with 2,4-D (2 pt./ac) and Banvel (2 oz/ac) to control broadleaf weeds. By mid April the bottlebrush plots were growing fast and were generally very vigorous but the Thurber's needlegrass plots still did not look very healthy.

In consultation with Steve Monsen it was decided to apply fertilizer to those plots designated. The plots were fertilized on May 15 with 34-0-0 at 190 #/ac and 11-52-0 at 90 #/ac. Irrigated plots were watered on May 19 with approximately 10 cm of irrigation water applied. Due to the above normal precipitation received during the summer months, no additional irrigation was applied.

On May 28, the plots were observed for flower development and the bottlebrush inflorescences had nearly emerged from the sheath. The Thurber's needlegrass was just beginning anthesis. By June 11, both species were in the milk stage and on June 20 the Thurber's needlegrass was in the hard dough-to-ripe stage and the bottlebrush was in the late milk-to early dough stage.

On June 24, June 27, and July 1 Shrub Lab personnel collected seed from the plots for evaluation.

In late September, all plots were treated with Surflan (oryzalin) at a rate of 3 qt/ac as a pre-emergent to control annual weeds. The herbicide treatment was followed by a light irrigation to help incorporate the chemical into the soil.

On May 29 two rows each of bottlebrush squirreltail and Thurber's needlegrass were drilled in field 14 to evaluate direct seeding success. Each row is approximately 80 feet long. These plots were irrigated on June 2 (1.0 inch), June 16 (1.5), July 8 (2.0), September 10 (3.0) and October 6 (4.0). Stand establishment was rated as only fair mostly due to the heavy competition of cheatgrass which was present in the seed. It is planned to evaluate the application of Oust on these test seed rows for control of cheatgrass.