

# **Seeds of Success Progress Report**

## **December 2014**

New agreement between Bureau of Land Management (BLM) and Alaska Plant Materials Center (PMC) was signed in September. Since the goals of the project haven't changed, this report outlines activities that were conducted during the previous agreement as well as the new one (calendar year 2014).

During 2014 main activities were:

- Establishing new field plantings
- Maintenance of existing plantings
- Field harvest and assistance with seed collection
- Seed cleaning

### **Establishing new field plantings**

Species selected for seed increase were collected in areas where disturbances of the natural vegetation occurred. Those areas of collection are McGrath, Copper Basin, Cold Foot, and South Central Alaska. Following species were selected:

*Arctagrostis latifolia* AK930-527

*Arctagrostis latifolia* AK 930-165

*Deschampsia cespitosa* AK 930- 159

*Festuca altaica* AK930- 105+156

*Poa alpina* AK930-162

*Hedysarum alpinum* AK930-544

*Hedysarum alpinum* AK930-522

*Artemisia tilesii* AK930-75



Fig.1. *Poa alpina* AK930-162



Fig.2. *Arctagrostis latifolia* AK930-165



Fig.3. *Artemisia tilesii* AK930-75 and *Hedysarum alpinum* AK930-522 planted “under” weed fabric.

### **Maintenance of existing plantings**

Most of the species planted in 2013 were established and harvested for the first time in the summer of 2014. Some die off was observed with *Calamagrostis purpurescens* AK 930- 463 (Fig.5.) and *Bromus inermis* AK930-480. Yields among them varied significantly. Even thou *Arctagrostis latifolia* AK 930-465 was well

established, it produced small amount of seed and none was harvested. *Festuca rubra* AK930-497 (Fig.4.) on other hand overwintered very well and produced significant amount of seed.



Fig.4. *Festuca rubra* AK930-497 vigorous plants



Fig.5 *Calamagrostis purpurea* AK930-463 very spotty planting

A weed management program was implemented in 2014. It included mechanical and chemical methods. Field plantings were fertilized in the beginning of the season.

### **Field harvest and assistance with field collection**

Following amounts of seed were harvested from field and box garden increase plots, (clean weight is indicated below):

*Festuca rubra* AK 930-497 3620g  
*Leymus mollis* AK930-456 1360g  
*Trisetum spicatum* AK930-389 230g  
*Poa alpina* AK930- 92 284g  
*Bromus inermis* AK930- 480 76.5g  
*Deschampsia cespitosa* AK930-452 47.3g  
*Calamagrostis canadensis* AK930-457 22.88g  
*Calamagrostis purpurea* AK930-463 4g  
*Hedysarum alpinum* AK930-95 146.26g  
*Oxytropis campestris* AK930-76 22.26g  
*Artemisia arctica* AK930-488 2.07g  
*Chamerion latifolium* AK930-391 1.31g



Fig.6. Field

harvest of Beach Wild Rye (*Leymus mollis*) with Wintersteiger combine.



Fig.7. *Festuca rubra* before harvest (07/01/14) and after (09/10/14)

Field seed harvest is done with combine or by hand. When possible the preferred method of harvest is with combine. This saves time, but if the plot is not clean weeds will be harvested as well. When the use of combine is not feasible or possible seed is harvested by hand. Harvesting by hand is slow, but it's easy to harvest just the crop and avoid harvesting any other species. Also if seed maturation is uneven, immature seed can be skipped and harvested later when ready.

PMC staff assisted with acquiring new seed collections in 2014. Staff made trip to chicken, AK and twenty collections were made.

### **Seed cleaning**

The seed cleaned at the PMC includes field increases and new collections.

After cleaning the amount of seed from field increases is over twelve pounds.

During this season staff obtained seventy one collections. Number of seed per gram and the approximate number of seed in the seed lot will be calculated. Total weight of the clean seed exceeds six pounds.

Out of these collections 10,000 seeds of each seed lot were sent to the Plant Introduction Station in Pullman, WA. The rest will be kept at the PMC.