

COLORADO

Dr. Gary L. Noller

Upper Colorado Environmental Plant Center

5538 RBC #4
Meeker, CO 81641

2006 WERA021 Progress Report

INTRODUCTION

Upper Colorado Environmental Plant Center (UCEPC) is a non-profit corporation organized by two Rio Blanco County, Colorado, Conservation Districts. It is operated with technical assistance from the USDA Natural Resources Conservation Service (NRCS) as well as assistance from other federal and state agencies, and the private sector. UCEPC is situated on a 269 acre site near Meeker, Colorado. The plant center's service area is the Upper Colorado River Basin. The region is mountainous with high plateaus, open parks, mesas, and river valleys.

UCEPC has the following high priority areas identified in its long-range plan:

1. High altitude and disturbed lands revegetation
2. Vegetative treatment to improve water quality
3. Increased productivity and conservation of rangeland, pasture, and woodland resources
4. Wildlife habitat enhancement
5. Xeriscape and horticulture uses of native plant materials

HIGHLIGHTS

The plant center had no new plant releases in 2006.

In 2005, the plant center **released two plants:**

1. Pueblo Germplasm Bottlebrush Squirreltail Selected Class Release.
This release, along with Wapiti germplasm, will represent the only releases of *ssp. brevifolius* from single sources. Pueblo was collected in 1976 in the wet mountains southwest of Pueblo, Colorado. It is intended for use on oil shale, coal and mined land, and transmission corridors as well as for erosion control on cropland and rangeland.
2. Wapiti Germplasm Bottlebrush Squirreltail Selected Class Release.
Wapiti was collected in 1981 near Buford, Colorado. Its intended use is the same as the Pueblo source.

In 2006, only one **seed production planting**, listed below, was established at the plant center.

Plant Center Materials

1. 'Luna' Pubescent wheatgrass 1.3 ac

In 2006, the following four seed production plantings which were planted in 2005 were reseeded.

Plant Center Materials

1. 'Timp' Utah sweetvetch 1.0 ac (spaced planting)
2. Wapiti Squirreltail 1.0 ac

Bureau of Land Management Materials

3. Utah sweetvetch 1.0 ac (spaced planting)

National Parks

4. Blue grama (Great Sand Dunes) 1.0 ac

The following new **studies** were initiated at the plant center in 2006.

1. Junegrass Seeding Study (The study started in 2005, but due to poor germination was reseeded in 2006.) This study should help determine the best planting times and methods for establishing prairie Junegrass.
2. Direct Seeding of Native Shrubs Under Field Conditions to Determine Success. (Nine shrubs with three replications.)
3. Greenhouse Study to Determine Germination Rates without Stratification. (Same shrubs used as in study No. 2 above)
4. To determine the success of direct seeding some better performing shrubs under field conditions. (Sixteen shrubs with three replications)

The following are 2006 **demonstration plantings**.

1. The Use of Woody Species for Windbreaks. (Phase I with one species planted)
2. Grass and Forb Releases and Experimentals for Demonstration Training and Education. (Forty-five species planted.)
3. Harvey Gap Demonstration Planting. (Twenty releases or accessions of grass were planted near Rifle, Colorado.)

The following are new **field plantings**.

1. The Bluebell, Utah, FEP was started in 2006. Located NW of Roosevelt, Utah, the planting will examine the performance of native grasses and shrubs. (Only grasses were planted in 2006, will have 50 entries with four replications.)

2. Questar FEP Wyoming. Assisted in a shrub planting southwest of Pinedale, Wyoming. The shrub planting is seen as a critical step to help avert any long-term negative impacts on wintering mule deer in this heavily utilized winter range.

In August, a **meeting** and **tour** was provided for the North Platte, White, and Yampa River Watershed Program. Approximately 30 participants attended the meeting and tour.

The PMC manager attended the West Region Plant Materials Program Meeting in Portland, Oregon. Information was exchanged relating to projects and plant materials development as well as national issues.

Training of Colorado and Wyoming NRCS employees in plant materials was provided by the plant center in 2006. Eleven participants attended the two day session.

A two-day **training** was conducted for US Forest Service personnel on seed collection. One day was spent in the mountains near Steamboat Springs, Colorado, and one day at the plant center.

Plant Guides, Fact Sheets, and Brochures were developed for two releases from the plant center: 'Timp' Utah sweetvetch and Maybell antelope bitterbrush.

ONGOING PROJECTS

1. Release of Maybell Source Antelope Bitterbrush
Antelope bitterbrush, *Purshia tridentata*, is a native shrub given high priority for oil shale restoration, wildlife habitat improvement, and rangeland seeding. The Maybell source was collected near Maybell, Colorado. A selected class release was approved in early 1997, and seed is available to commercial growers. A project has been initiated to re-establish Maybell bitterbrush on its original site after a series of fires destroyed most of the original stand. Bitterbrush has been planted and evaluated at the site. A study on the fate of fall-sown bitterbrush seed at Maybell, Colorado was completed in 2002. A project to examine the effects of seed age on bitterbrush establishment was completed in 2004.
2. Northwest Colorado Prairie Junegrass Crossing Block
Seed from the crossing block was bulked and used for a 1-acre planting in 2002. The 1-acre planting was harvested in 2003, 2004, 2005, and 2006. The seed will be used to develop a Northwest Colorado release of prairie Junegrass.
3. Increase of Salina Wildrye
Salina wildrye is a native, cool season, bunchgrass found on rocky slopes and sagebrush hills in Colorado, Idaho, Utah, and Wyoming. The grass is quite drought and alkali tolerant and should be important for reclamation of mined lands, roadsides, surface-disturbed sites, and areas of heavy use. Two plantings on the center are harvested, but have only provided small quantities of seed. Both plantings were harvested in 2006. An additional planting of Salina wildrye was added in 2004.
4. Shrub Orchard – Transplanted Woody Species
Shrubs have been evaluated for survival, vigor, and wildlife usage. Certain accessions have

been identified for xeriscape landscaping and horticulture plantings. An updated report on this project is developed each year.

5. **Cooperative Agreements** – National Park Service - In 2006, UCEPC had cooperative agreements with Rocky Mountain, Mesa Verde, Grand Teton, Bryce Canyon, and Great Sand Dunes National Parks, and Dinosaur National Monument.

Colorado BLM – The plant center renewed an agreement with BLM for the production of five species that will be used for revegetation after fires.

Uncompahgre Restoration Project – The plant center is producing four species from small seed increase plantings that are targeted by seed growers for restoration of the Uncompahgre Plateau in Colorado and Utah.

6. UCEPC is currently responsible for breeder’s class and/or foundation class seed of the following cultivars:

‘Arriba’ western wheatgrass	Maybell – source antelope bitterbrush
ARS-2678 Kura clover	‘Montane’ mountain mahogany
‘Bandera’ Rocky Mountain penstemon	‘Peru Creek’ tufted hairgrass
Garnet mountain brome	‘Redondo’ Arizona fescue
‘Hatch’ winterfat	‘San Luis’ slender wheatgrass
‘Hobble creek’ mtn. big sagebrush	‘Summit’ Louisiana sage
‘Hycrest’ crested wheatgrass	‘Timp’ northern sweetvetch
‘Luna’ pubescent wheatgrass	‘Volga’ mammoth wildrye

CURRENT PUBLICATIONS AND PAPERS

Maybell bitterbrush – Division of Wildlife – 2006 project report 08A210, (which includes COPMC-T-9802-WL Caching and Tubling Plants in Plots and COPMC-T-9803-WL Tubling Plants in Rows).

Seed production – a plant center report for 2006

Live plant production – a plant center report for 2006

Transplanted orchard woody species – 2006 project report 08I020J

2006 reports for National Parks:

Bryce Canyon
Dinosaur National Monument
Grand Teton
Great Sand Dunes
Mesa Verde
Rocky Mountain

Northwest Colorado Junegrass – 2006 project report 08A207

Monthly and annual weather report for plant center, 2006

Smooth brome comparison – 08A209

Notice of release for both Pueblo and Wapiti germplasm bottlebrush squirreltail