

Progress Report of Activities 2005



UCEPC

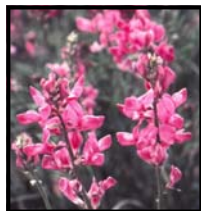
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Upper Colorado Environmental Plant Center

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About Us

Upper Colorado Environmental Plant Center (UCEPC) is a non-profit facility owned and operated by two soil conservation districts in northwest Colorado. The 269 acre center is located at an elevation of 6,500 feet with 16 inches of annual precipitation and a 90 day frost free growing season. Our service area includes mountains, deserts, and plateaus of the Rocky Mountain west.



'Timp' Utah Sweetvetch

Our Goal

Upper Colorado Environmental Plant Center 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.



'Arriba' Western Wheatgrass

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



'San Luis' Slender Wheatgrass

Our Purpose

UCEPC is unique in that it is the highest elevation center within the Plant Materials system. A vital need was identified over 25 years ago within NRCS and among many NRCS customers for plant materials and associated technology for high elevation uses.

Garnet



Mountain Brome

Tri-State Plant Materials Training

The Meeker Plant Center provided plant materials training to 23 NRCS employees from Utah, Colorado and Wyoming. The two-day training was held at the Meeker Plant Center on June 21-22, 2005. The agenda covered a diversity of topics including: purpose and function of the plant materials program; hands-on plant identification and collection, seed quality, drill calibration, riparian restoration, windbreak planning & design, and a field tour of plant materials application. A handbook with plant materials publications and references was provided to each student.



Windbreak planning & design



Plant materials application on BLM burned land.

Special Local Need Granted

In collaboration with Colorado State University, Bioagricultural Sciences and Pest Management Department, the Meeker Plant Center initiated a request for a "special local need" registration for the chemical Enhance Vitavax-Captan 20-20 for the control of smut in Garnet Germplasm mountain brome *Bromus marginatus*.

Under Section 24© of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), Colorado can register additional uses of a federally registered pesticide. These additional uses are for distribution and use within a particular state to meet a "special local need". This type of registration saves time and financial resources involved in registering a pesticide for a special local need.

Enhance Vitavax Captan 20-20 is a seed protectant fungicide registered for treatment of wheat, oat, barley and soybean seed on the farm at planting time. As such, it was not registered for seed treatment in native grasses. A special local need (24c) registration for Colorado was granted this summer. This chemical can now be used in Colorado for treatment of *Bromus* species, the genus *Elymus* and *Hordeum brachyterum*.

An applicator must have the 24© Supplemental Label in their possession to apply "Special Local Need" products.

A summer and fall trial was planted this year at the Meeker Plant Center to determine efficiency of the chemical and best time to plant to control head smut in Garnet Germplasm mountain brome. Evaluations will be conducted in year 2006 and year 2007.

UCEPC Provides Information to Enhance Conservation Efforts for the Greater Sage-Grouse

Conserving the Greater Sage Grouse is a major challenge to conservation partners in the 11 Western states with sage grouse populations. Sage-Grouse inhabit a complex sagebrush ecosystem which is home to multiple species of concern. In an effort to aid in this conservation challenge and to better educate the public, UCEPC published the fact sheet titled "Profile of the Greater Sage-Grouse" highlighting specific information about the bird, habitat, diet and reproduction. More than 500 copies of the fact sheet were distributed throughout NRCS field offices in Colorado, Utah and Wyoming in year 2005.

The greater sage-grouse was on the brink of being listed as an endangered species. However, in January 2005, after completing its status review of the greater sage-grouse throughout its range, the U. S. Fish and Wildlife Service determined that the species does not warrant protection under the Endangered Species Act.



If you would like to obtain copies of the fact sheet, please contact Patrick Davey, Colorado Plant Materials Specialist, or contact the Center.

Boulder County Demonstration Planting



Assuring proper seed flow

Colorado NRCS Plant Materials Specialist Pat Davey, along with Upper Colorado Environmental Plant Center, Boulder County Parks and Open Space, USDA-NRCS Longmont Field Office, Longmont and Boulder County Conservation Districts, Pawnee Buttes Seed Company and Arkansas Valley Seed Solutions, established a Field Demonstration Planting March 7-9, 2005 on a site north of Boulder, Colorado.

The planting was conducted in MLRA 49, along the Front Range of Colorado. This area is exemplified by rapid urban and residential growth, altered land use by abandonment of historic cropland, limited water and precipitation, and in many cases, invasion of non-native and noxious plants. The purpose of the planting is to allow small acreage owners as well as farmers and ranchers to see first hand the attributes and characteristics of a host of materials that are used in conservation work. Whether land owners are interested in low maintenance perennial cover to combat the encroachment of noxious weeds or reduce soil loss, add beauty or wildlife habitat to their land through Xeriscape products, improve production through pasture or hay land products, or initiate full scale prairie restoration, there are entries in the Demonstration Planting that will provide direct observations for everyone.

There are 65 entries in the planting. Each plot is 20 feet by 100 feet without replication. Of the entries, there are six mixes, two planting rates of a legume, and 57 grass plots. There are 16 non-native and 41 native grass entries to enable the comparison of a broad range of products best suited for the conservation needs of individual landowners.

South Park Conservation Field Trial

The South Park area of Colorado is characterized as a high, cold desert. The harsh growing conditions associated with this environment coupled with drought, historic overgrazing, and the transfer/removal of irrigation water have led to many degraded range sites in the Park. Some of the more productive native grasses, such as Arizona fescue, *Festuca arizonica* and prairie Junegrass, *Koeleria macrantha*, have been displaced. Low growing species, such as blue grama, *Bouteloua gracilis*, and fringed sage, *Artemisia frigida*, have taken the place of these more productive species. With the recent drought conditions, even blue grama has given way to fringed sage. Although fringed sage is a native plant, it has come to dominate many sites throughout the Park. It is particularly troublesome because it is low producing, is unpalatable to livestock, and is very competitive and persistent once established.



July planting



November planting

Upper Colorado Environmental Plant Center, Colorado State University, Natural Resources Conservation Service, Teller and Park County Conservation Districts and the Colorado Division of Wildlife cooperated to establish two conservation field trials south of Fairplay, Colorado. The purpose of the planting is to compare the most effective methods and products for re-establishing desirable vegetation on altered or degraded range sites in South Park. The study will evaluate various herbicides for controlling or reducing the density of fringed sage; reseeding at 2 different times – an early summer planting and a dormant fall planting - with both a native grass mixture and an introduced grass mixture on two different sites in South Park.



Pat Davey NRCS Plant Materials Specialist,
Manuel Rosales NRCS Conservation Agronomist,
Leon Kot NRCS District Conservationist,
Vern Vinson Teller-Park Conservation District
Board Member

The two sites differ primarily in the amount of organic matter in the soil profile, but are representative of several thousand acres within South Park, (MLRA 48B), with similar site characteristics.

Ranch of the Rockies south of Highway 24

This is an upland site that has experienced an increase in fringed sage due to the drought and past grazing practices. Although many of the native grasses are present at the site, their density and vigor have been significantly reduced which has allowed fringed sage to increase to the point where it dominates large areas.

63 Ranch east of Highway 285
(Owned by the Colorado Division of Wildlife)

The study site was formerly irrigated. When the water was transferred for municipal uses, most of the irrigated forage species eventually died and were replaced by fringed sage with minor amounts of dryland grasses such as bottlebrush squirreltail. There are many areas within the Park that went through this same successional process and are now dominated by fringed sage. Unlike the first site, this one has a layer of organic matter on the soil surface that accumulated when it was irrigated. This organic matter layer does not have good water holding capacity and tends to dry out quickly which makes it difficult to establish new plants.

Four different herbicides, Tordon, Cimarron, Curtail and 2, 4-D ester, were used with the project. The two grass mixes were compiled in part from results of an earlier trial in South Park. However, a number of new, untested products were also used in each mix. The native mix included western wheatgrass, Arizona fescue, mountain brome grass, Indian ricegrass, prairie Junegrass, bottlebrush squirreltail and Sandberg's bluegrass.

The introduced mix consisted of pubescent wheatgrass, intermediate wheatgrass, meadow brome grass, two releases of crested wheatgrass, Siberian wheatgrass and a hybrid wheatgrass.



Preparing to plant



Teller-Park Conservation District
Board Member Vern Vinson

Two planting times were selected to attempt to optimize the use of precipitation patterns. In mid to late July, South Park receives monsoonal flows from the southwest. This precipitation pattern generally lasts through early September. In order to capitalize on this monsoonal pattern, the first planting was done on July 6, 2005. The dormant, fall seeding was done November 2-3, 2005 to make use of early spring moisture for establishment prior to the very dry period of mid-May through June.

Evaluations will be initiated in 2006 at both planting sites. Data will be collected on the effects of the treatments for the following:

- Density and productivity of fringed sage
- Grass establishment as measured by seedling density
- Grass productivity by mix, either native or introduced