

**Great Basin Native Plant Selection and Increase Project
FY 2003 Annual Report**

Project Title: Establishment and Maintenance of Certified Foundation (G1) Seed

Project Location: NRCS Aberdeen, ID Plant Materials Center

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Description of Project: To produce Certified Foundation (G1) seed of Maple Grove Lewis flax, Anatone bluebunch wheatgrass, Snake River Plains Germplasm fourwing saltbush and Northern Cold Desert Germplasm winterfat to facilitate commercial production. Evaluate procedures for production of rooted cuttings of fourwing saltbush. Establish demonstration planting near Boise, ID.

Status Report:

Seed Production

Maple Grove Flax - Seeded 1.8 acres field 3 on May 31, 2002. Field swathed July 22, combined July 28 2003. Produced 615 pounds (342 pounds per acre), bushel weight 38.8 pounds per bushel. Seed analysis pending.

Anatone bluebunch wheatgrass - Seeded 1.0 acres field 11 on May 31, 2002. Field direct combined July 11, 2003. Produced 240 pounds (240 pounds per acre), bushel weight 22.1 pounds per bushel. Seed analysis pending.

Snake River Plains Germplasm fourwing saltbush - Produced approximately 98 pounds (seed analysis pending). Shipped 5 pounds Certified seed.

Northern Cold Desert Germplasm winterfat - Produced approximately 15 pounds (seed analysis pending). Shipped 3 pounds Certified seed.

Propagation Studies

Propagation of rooted fourwing saltbush from cuttings

Based upon cutting trials conducted in 2002, four hundred cuttings (320 female and 80 male) were harvested on August 18, 2003. Cuttings were treated with rooting hormone and planted into 40 inch³ deep pots and placed in the greenhouse. One half of the cuttings were set on heat pads set at 85° F to evaluate the need for bottom heat. Following is a summary of rooting success and growth rates evaluated November 7, 2003:

	% rooted	Leader length (cm)		
		minimum	average	maximum
Female cuttings (bottom heat)	28.75	1.75	5.70	36
Female cuttings (no heat)	20.60	0.50	9.25	38
Male cuttings (bottom heat)	27.50	1.00	9.00	25
Male cuttings (no heat)	7.50	12.00	15.00	23

There appears to be some advantage to bottom heat during root development. The best rooting success (50 percent) was achieved from cuttings harvested August 19, 2002 which was significantly greater than achieved in 2003. In 2002, cuttings were propagated under mist as compared to overhead irrigation used in 2003. It appears there is a need to evaluate irrigation strategies to improve rooting success.

Greenhouse seedling establishment study: to evaluate fourwing saltbush seedling emergence based upon number of propagules planted per cell (5 versus 10 per cell) and to identify number of days to emergence, growth rates and transplant dates.

As reported in 2002, 75 percent of the seedlings had red stems and 25 percent had white stems at time of transplant. The question arose as to whether or not this phenological difference could be an indication of the sex of the plant. Plants are being maintained to determine if this is possible.

Establishment of Demonstration Planting near Boise

BLM burned site in fall of 2002. Site was sprayed by PMC on May 1, 2003 with Roundup and 2,4-D at 64 oz and 16 oz. per acre respectively. Spot treatment was applied May 13, 2003. Excellent kill was achieved. Due to limited breakdown of dead grass clumps that would inhibit proper seed placement with drill and to ensure a clean seedbed, the decision was made to delay seeding until the fall of 2004. The delay will allow another opportunity to apply herbicide and allow for further breakdown of the dead grass clumps. Seed of 76 accessions were obtained and a planting plan developed.