PLANT MATERIALS TECH NOTE

Review of CRP Native Grass, Forb, and Shrub Establishment

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INTRODUCTION

Twenty-two CP-2, CP-10, CP-15, CP-25 Conservation Reserve Program (CRP) plantings, consisting of native grasses (warm & cool season), forbs, legumes and shrubs, were evaluated on fifteen producers in six eastern Montana counties June 4 through 7, 2001. The purpose of the review was to ascertain whether our current Technical Guide recommendations are valid when establishing diverse native plant communities. Our observations tested the technical accuracy of Montana NRCS Technical Guide vegetative specifications.

An evaluation outline was developed to document location, producer, soils, rainfall, site preparation, planting date and method, seeding rate, weed infestation, plant health, and treatment response observations. The plantings were selected by field office personnel to sample site preparation and planting techniques to compare the results of establishing native species mixed seedings. Area specialists and field office personnel accompanied us to each site and assisted with the qualitative evaluations. The following is a synopsis of our observations and recommendations.

CRITICAL RECOMMENDATIONS:

- Winterfat and fourwinged saltbush (*Atriplex canescens*) can be successfully established from seed within grass and forb mixtures, all other woody species must be seeded in separate rows.

- Enhancement within existing crested wheatgrass (*Agropyron cristatum*) stands requires burning or haying, multiple non-selective herbicide applications AND tillage to germinate accumulated seed banks for crested wheatgrass control, provide for residue reduction for good seed/soil contact, and maximize soil moisture storage.

- Alfalfa (*Medicago sativa*) is competitive with warm and cool season grasses at the 0.5 Pure Live Seed (PLS) lbs/acre rate. It should be established in alternate rows or diluted in mixture to 0.1 PLS lbs/acre. However, at low rates it might not comprise enough of the mix to be considered a separate species in the mixture (for EBI points).

- Sainfoin (*Onobrychis vicifolia*) is an excellent alternative to alfalfa because it is less competitive and more compatible to the slow establishing native species than alfalfa.

- Sideoats grama (*Bouteloua curtipendula*) and switchgrass (*Panicum virgatum*) can be successfully established in mixtures with cool season grasses. Bluestem species require an alternate row culture for successful establishment and persistence.

- Encourage seedling shrub transplants and using weed barrier on small acreages of CP-25 signups, i.e. 10 acres or less, to promote better seedling survival and establishment.
NOTEWORTHY OBSERVATIONS:

- Current (*Ribes* spp.), rose (*Rosa* spp.), chokecherry (*Prunus virginiana*), and snowberry (*Symphoricarpos* spp.) were volunteering on some sites.

- Cheatgrass (*Bromus tectorum*) and wild oats (*Avena sativa*) infestations result in poor stands of seeded species. These species need to be controlled during site preparation and the CRP mixture should be spring planted following a non-selective herbicide application. Experiences in the Torrington and Wheatland Field Offices of Wyoming have shown that moldboard plowing plus cultipacking will bury the weed seed, prepare a firm seedbed, and provide for excellent seedling establishment.

- CRP plantings should be delayed after a small grain crop to store two feet of soil moisture for successful weed control and stand establishment.

- Cereal grain chaff windrows should be spread to eliminate toxicity, reduce volunteer grain competition, and provide for good seed soil contact.

- No woods rose (*Rosa woodsii*) plants were germinated or establishing from seed. Rose requires a 1 to 2 year cool-warm-cool stratification prior to germination.

- Broadleaf summer annual weeds in new seedings have little impact on stand establishment. However, weeds should be clipped or shredded to prevent re-seeding or nuisance to neighbors.

- Optimum Lewis flax (*Linum lewisii*) rate is 0.05 PLS lbs/acre.

- Haying and intensive grazing (if allowed under the program) of well-established CRP stands improves plant vigor and health.

- Noxious weeds need to be controlled prior to planting and within established stands.

- Woody seedling transplant locations should be documented on plan map for future reference.