

CORVALLIS PLANT MATERIALS CENTER
NATURAL RESOURCES CONSERVATION SERVICE
CORVALLIS, OREGON
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THE 2007 BUREAU OF LAND MANAGEMENT ANNUAL REPORT:
Medford District

I. Brief Background of Project

The Corvallis Plant Materials Center (PMC) entered into a new agreement with the Medford District of the Bureau of Land Management (BLM) in 2004 to provide native plant materials for ecological restoration. The agreement was amended in 2007. It was agreed that the PMC would maintain seed increase fields of five grasses, two legumes, and four forbs; continue germination trials and containerized production of two forbs; and establish seed increase fields of three species of rushes. Some plants that were produced in 2006 were maintained at the PMC until the spring of 2007.



Figure 1. *Eriogonum umbellatum* seed increase field, Corvallis Plant Materials Center, June 12, 2007.

II. Accessions Involved

Accessions included for the Medford District BLM in 2007 are listed in Table 1. This table also displays activities performed by PMC staff.

Table 1. Accessions involved for Medford District BLM cooperative agreement with Corvallis Plant Materials Center in 2007.

Species	Common name	Code	Accession #	Activity in 2007 ¹
<i>Achnatherum lemmonii</i>	Lemmon's needlegrass	ACLE8	9079398	pxn
<i>Bromus lavipes</i>	woodland brome	BRLA3	9079393	sfp
<i>Bromus lavipes</i>	woodland brome	BRLA3	9079396	sfp
<i>Eriogonum umbellatum</i>	sulfur-flowered buckwheat	ERUM	9079425	pxn, sfp
<i>Festuca californica</i>	California Fescue	FECA	9079399	sfp
<i>Festuca roemerii</i>	Roemer's fescue	FERO	9079395	sfp
<i>Iris douglasiana</i>	Douglas Iris	IRDO	9079417	trl, pxn
<i>Juncus ensifolius</i>	sword leaf rush	JUEN	9079418	trl,pxn
<i>Juncus tenuis</i>	poverty rush	JUTE	9079388	pxn
<i>Lomatium macrocarpum</i>	big-seeded lomatium	LOMA3	9079325	pxn, dlv
<i>Lupinus adsurgens</i>	Drew's silky lupine	LUAD	9079426	sfp
<i>Penstemon roezlii</i>	Roetzl's penstemon	PERO12	9079419	pxn, sfp
<i>Poa secunda</i>	Sandberg blue grass	POSE	9079394	sfp
<i>Polemonium carneum</i>	royal Jaccob's ladder	POCA4	9079424	pxn
<i>Potentilla glandulosa</i>	sticky cinquefoil	POGL9	9079427	pxn, sfp
<i>Rupertia physoides</i>	forest scurf peas	RUPH3	9079323	sfp
<i>Scirpus microcarpus</i>	panicled bulrush	SCMI2	9079386	pxn
<i>Sisyrinchium bellum</i>	western blue-eyed grass	SIBE	9079420	trl, pxn
<i>Triteleia hyacinthina</i>	white hyacinth brodiaea	TRHY3	9079421	pxn
<i>Wyethia angustifolia</i>	California compassplant	WYAN	9079389	pxn, dlv
<i>Xerophyllum tenax</i>	common beargrass	XETE	9079385	pxn, dlv

1- sfp= seed increase, trl= germination research trials, pxn=plant production, dlv=plant materials delivery

III. Experimental Propagation

There was no experimental propagation in 2007.

IV. Field Seed Increase

The PMC did not establish any new fields from seed in 2007. Fields that were established in 2004 finally were discontinued due to poor spring emergence. *Festuca californica*, *Festuca roemerii*, and *Melica harfordii* fields were plowed under. All newer fields were

looking fair except the *Polemonium carneum* and *Festuca elmeri* fields. *P. careneum* plants looked extremely stressed and many did not survive the winter. The remaining plants were dug up and put into pots that were placed in the shadehouse. The plants did very well in the shadehouse. The *F. elmeri* plants struggle with the heavy saturated soils in the winter and the late summer drought at the PMC. The field was mulched and summer moisture did not seem terribly limiting.

The *Bromus lavipes* field had a vigorous spring emergence and the field looked full and green. During a few days in March, however, the PMC experienced freezing temperatures following heavy rains. After this, the *B. lavipes* field turned a red hue and many plants did not survive. The field was still worth harvesting but was removed after harvest.



Figure 2. *Penstemon roezlii* seed increase field, Corvallis Plant Materials Center, June 10, 2007.

this spring. This might have been a delayed response to being accidentally tilled the previous spring. Transplants are being grown to replace the lost rows of plants.

Eriogonum umbellatum and *Penstemon roezlii* fields were expanded using container plants that were grown in 2006. The *E. umbellatum* transplants did not flower this year, but the established plants flowered heartily. *P. roezlii* transplants flowered and set seed this year, but were less vigorous than the established plants. The spring freezes caused many new transplants to frost heave. PMC employees returned to the fields and replanted all the transplants and no plants were lost.

The *Potentilla glandulosa* field was very spotty in 2006 and in the fall/winter of 2006/2007 the plants were dug up and transplanted to form full rows. These plants grew and flowered. Transplanting seemed to decrease the vigor of the plants, but they are expected to make a full recovery.

At least half of the *Rupertia physiodes* field did not emerge

Lupinus adsurgens plants flowered this year. Plants were very healthy and produced a lot of good seed. No seed or plant predation was noticed on any of the plants. This species is thriving at the PMC.

Table 2. Yields from seed increase fields at the Corvallis Plant Materials Center in 2007.

Species	Field Size (ac)	Method	harvest dates	Yield	Comments
<i>Achnatherum lemmonii</i>	0.03	hand	26-Jun	48 g	fair stand, low vigor
<i>Bromus lavipes</i>	0.25	seed stripper	11-Jul	11 lbs	poor stand, good vigor
<i>Eriogonum umbellatum</i>	0.015	hand	28-Jun	2.7 lbs	excellent stand, high vigor
<i>Festuca roemerii</i>	0.25	seed stripper	2-Jul	9.5 lbs	good stand, medium vigor
<i>Lupinus adsurgens</i>	0.01	hand	Jul 9-Aug 20	2 lbs	good stand, high vigor
<i>Penstemon roezlii</i>	0.02	hand	6-Aug	8.5 lbs	excellent stand, high vigor
<i>Poa secunda</i>	0.5	seed stripper	22-Jun	16 lbs	excellent stand, high vigor
<i>Potentilla glandulosa</i>	0.01	hand	4-Jul	25 g	small stand, medium vigor
<i>Rupertia physoides</i>	0.01	leaf blower	6-Aug	192 g	good stand, high vigor

Field notes 2006:



Weed control in the forb and legume seed increase fields was performed mainly by hand weeding and rouging. Borders were cultivated. Most fields were spot-sprayed with glyphosate using a shielded backpack sprayer to control exotic bentgrasses and other rhizomatous weeds. All grass fields were sprayed with Banvel in the spring to control broadleaf weeds, except the *B. lavipes* field. It was looking stressed so it was not sprayed. All grass fields (only the portions that were over 1 year old) were fertilized in October 2006 with 25 lbs/ac nitrogen (N) and in February 2007 with 50 lbs/ac N plus 15 lbs/ac sulfur (S). Grass fields were burned using drip torches following harvest. In mid October, Outlook (a non-selective pre-emergent herbicide) was applied to some fields that had been harvested in 2007 (*Poa secunda*, *Achnatherum lemmoni*). Outlook was used for the first time at the

Figure 3. *Lupinus adsurgens* seed increase field, Corvallis Plant Materials Center, July 2, 2007.

PMC in 2006. No plant damage was observed and weed control was very good. It may not need to be applied to fields every year. This fall, Outlook was only applied to fields that had not received the Outlook treatment in the fall of 2006.

V. Container Plant Production.

Containers of *Triteleia hyacinthina*, *Scirpus microcarpus*, *Sisyrinchium bellum*, *Juncus ensifolius*, *Juncus tenuis*, and *Iris douglasiana* were cared for throughout the summer in an outdoor shadehouse. The plants were too small to be transplanted out in early spring; they will be transplanted out into fields in the spring of 2008.

Table 3. Containerized plant production at the Corvallis PMC in 2007 for the BLM Medford District.

Species	Accession #	Amt.	Treatment	Purpose
<i>Achnatherum lemmonii</i>	9079398	500	70 days cold stratification	field expansion
<i>Iris douglasiana</i>	9079417	120	90 days cold stratification	field establishment
<i>Juncus ensifolius</i>	9079418	70	45 days cold stratification	field establishment
<i>Juncus tenuis</i>	9079388	125	45 days cold stratification	field establishment
<i>Penstemon roezlii</i>	9079419	200	outside overwinter	field expansion
<i>Polemonium carneum</i>	9079424	100	outside overwinter	shadehouse production
<i>Potentilla glandulosa</i>	9079427	200	outside overwinter	field expansion
<i>Rupertia physoides</i>	9079323	200	scarification	field expansion
<i>Sisyrinchium bellum</i>	9079420	200	90 days cold stratification	field establishment



VI. Delivery of Plant Materials

Doug Kendig visited the PMC on April 20, 2007 and picked up plants that were grown for the 2006 agreement.

Figure 4. *Polemonium carneum* plants flowering at the Corvallis Plant Materials Center, June 10, 2007.

Table 4. Plants picked up by BLM staff on April 20, 2007

Species	Accession #	Amount
<i>Lomatium macrocarpum</i>	9079325	80 cones
<i>Wyethia angustifolia</i>	9079389	175 cones
<i>Xerophyllum tenax</i>	9079385	150 cones

Table 5. Current seed in storage at Corvallis Plant Materials Center, December 30, 2007.

Scientific name	Code	Accession #	Seed in storage	
			Produced by PMC	Provided by BLM
<i>Achnatherum lemmonii</i>	ACLE8	9079398	48 g	
<i>Bromus carinatus</i>	BRCA5	9079397	621 g	2340 g
<i>Bromus lavipes</i>	BRLA3	9079393		
<i>Bromus lavipes</i>	BRLA3	9079396	33 lbs	64 g
<i>Cimicifuga elata</i>	CIEL	9079390		14 g
<i>Darlingtonia californica</i>	DACA5	9079391		6 g
<i>Eriogonum umbellatum</i>	ERUM	9079425	2.7 lbs	5 g
<i>Festuca californica</i>	FECA	9079399		836 g
<i>Festuca californica</i>	FECA	9079327	42 lbs	
<i>Festuca elmeri</i>	FEEL2	9079422	24 g	21 g
<i>Festuca roemerii</i>	FERO	9079395	9.5 lbs	803 g
<i>Festuca romerii</i>	FERO	9079326	339 g	
<i>Frasera umpquaensis</i>	FRUM	9079387		
<i>Iris douglasiana</i>	IRDO	9079417		72 g
<i>Juncus ensifolius</i>	JUEN	9079418		2 g
<i>Juncus tenuis</i>	JUTE	9079388	1 g	13 g
<i>Lomatium macrocarpum</i>	LOMA3	9079325		129 g
<i>Lupinus adsurgens</i>	LUAD	9079426	2 lbs	
<i>Lupinus albifrons</i>	LUAL4	9079322	29 g	
<i>Melica harfordii</i>	MEHA2	9079328	6 lbs	
<i>Penstemon roezlii</i>	PERO12	9079419	9 lbs	1 g
<i>Poa secunda</i>	POSE	9079394	16 lbs	2372 g
<i>Polemonium carneum</i>	POCA4	9079424		1 g
<i>Potentilla glandulosa</i>	POGL9	9079427	25 g	1 g
<i>Rupertia physoides</i>	RUPH3	9079323	1 lb	
<i>Scirpus microcarpus</i>	SCMI2	9079386		33 g
<i>Sisyrinchium bellum</i>	SIBE	9079420		8 g
<i>Triteleia hyacinthina</i>	TRHY3	9079421		8 g
<i>Wyithia angustifolia</i>	WYAN	9079389		
<i>Xerophyllum tenax</i>	XETE	9079385		226 g