

COLORADO

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Upper Colorado Environmental Plant Center

**5538 RBC #4
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2007 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 2007.

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.

The following are some of the studies that were active on the plant center in 2007.

1. Blue wildrye initial evaluation planting of 33 accessions with three replications. Evaluations will be initiated in 2008.
2. Evaluation of Indian ricegrass for heavy soils. Past releases of Indian ricegrass are primarily adapted to light or medium textured soils. Twelve accessions including three standards for comparison are identified for advanced evaluation.
3. A study to look at smut prevention for Garnet mountain brome. Head smut is a seed production problem for many brome grasses including mountain brome. The use of seed protectorants and time of planting will be examined. The trial should help to understand some possible measures for head smut prevention for mountain brome.

The following are recent off center plantings.

1. Snowmass-Monastery field evaluation planting. Four replications of 38 plant materials were planted for testing at a high elevation. The planting was done at an elevation of 8000 feet and will provide information for plantings in the Central Rocky Mountains.
2. Harvey Gap Demonstration Planting. Twenty releases or accessions of grass were planted near Rifle, Colorado. This study was originally planted in 2006 but was replanted in 2007 due to poor establishment and cheatgrass competition.
3. Bluebell FEP, Utah, 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, the FEP will have 50 entries with four replications.)
4. 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.
5. Cheatgrass control with fall applied herbicides. Three herbicides were used in three replications and compared against control plots for cheatgrass abundance one year after application. Herbicides used in the study included Plateau, Select and Roundup. Select followed by Plateau provided the best control.

TOURS

Tours were provided to the Master Gardeners of Douglas County, Denver Botanic Gardens, and Ag in the Classroom. In addition tours were conducted for the annual District's barbeque and the Technical Advisory meeting.

TRAINING

Training of Colorado NRCS employees in plant materials was provided by the plant center in 2007. Fourteen NRCS participants attended the two day session.

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. 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 2007. An additional planting of Salina wildrye was added in 2004.
3. 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.
4. Cooperative Agreements – National Park Service - In 2007, 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.

5. UCEPC is currently responsible for breeder’s class and/or foundation class seed of the following plant materials:

‘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

TECH NOTES

Tech notes on Utah sweetvetch, Pueblo and Wapiti bottlebrush squirreltail were prepared in 2007.

REPORTS

An annual technical report was completed, a progress report of activities and 12 individual progress reports. Some of the reports are listed below.

Maybell bitterbrush – Division of Wildlife – 2007 project report 08A210, (project 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 2007

Live plant production – a plant center report for 2007

2007 reports for National Parks:

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

Monthly and annual weather report for plant center, 2007

Smooth brome comparison – 08A209