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**2006 ANNUAL PROGRESS REPORT
ON THE
COOPERATIVE AGREEMENT
BETWEEN
ROUTT-MEDICINE BOW NATIONAL FOREST
AND
UPPER COLORADO ENVIRONMENTAL PLANT CENTER
By: Steve Parr**

INTRODUCTION

Upper Colorado Environmental Plant Center (UCEPC) and Routt-Medicine Bow National Forest formally entered Cooperative Agreement 06-CS-11020604-042 in August of 2006. The agreement calls for the increase of a single species, blue wildrye, collected within the boundaries of Routt-Medicine Bow National Forest. In addition, UCEPC will initiate an Initial Evaluation Planting of no less than 30 accessions of blue wildrye collections from several seed collection zones from within Routt-Medicine Bow. These collections will serve as the primary components in the IEP. UCEPC is also to provide 16 man hours of seed collection training to forest service personnel, including sub-contractors.

Seed increase efforts will be limited to a single source collection, and will utilize collection ELGL-080106-A1 which is from California Park.

OBJECTIVES

There are multiple objectives which the agreement will attempt to complete. These objectives are outlined below.

- 1) UCEPC will train Routt Medicine Bow personnel in proper seed collection and curation methods.
- 2) Routt Medicine Bow National Forest personnel will make at least 30 collections of blue wildrye and western wheatgrass for initial evaluation plantings at UCEPC and North Park High School.
- 3) UCEPC will clean 30 forest service collections of each species for IEP use.
- 4) UCEPC will increase one-third acre of a single accession of Routt-Medicine Bow collected blue wildrye.
- 5) Routt-Medicine Bow National Forest and UCEPC will provide technical assistance to North Park High School faculty and students.

Native seed of local ecotypes is often limited at best, and more commonly is unavailable. The overall objective of this project is to share technology on seed collection methods so that successful collections of identified priority species can be obtained by Routt Medicine Bow National Forest. Once seed collections are obtained, common garden studies will be initiated at UCEPC to identify potential superior performers that can be released by UCEPC and increased by the commercial seed industry. In addition, because of the identified need of a source of local seed, UCEPC will also increase a one-third acre planting of blue wildrye for Routt-Medicine

Bow National Forest uses. Blue wildrye and western wheatgrass are also listed as high priority species for UCEPC, and collections for initial evaluations are important for project development.

METHODS

Plant Center facilities and operations were shown to John Proctor, Routt-Medicine Bow National Forest Botanist, on May 15, 2006. John had been instrumental in moving the project forward, and felt a tour of the Plant Center would be helpful.

Dr. Gary Noller and Steve Parr from UCEPC met John and several staff and seasonal employees of Routt-Medicine Bow National Forest on July 6 at California Park, north of Hayden, Colorado, for a hands-on training in seed collection methods. Methods for determining seed maturation and caryopsis development were identified, and handouts of publications covering the information were supplied for reference. Actual on site collections were evaluated for “filled” seed, and areas for collecting three species, western wheatgrass, blue wildrye and bluebunch wheatgrass were investigated for collection potential. After a day’s training, the collectors were confident in their ability to make successful collections.

On August 8, 2006, Mary Mahalovich, U.S. Forest Service Geneticist, and John Proctor visited UCEPC. Manuel Rosales and Steve Parr gave a tour to Mary and John on seed production, cleaning, storage, and harvest methods.

RESULTS

Collections of blue wildrye were conducted by Routt-Medicine Bow staff during July and August in four different seed collection zones in the Routt National Forest. In all, 39 accessions of blue wildrye were collected. Each of these collections was cleaned by UCEPC in December of 2006. There were also two limited collections of western wheatgrass that were provided to UCEPC for use in an initial evaluation planting. Cleaned seed quantities and Forest Service collection numbers and seed collection zones are provided in the table below for reference. UCEPC will inventory and accession each collection that is used for seed increase and in our Initial Evaluation Planting, but will need to obtain specific collection information prior to planting.

Seed Collection Zone	Species	Collection	Collection Date	Clean Seed (grams)
214	Blue wildrye	214-01	8/15/06	40
	“ “	214-02	8/10/06	47
	“ “	214-03	8/24/06	99
	“ “	072006-A1*		45
	“ “	080906-A1	8/09/06	38
	“ “	081006-A1		31
	“ “	083106-A1		27
	“ “	080906-A2		32
	“ “	083106-A2		25

Seed Collection Zone	Species	Collection	Collection Date	Clean Seed (grams)
	“ “	091306-A2		27
	“ “	072706-A3		45
215	Blue wildrye	073106-A1		870
	“ “	080106-A1		770
	“ “	082406-A1		32
	“ “	073106-A2		270
	“ “	080106-A2		447
	“ “	080106-A3		193
	“ “	080106-A4		269
221	Blue wildrye	221-01	8/23/06	36
	“ “	221-02	8/24/06	53
	“ “	221-03	8/15/06	136
	“ “	080306-A1		177
	“ “	080406-A1		267
	“ “	080306-A3		23
481	Blue wildrye	481-01	8/16/06	4
	“ “	481-02	8/14/06	129
	“ “	481-03	8/14/06	33
	“ “	481-04	8/17/06	130
	“ “	481-05	8/16/06	75
	“ “	481-06	8/16/06	128
	“ “	481-07	8/17/06	92
	“ “	481-08	8/7/06#	9
	“ “	081806-A1		28
	“ “	091206-A1		97
	“ “	091306-A1		27
	“ “	091406-A1		72
	“ “	091206-A2		86
	“ “	091406-A2		100
	“ “	091206-A3		91
215	Western wheatgrass	082306-A1 Sack had A2; sheet A1		8
		082306-A2 Sack had A1; sheet A2		9

* Collection date on sack was 7/28/06

Collection date inconsistent with collection sequence

CONCLUSION

Collection 080106-A1 will be submitted for seed analysis and testing and will be used as the single source for seed increase for Routt-Medicine Bow as called for in the agreement. Additional collections of western wheatgrass and other species may be conducted in 2007.