Upper Colorado Environmental Plant Center 2010 Progress Report of Activities

Upper Colorado Environmental Plant Center
5538 RBC 4
Meeker, CO 81641
Phone: (970)878-5003
Fax: (970)878-5004
http://plant-materials.nrcs.usda.gov/copmc/

Sims Mesa

The Bureau of Land Management (BLM), Uncompahgre Plateau Project (UP) and Upper Colorado Environmental Plant Center (UCEPC), have been working cooperatively to establish a field planting on the Uncompahgre Plateau near Montrose Colorado.

On November 2 and 3, 2010, the planting was installed by BLM, Uncompahgre Plateau personnel and UCEPC personnel. Prior to installation, a draft plant species list was prepared, materials for consideration were from UP collections, Forest Service collections and from UCEPC. A final materials list was created and UCEPC personnel assembled the materials.

Planting at Sims Mesa on November 2, 2010.

Materials included in the planting were; basin wildrye *Leymus cinereus*, bluebunch wheatgrass *Pseudoroegneria spicata*, bottlebrush squirreltail *Elymus elymoides*, Indian ricegrass *Achnatherum hymenoides*, muttongrass *Poa fendleriana*, western wheatgrass *Pascopyrum smithii*, prairie Junegrass *Koeleria macrantha*, salina wildrye *Leymus salinus*, Sandberg's bluegrass *Poa secunda*, needle and thread *Hesperostipa comata*, sand dropseed *Sporobolus cryptandrus*, dwarf rabbitbrush *Chrysothamnus depressus*, Lewis flax *Linum lewisii*, multi-lobed senecio *Senecio multilobatus*, *Penstemon* spp., silky lupine *Lupinus sericeus*, sulphur buckwheat *Eriogonum umbellatum, and* Utah sweetvetch *Hedysarum boreale.* There were 45 entries used in the planting. Each plot was replicated four times, five-feet wide by twenty-feet long with four rows per plot. The planting will be monitored annually by UCEPC, BLM and UP staff.

Seed Training 2010

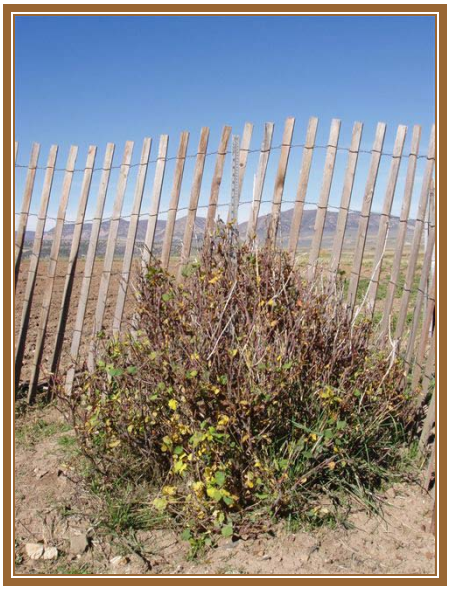
On August 5, 2010, UCEPC collaborated with the Tamarisk Coalition to provide a native seed collection training in Clifton, Colorado. Attendees participating in the training included Tamarisk Coalition employees, Natural Resource Conservation Service, Division of Wildlife, Department of Interior, National and State Park employees, and private restoration companies. The morning began in the classroom where UCEPC staff; Steve Parr, Terri Blanke, Gary Noller and Heather Plumb, covered the basics of seed collection, techniques, equipment, documentation, shipping and storage. After the classroom training, a trip to Orchard Mesa Wildlife Area, located in Clifton, provided a riparian corridor for the group to try some hands-on collecting. The afternoon was spent collecting various plant materials ranging from alkali sacaton to skunkbrush. Plant materials collected during the training will be used by the Tamarisk Coalition for revegetation after tamarisk removal.

Seed training group in the field.

Clark's Source Serviceberry

Wildlife habitat enhancement is a high priority resource concerns at UCEPC. Presently, Saskatoon serviceberry, *Amelanchier alnifolia*, is a native shrub being studied by UCEPC, targeting the plant material needs of our service area. One of the original seed collections for *Amelanchier alnifolia* was made by Glenn Niner in Clark, Colorado, a small town in Routt County resting near 7200 feet. Coming from this location, the so named "Clark's source" serviceberry project began in 1977. The shrub's superior performance in the UCEPC orchard prompted isolation and further evaluation. In 1991, sprigs were dug and moved to a windbreak along with silver buffaloberry and black chokecherry. For 15 years, the three shrubs grew side by side. In 1996, the silver buffaloberry and black chokecherry stood 15 feet tall and produced fruit. However, the Clark's source serviceberry had been so heavily browsed by the resident deer herd, that growth was minimal and the plants were unable to mature enough to begin fruit production. In an effort to stimulate growth in 2006, UCEPC staff fenced each individual shrub with five-foot tall snow fence. Over the next four years new leader growth on the small shrubs averaged 12 inches and in 2010 seed was harvested for the first time.

Even today, the deer keep the shrubs confined to the perimeters of their protective fencing. UCEPC has determined the root-sprouting shrub to be winter hardy, moderately drought tolerant and extremely tolerant of wildlife browsing.



Clark's source serviceberry in 2006.

The resident deer herd.

Clark's source serviceberry in spring 2010.

UCEPC Donations

Uintah High School Native Garden, Fort Duchesne, Utah

A delivery of 139 plants was made to Uintah River High School students and faculty. The materials were used in a Native American cultural garden. The garden was broken down into three ecosystems; mountain, riparian and desert. These ecosystems represented the life zones and the plants used by the Ute Indians for food, fiber and medicine. The UCEPC staff members not only delivered the plants, but spent the majority of the day helping the kids plant the materials.

Rio Blanco Science Camp, Meeker, Colorado

UCEPC staff donated their time and 61 plants to Eastern Rio Blanco County Metropolitan Recreation & Park District for their annual children's science camp. The theme for this year's science camp was native nature, and a garden was to be planted. The garden represented the native plants local wildlife and pollinators use to survive.

Science Camp students planting.

The Ute Ethnobotany Learning Garden, Grand Junction, Colorado

Shrubs, forbs and grasses were donated to the CSU Extension office by UCEPC for their Ute Ethnobotany Learning Garden. Plants donated represented the mountain zone used by the Ute Native Americans.

Carpenter Ranch, Steamboat, Colorado

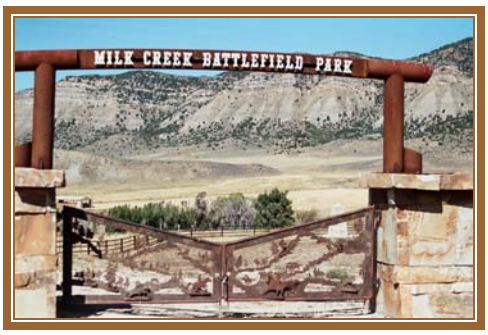
UCEPC donated various shrubs, grasses and forbs to The Nature Conservancy's Carpenter Ranch. The ranch is turning the lawn behind the historic ranch house into an interpretive garden that will draw on native and heritage plants.

Steamboat Community Garden, Steamboat, Colorado

Shrubs, grasses and forbs were donated by UCEPC to be planted in the local Steamboat community garden.

Thornburg Battlefield Memorial, Meeker, Colorado

For several years now, UCEPC staff has donated time and plant materials to the memorial project. This year, 75 plants were donated to help with further landscaping of the site.



Thornburg Battlefield entrance gates.

Indian Ricegrass for Heavy Soils

There are several commercial Indian ricegrass sources available that perform reasonably well on light textured or well-drained soils. However, Indian ricegrass also occurs on heavy textured soils, but there is no release that is specifically targeted for use on such sites. UCEPC assembled a collection of Indian ricegrass, *Achnatherum hymenoides* and planted 55 accessions collected on heavy soils in an Initial Evaluation planting on July 12, 1991. The project was evaluated until 1998, and nine products were selected to investigate further in an Advanced Evaluation. The Advanced Evaluation project was planted July 29, 2004, and has been evaluated through 2010 at UCEPC.

Accession "661"

Indian ricegrass is a native, cool-season, perennial bunchgrass. It grows one to two-feet tall and is often a major stand component of harsher, sandy sites throughout the western United States. It occurs in Canada from Manitoba to British Columbia, in the United States it is found in all states west of the Missouri River, and northern Mexico. While the species is best adapted to dry, sandy soils, it can also be found on clayey, silty, and shaley sites. It does well on southern exposures, especially at higher elevations. Indian ricegrass is found in the 6 to 18-inch precipitation zone at elevations ranging from 2,000 to 10,000 feet. Stands tend to be short-lived (three to four years) and reproduction is primarily from seed. It is very drought tolerant and is often a pioneer species on open or disturbed sites. It tends not to compete well with other perennial grasses. Indian ricegrass moderately tolerates saline or alkaline soils, but does best under more mesic conditions. The species performs poorly under shade and high water tables.

Accession "749"

Indian ricegrass is highly palatable and serves to provide nutritious forage for wildlife and livestock under harsh site conditions. It reaches peak production from mid-June through mid-July, holding its nutrient value at maturity. It also has strong potential for use with mined land reclamation, critical area stabilization, and as a standing winter feed.

Seed Yield Comparison for 12 Entries of Indian Ricegrass *Achnatherum hymenoides* Grown at UCEPC (2006-2009).

Accession/ Release	Seed Yield (lb/acre) Year				Seed yield(lb/Acre) 4-Year Avg.	Collection Site
	2006	2007	2008	2009		
9024741	191	96.2	121	149.12	139.33	Pagosa, CO
902661	113.8	180.7	58.1	229.21	145.45	Delta, CO
9024739	165.2	117.3	66.6	142.59	122.92	Pagosa, CO
9024749	95.7	195.3	51.2	225.08	141.82	Durango, CO
9024715	119.9	160.7	40.5	158.98	120.02	CO Springs, CO
Rimrock	165.5	77	66.1	153.25	115.46	Bridger, MT
9024735	103.1	97.8	51.2	149.12	100.31	G. Junction, CO
9024664	68.2	155.1	13.4	161.64	99.59	Moffat Co., CO
9024716	58.4	138.6	12.8	168.44	94.56	CO-Springs, CO
Paloma	24	138.8	33.6	92.22	72.16	Pueblo, CO
Nezpar	83.7	57.8	38.4	82.75	65.66	Whitebird, ID
9024818	13.3	90.1	3.2	68.76	43.84	Unknown
Mean	**100.15**	**125.45**	**46.34**	**148.43**	**105.09**	

Twelve entries, nine accessions, and three cultivars used as standards for comparison were planted. The rate of seeding was 30 pure live seeds per linear foot of row. The soil for the study site was identified by Charles Peacock, USDA-NRCS Soil Scientist, to contain 27 percent clay (texture class-silty clay loam) in the surface with an average of 40-50 percent clay (texture class-clay) in the subsoil.

A four year average for seed yield is provided above, including the source from which the collection was obtained. Final analysis will determine the number of collections that will be increased, but seed of each of the superior sources will be available by 2012 for field plantings with at least one source for release to follow soon afterward.

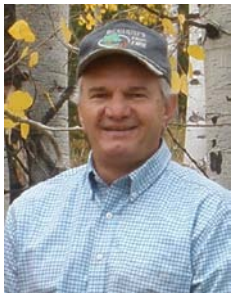
Who We Are

Upper Colorado Environmental Plant Center is a non-profit facility owned and operated by two conservation districts in northwest Colorado. The 269-acre Plant Center is located at an elevation of 6500 feet with 16 inches of annual precipitation and a 90-day frost free growing season. UCEPC is unique in that it is the highest elevation Center within the Plant Materials system. Our service area includes mountains, deserts, and plateaus of the Rocky Mountain West. UCEPC works to ensure an improved quality of life for people and those affected by human activities. We provide quality plant materials and associated technology to those engaged in natural resource management. Each of us understands the importance of plants in our lives. From a golf course fairway to a forested mountain; a houseplant to an alpine meadow. Plants and their successful management, affect our quality of life. It is our mission to conserve or improve environmental conditions through the wise use of plants.

High Priority Areas

Presently, there are many plant species and projects at UCEPC, which our Technical Advisory Committee has identified as providing substantial benefit for resource conservation. These projects fall into one of five identified High Priority Areas:

- Revegetation of high altitude and disturbed land
- Increased productivity of rangeland and pastures
- Improved water quality
- Wildlife habitat
- Use of native plants in xeriscape and horticulture

PMC Staff

Steve Parr, PMC Manager
Marti Walsh, Assistant Manager
Terri Blanke, Plant Technician
Heather Plumb, Plant Scientist-Range Plants
Rodney Dunham, Farm Foreman
Johnnie Barton, Field Technician