PLANT MATERIALS

2004

UTAH EVALUATION SUMMARIES

FIELD, DSI and DEMONSTRATION PLANTINGS

UTAH AREA 1
PLANT MATERIALS PLANTINGS

UT89011 Johnson - Tooele FO Secar Snake River wheatgrass and Hycrest crested wheatgrass field planting for jointed goatgrass control. FY90 seeded in March and stand is establishing. FY91 - FY93 no evaluations. FY94 fair stand of both species. Secar has better vigor and forage production. Secar does not establish as easily as Hycrest. Cattle prefer Secar. FY95 cooperator was disappointed in slow establishment and vigor of Secar in prior years. Secar plants are now well established and very vigorous. Secar is spreading outside of planted rows. During this favorable moisture year Secar remained green and continued to grow throughout the summer. Native bluebunch wheatgrass also remained green the entire growing season. FY96 good stand and vigor for both species. Secar is spreading outside of planted rows, but does not compete well with weeds (goatgrass and morning glory). Cooperator prefers Hycrest for early spring use. Secar is better species for use in later periods. FY97- FY99 no evaluations. FY00 Secar fair stand with good vigor. Hycrest good stand with good vigor. Grazing use is higher on Hycrest (45%) than Secar (10%) in spring grazing period. FY01 and FY02 no evaluation. FY03 Secar fair to good stand – Hycrest good stand. Weed infestation (bindweed) is still a problem with more bindweed in Secar stand than the Hycrest stand. Both species have good vigor. Hycrest is moving into Secar stand. Secar is spreading some from drill rows. Hycrest is spreading into interspaces between rows. Cooperator prefers Hycrest for spring grazing and uniform grazing was observed in both stands in fall. FY04 no evaluation

UT99008 Bryner - Logan FO Laurel willow field planting – nursery. Site is Airport loam soil, 7.7 pH, heavy clay sub-soils, 0 slope, 16-inch rainfall zone, high watertable, and 4430 feet elevation. FY99 cuttings planted April 17, 1999 into 12 inch scalped circles, T12N R1E SW quarter of Section 31. Trees are drip-irrigated. June 4, 1999 cuttings have sprouted and appear to be establishing well. FY00 - FY04 no evaluations.

UT00001 Don Peterson - Logan FO spring field planting of Rush intermediate wheatgrass (medusahead wildrye control). Leatham silt loam soil, 30 percent slopes, southwest aspect, 5400 feet elevation, 14-17 inch precipitation, non-irrigated, T9N R1E North ½ Section 5. FY00 site burned in fall 1999 and sprayed with Roundup-Escort mix in spring 2000 for medusahead control. Chemical kill of medusahead was excellent. 14 pounds per acre were drilled in 8 inch spacing on May 20, 2000 with good initial germination and establishment. Planted May 2000 with poor initial establishment. Field was reseeded in the fall of 2000. FY01 no evaluation. FY02 stand good with survival estimated at 70 percent, 3-4 plants per square foot, and good vigor. FY03 stand is about 70 percent with fair vigor and good spread. FY04 no evaluation

UT01005 Scott Hansen – Tremonton FO field planting. Tarweed control. P27 Siberian wheatgrass, Vavilov Siberian wheatgrass, Ephraim crested wheatgrass, Goldar bluebunch wheatgrass, Nezpar Indian ricegrass, Rimrock Indian ricegrass, Arriba western wheatgrass, Bozoisky Russian wildrye, Mankota Russian wildrye, and Richfield Selection firecracker penstemon. Seed ordered April 16, 2001. FY01 not planted in 2001 or 2002 due to drought. FY03 planted in 4 plots in late March 2003.

*** Plot 1:** Vavilov Siberian wheatgrass, Rush intermediate wheatgrass, and Goldar bluebunch wheatgrass – broadcast planted.

*** Plot 2:** Vavilov Siberian wheatgrass, Rush intermediate wheatgrass, and Goldar bluebunch wheatgrass – broadcast planted.

*** Plot 3:** Vavilov Siberian wheatgrass, Rush intermediate wheatgrass, and Goldar bluebunch wheatgrass – broadcast planted.

*** Plot 4:** Vavilov Siberian wheatgrass, Rush intermediate wheatgrass, Goldar bluebunch wheatgrass, Nezpar Indian ricegrass, Arriba western wheatgrass, P27 Siberian wheatgrass, Ephraim crested wheatgrass, Bozoisky Russian wildrye, Rincon fourwing saltbush, Mankota Russian wildrye, and Rimrock Indian ricegrass – broadcast planted.

FY03 initial evaluation during severe drought - Vavilov, P27 and Ephraim fair stands FY04 no evaluation.

UT03005 Jon White – Logan FO field planting. Rush intermediate wheatgrass, Topar pubescent wheatgrass, and Tegmar dwarf intermediate wheatgrass were ordered April 18, 2003. Luna pubescent wheatgrass, Oahe intermediate wheatgrass and Regar meadow brome will be provided by cooperator. Purpose: Critical Area Planting - medusahead rye competition. Site Characteristics: Cache County, MLRA E47, 16 acres, Barfuss-Leatham silt loam soil complex, 35 percent slopes, northwest aspect, 5300 feet elevation, 14-17 inch precipitation, non-irrigated, SE1/4 Section 31

T10N R1E. Spring 2003 planting. Planting of 15 pounds per acre was completed on April 29, 2003 using a drill with 6 inch spacing into very good weed free seedbed. FY04 no evaluation.

UT04002 Bryce Clayton – Provo FO woody riparian buffer planting. Coyote willow, 9023733 redosier dogwood, 9023739 redosier dogwood, and 9023740 redosier dogwood cuttings were ordered March 5, 2004. Site characteristics – Birdow very fine sandy loam soil, 6-15 percent slopes, 5770 feet elevation, 18 inch precipitation zone, non-irrigated, T11S R3E NE1/4 Section 13. FY04 estimated survival 20 percent coyote willow and 60 percent dogwood.

UT04003 Charles and Karen Sigler– Provo FO riparian woody planting. Sodar streambank wheatgrass, 9067560 peachleaf willow, coyote willow, golden willow and Laurel willow cuttings were ordered March 5, 2004. Site characteristics – mixed alluvial sandy to clayey soil, 0-2 percent slopes, 4520 feet elevation, 14-16 inch precipitation zone, non-irrigated, T8S R2E NW1/4 Section 33. FY04 survival golden willow 40%, Laurel willow 10%, Coyote willow 10% and Peachleaf willow failed. Cuttings were planted too high on streambank and did not have adequate access to perennial soil moisture. Golden willow survival was better do to nearby lawn irrigation. Sodar streambank wheatgrass was dormant fall seeded and will be evaluated next year.

UT04004 Benson Project – Tremonton FO riparian woody planting. 9023733, 9023739, and 9023740 redosier dogwood accessions cuttings and silver buffaloberry plants were ordered March 5, 2004. Site characteristics _____? FY04 no evaluation.

UT04012 Charles and Karen Sigler – Provo FO dryland pasture field planting. Hycrest crested wheatgrass, Vavilov Siberian wheatgrass, Rush intermediate wheatgrass, and Bozoisky Russian wildrye. Seed ordered March 8th for delivery in late March to early April. Site characteristics – Vineyard fine sandy loam soil, moderately saline conditions, 0-2 percent slopes, 4520 feet elevation, 14-16 inch precipitation zone, non-irrigated, T8S R2E NW1/4 Section 33. FY04 not planted.

UT04013 Charles and Karen Sigler – Provo FO irrigated pasture field planting. Paiute orchardgrass, Regar meadow brome and Rush intermediate wheatgrass. Seed ordered March 8th for delivery in late March to early April. Site characteristics – Vineyard fine sandy loam soil, moderately saline conditions, 0-2 percent slopes, 4520 feet elevation, 14-16 inch precipitation zone, irrigated, T8S R2E NW1/4 Section 33. FY04 not planted.

UTAH AREA 2
PLANT MATERIALS PLANTINGS

UT99001 Graymont Western (Lime plant) – Fillmore FO Vavilov Siberian wheatgrass critical area planting. 20 pounds of Vavilov seed was ordered November 19, 1998. The Vavilov will be planted in a mix, which will include Nordan crested wheatgrass, Sodar streambank wheatgrass, Critana thickspike wheatgrass, Nezpar Indian ricegrass, and forbs and shrubs. Site characteristics are a crushed gravelly – silty material lain over rock – cobble material; this material hardens to a near cemented pavement when packed and as moisture occurs; rainfall is about 8-10 inches; site is very windy. Site modifications recommended included 10 ton per acre composted straw, fertilizer based on soil tests, ripping prior to seeding resulting in a rough - rocky soil surface with about 50% of surface being exposed rock to provide micro-sites where seedlings would be protected from constant winds were recommended. FY99 no evaluation. FY00 Three site preparation treatments were installed in the fall/spring of 1998/1999 including 1. Planting directly into shallowly scarified site where soil surface was shattered and smooth; 2. Planting into moderately ripped site where soil surface was rough with approximately 25 percent of surface exposed angular rock; and 3. Planting into severely ripped site where soil surface was very rough with approximately 50 percent of surface exposed large angular rock. Company Manager indicated the past two years were dry winters with below normal rainfall season long. The mid growing season evaluation, on June 6, 2000, indicated Sodar streambank wheatgrass, Bannock or Critana thickspike wheatgrass, Vavilov Siberian wheatgrass, Nezpar Indian ricegrass, penstemon species, scarlet globemallow, winterfat, fourwing saltbush, and Wyoming big sagebrush were all planted and present to some degree on each treatment. Treatment 1 had a 5-10 percent stand present, plants were very small (stunted), and not reproducing (no seedheads present). Treatment 2 had a 30-40 percent stand present, plants were average sized, and a few were reproducing. Treatment 3 had a 70-90 percent stand, plants were tall for site (high vigor), and a high percentage of plants were reproducing. FY01 Graymont has produced a publication "Assessment of Revegetated Test Benches and Reference Transects at Cricket Mountain Plant" that describes the success of this trial. **Next evaluation planned for 2005.**

UT00003 Cooperator Unknown - Beaver FO willow field planting. 50 cuttings each of 9067435 Geyer willow, 9067437 Booth willow, 5730101 Drummond willow, 9067466 Yellow willow, 9067452 Yellow willow, 9067549 Peachleaf willow. Cuttings ordered March 1, 2000 with shipment April 10, 2000. FY00 very poor establishment year due to extreme drought. FY01 grazing has been removed, but deer use is heavy in some locations. Survival-Height-Vigor: 435 Geyer 40% survival, 15 inch height and fair vigor; 437 Booth 46% survival 12 inch height and fair vigor; 101 Drummond 40% survival, 15 inch height and fair vigor; 466 Yellow 20% survival due to poor planting location, 24 inch height and fair vigor; 452 Yellow 80% survival, 26 inch height and excellent vigor; 549 Peachleaf 62% survival, 24 inch height and good vigor. FY02 - FY04 no evaluations.

UT02002 Rasmussen - Fillmore FO demonstration planting of Snake River Plains fourwing saltbush. Seed purchased through Utah Crop Improvement Association. Seed shipped from Aberdeen PMC April 12, 2002. FY03 due to poor climatic conditions, seed has not been planted. FY04 no evaluation.

UT03001 Merlin Webb – Cedar City FO. Seed shipped February 2003. Rimrock Indian ricegrass, Critana thickspike wheatgrass, Trailhead basin wildrye, Volga mammoth wildrye , Nezpar Indian ricegrass, Bannock thickspike wheatgrass, Magnar basin wildrye, Vavilov Siberian wheatgrass, P-27 Siberian wheatgrass, Snake River Plains fourwing saltbush broadcast seeded into good seedbed on February 22, 2003. Rained soon after planting was completed. FY03 no evaluation. FY04 stand/survival – Planting #1 P27 fair/100%, Bannock fair/100%, Nezpar fair/100%, Mesa alfalfa fair/100% and Volga failed. Planting #2 Vavilov fair/100%, Nezpar fair/100%, Bannock fair/100%, Magnar poor/25%, Volga failed, and Snake River Plains failed.

UT03004 Bob Bliss - Fillmore FO field planting - Durar hard fescue and western wheatgrass. Seed ordered March 20, 2003. FY03 – FY04 no evaluations.

UT04001 Blake Walbeck project – Richfield FO demonstration plots. P27 Siberian wheatgrass, Vavilov Siberian wheatgrass, Douglas crested wheatgrass and Ephraim crested wheatgrass. Seed packets ordered November 2003. Site characteristics:_____. FY04 no evaluation.

UT04005 Arlan Mayer – Beaver FO field planting. P27 Siberian wheatgrass, Hycrest crested wheatgrass, Douglas crested wheatgrass, and Bozoisky Russian wildrye. Seed ordered March 8, 2004. Site characteristics: BEK silty clay loam soil, 0-2 percent slope, 5000 feet elevation, 10 inch precipitation, non-irrigated, T28S R10W NE ¼ Section 31 (NE corner of NE pivot). FY04 no evaluation.

UT04006 Joey Leko – Beaver FO field planting. P27 Siberian wheatgrass, Hycrest crested wheatgrass, Roadcrest crested wheatgrass, Syn A Russian wildrye. Seed ordered March 8, 2004. Site characteristics: REK silty clay loam soil, 0-2 percent slope, 5000 feet elevation, 10 inch precipitation, non-irrigated, T28S R11W NE ¼ Section 25 (field 5). FY04 no evaluation.

UT04007 Mark Whitney – Beaver FO field planting. Vavilov Siberian wheatgrass, Ephraim crested wheatgrass, Douglas crested wheatgrass, and Bozoisky Russian wildrye. Seed ordered March 8, 2004. Site characteristics: REA silty clay loam soil, 0-2 percent slope, 5000 feet elevation, 10 inch precipitation, non-irrigated, T28S R10W Section 8. FY04 no evaluation.

UT04008 Kent Marshall – Beaver FO field planting. Vavilov Siberian wheatgrass, Ephraim crested wheatgrass, Roadcrest crested wheatgrass, Syn A Russian wildrye. Seed ordered March 8, 2004. Site characteristics: REA silty clay loam soil, 0-2 percent slope, 5000 feet elevation, 10 inch precipitation, non-irrigated, T29S R10W SW ¼ Section 17. FY04 no evaluation.

UT04009 Scott Wiseman – Beaver FO field planting. Nezpar Indian ricegrass and Northern Cold Desert winterfat. Seed ordered March 8, 2004. Site characteristics: REA silty clay loam soil, 0-2 percent slope, 5000 feet elevation, 10 inch precipitation, non-irrigated, T28S R10W SE ¼ Section 29. FY04 no evaluation.

UT04010 Arlan Mayer – Beaver FO field planting. Richfield Selection firecracker penstemon and Bandera Rocky Mountain penstemon. Seed ordered March 8, 2004. Site characteristics: REA silty clay loam soil, 0-2 percent slope, 5000 feet elevation, 10 inch precipitation, non-irrigated, T28S R10W NW ¼ Section 32. FY04 no evaluation.

UT04011 Kent Marshall – Beaver FO field planting. Richfield Selection firecracker penstemon and Bandera Rocky Mountain penstemon. Seed ordered March 8, 2004. Site characteristics: REA silty clay loam soil, 0-2 percent slope, 5000 feet elevation, 10 inch precipitation, non-irrigated, T30S R10W Section 12. FY04 no evaluation.

UT04014 Kent Marshall – Beaver FO field planting. Magnar basin wildrye, Trailhead basin wildrye, Nezpar Indian ricegrass, Open Range winterfat, Northern Cold Desert winterfat, and Snake River Plain fourwing saltbush. Site characteristics: REA silty clay loam soil, 0-2 percent slope, 5000 feet elevation, 10 inch precipitation, non-irrigated, T28S R10W SE ¼ Section 29. FY04 no evaluation.

UT04015 Soren Nielsen project – Manti FO. Riparian woody field planting – 9067538 black cottonwood. Cuttings ordered March 5, 2004. FY04 no evaluation.

UTAH AREA 3
PLANT MATERIALS PLANTINGS

UT86018 Smith – Roosevelt FO Hycrest crested wheatgrass, Ephraim crested wheatgrass, Appar blue flax, Arriba western wheatgrass, T28606 needle and thread, Magnar basin wildrye, and Nordan crested wheatgrass field planting. FY90 Hycrest, Ephraim, Appar, Magnar, Nordan all 80-100 % survival. Arriba and T28606 are less than 40% survival. FY91 and FY92 no evaluations. FY93 Hycrest, Ephraim, Appar, Nordan, and T28606 doing best. Magnar and Arriba poorer stands. Sagebrush invading site, heavy use by elk, and Appar has many new seedlings. FY94 Hycrest, Appar, Arriba, and Nordan all have good stands. Ephraim, T28606 and Magnar have fair stands. All species are adapted to site and wildlife use is heavy. FY95 no change except vigor has improved due to excellent moisture year. FY96 Hycrest, Ephraim, Appar, T28606 and Nordan have good vigor. Fair vigor for Arriba and Magnar. FY97 Hycrest, Ephraim, Appar, Arriba and Nordan good stands. T28606 and Magnar fair stands. Many sagebrush seedlings within plots, particularly heavy in Arriba western wheatgrass and T28606 needle and thread. FY98 Hycrest, Ephraim, Appar, Arriba, Magnar, and Nordan all have excellent vigor. T28606 has good vigor. FY99 very heavy wildlife use in winter and spring. Poor regrowth due to dry spring/ summer and fair regrowth following late summer rains. Planting is being invaded by sagebrush. FY00 Heavy spring use by wildlife and a very dry spring and summer. Rains began in early September and plants began to green-up. Evaluation indicated good vigor for Ephraim, Appar, Arriba, T28606, Nordan and fair vigor for Hycrest and Magnar. FY01 fair to poor vigor for all species following two years of drought and heavy wildlife use. Sagebrush invasion is effective plant growth and vigor. FY03 good stands of Hycrest, Ephraim, Arriba and Nordan. Fairs stands of T28606 needle and thread and Magnar. Appar failed. Area is experiencing heavy wildlife use. FY04 Stands are experiencing heavy wildlife use – no livestock use for the last two years. Good vigor and stands of Hycrest, Ephraim and Nordan. Fair vigor and stands of Arriba, T28606 and Magnar. Poor stand and vigor of Appar – most plants are along the edge of planting.

UT88009 Skyline Mine - Price FO Multiple Grass on critical area planting – slopes. FY90 and FY92 planting summaries available. FY93 portion of seeding destroyed for new beltline. Rest of seeding doing very well. FY95 Appar flax is spreading, both intermediate and pubescent wheatgrass have spread, thickspike wheatgrass is doing very well, Sherman big bluegrass is doing great, mountain rye is not producing well, Paiute is doing well in plots but has not spread, Aster is improving, Covar sheep fescue is not performing well. **FY96** seeding about the same as last year, erosion from slope covered some of the seeding and it will be interesting to see how the plants can withstand this sedimentation. Rush, Sherman and Mountain ryegrass are doing the best overall.
FY99 10 Year Evaluation. Mixture 1: Luna pubescent wheatgrass is very good on steep slopes and fair on gentle slopes. Hycrest crested wheatgrass failed. Manchar smooth brome is not present on steep slopes, but doing very well on gentle slopes. Appar blue flax is fair on steep slopes and excellent on gentle slopes. Kalo birdsfoot trefoil failed on steep slopes and fair on gentle slopes. Delar small burnet and roses are present on both steep and gentle slopes. **Mixture 2:** Topar pubescent wheatgrass is very good on steep slopes and good on gentle slopes. Ephraim crested wheatgrass and Sodar streambank wheatgrass failed. Delar small burnet is fair on steep slopes and very good on gentle slopes. Roses are present on both slopes. **Mixture 3:** Rush intermediate wheatgrass is good on both steep and gentle slopes. P27 Siberian wheatgrass failed. Critana thickspike wheatgrass is fair on both slopes. Cedar Palmer penstemon is poor on steep slopes and fair on gentle slopes. Summit Louisiana sagewort and roses are present on both slopes. **Mixture 4:** Arriba western wheatgrass is fair to good on both slopes. Mountain rye is very good on gentle slopes. Sherman big bluegrass is good steep slopes and excellent on gentle slopes. Summit Louisiana sagewort is fair on both slopes. Roses are present on both slopes. **Mixture 5:** Rosana western wheatgrass is fair on both slopes. Paiute orchardgrass is very good on both slopes. Covar sheep fescue is good on steep slopes and fair on gentle slopes. Bandera Rocky Mountain penstemon is fair on both slopes. Roses are present on both slopes. **Mixture 6:** Tegmar intermediate wheatgrass is fair on both slopes. Durar hard fescue is fair on steep slopes and high fair on gentle slopes. Bannock thickspike wheatgrass is high fair to good on both slopes. Lutana cicer milkvetch is good on both slopes. Roses are present on both slopes. **Mixture 7:** San Luis slender wheatgrass is good on both slopes. Newhy hybrid wheatgrass failed. Cascade birdsfoot trefoil is poor on steep slopes and good on gentle slope. Blueleaf aster is good to very good on both slopes. Western yarrow is good on both slopes. Roses are present on both slopes.
FY02 very difficult to evaluate following 2 years of severe drought. All grasses have very little production.
FY03 15 Year Evaluation: The last several years of drought has damaged these stands. Rain in August 2003 has helped plant survival and vigor. **Mixture 1 – steep slopes:** Luna fair, Manchar failed, Appar failed, Delar failed, Roses are present; **gentle slopes:** Paiute has moved in, Manchar fair, Appar fair, Lutana good. **Mixture 2 – steep slopes:** Topar good, Delar fair, Appar and Roses are present; **gentle slopes:** Delar good, Topar good, Appar good. **Mixture 3 –**

steep slopes: Rush good, Critana failed, Cedar failed, Summit good, Roses are present; **gentle slopes:** Rush good, Critana fair, Cedar failed, Lutana good. **Mixture 4 – steep slopes:** Arriba good, Mountain rye fair, Sherman failed, Summit fair, Roses and Goldenrod present; **gentle slopes:** Arriba good, Mountain rye good, Sherman fair, Lutana good, Summit fair, Roses and Goldenrod present. **Mixture 5 – steep slopes:** Rosana good, Paiute fair, Covar fair, Bandera failed, Current and Roses present; **gentle slopes:** Rosana fair, Paiute good, Covar good, Bandera fair, Appar fair, Lutana good. **Mixture 6 – steep slopes:** Tegmar good, Durar failed, Bannock failed, Lutana good, Roses and Current present; **gentle slopes:** Tegmar good, Durar poor, Bannock fair, Lutana good, Paiute fair. **Mixture 7 – steep slopes:** San Luis fair, Cascade failed, Blueleaf aster good, Western yarrow fair, Roses present; **gentle slopes:** San Luis good, Blueleaf aster good, Western Yarrow fair, Lutana fair. FY04 no evaluation.

UT90017 Snowball - Price FO Multiple species irrigated demo plots for saline soils. FY92 and FY94 detailed reports available. Irrigation has pushed salinity down below root zone to a large degree. FY95 and FY96 Cicer milkvetch best producer (5279 lbs/ac) followed by San Luis (2587), Revenue (2326), Alsike (1986), Newhy (1673), Hoffman (1646), Festorina/Forager/Tall wheatgrass (1460), Shoshone/Fawn/Altai (1350), Magnar (1125), Garrison (1050), and Kura/Matua/ Trefoil 850) FY99 No yield data gathered. Excellent stands include Shoshone beardless wildrye, Fawn tall fescue, Newhy hybrid wheatgrass, Festorina tall fescue, Forager tall fescue, RS Hoffman, Kura clover, and SP90 Kura clover. Good stands include: Prairieland altai wildrye, Revenue slender wheatgrass, San Luis slender wheatgrass, Jose tall wheatgrass, Garrison creeping foxtail, Johnstone tall fescue X perennial rye, Lutana/Monarch cicer milkvetch, Regar meadow brome, and orchardgrass. Poor stands include Magnar basin wildrye, some plots of cicer milkvetch, Cascade birdsfoot trefoil, and Dakota/Forestburg switchgrass. Mowing significantly reduces vigor of basin wildrye and switchgrass. Festorina and Forager are preferred over Fawn by sheep. Alsike clover and Matua brome failed/died. The fescue x perennial ryegrass appears to show some signs of winterkill. FY03 No water was applied to plots in 2003. Prairieland Altai wildrye good stand with fair vigor and poor production. Magnar basin wildrye very poor stand with fair vigor and very poor production. Shoshone beardless wildrye fair stand with fair vigor and poor production. Revenue slender wheatgrass failed (short-lived species). San Luis slender wheatgrass failed (short-lived species. Jose tall wheatgrass fair stand with poor vigor and poor production. Monarch cicer milkvetch fair to very poor stand with fair vigor and very poor production. Garrison creeping foxtail fair stand with poor vigor and poor production. Fawn tall fescue good stand with poor vigor and poor production. Newhy hybrid wheatgrass good stand with fair vigor and fair production. Cascade Birdsfoot trefoil failed. Festorina tall fescue good stand with poor vigor and poor production. Forager tall fescue good stand with poor vigor and poor production. Tall fescue – perennial rye cross fair stand with poor vigor and poor production. Orchardgrass poor stand with very poor vigor and very poor production. RS Hoffman grass good stand with fair to good vigor and fair production. Kura clover poor stand with very poor vigor and very poor production. 18SP90 Kura clover poor stand with very poor vigor and very poor production. The few remaining Magnar basin wildrye plant and Altai wildrye plants produced seedheads. RS Hoffman appears to be doing better under drought conditions than Newhy. FY04 no evaluation.

UT93005 Smith – Roosevelt FO Trailhead basin wildrye, Magnar basin wildrye field planting for erosion control. FY94 planted October 1993 and initial evaluation indicated Magnar with best seedling establishment and Trailhead doing best in run in areas. FY95 both Trailhead and Magnar rated good stands. Magnar is best adapted. FY96 good stands for both, good vigor for both, good drought tolerance for both, all seedheads of both species eaten by wildlife. FY97 excellent stands and plant vigor for both cultivars. Plant height about 50 inches for Magnar and 38 inches for Trailhead. Magnar has excellent seed production and Trailhead has fair seed production. FY98 excellent vigor and long seedheads for both cultivars. Magnar is a more robust and taller plant than Trailhead. FY99 no evaluation. Excellent stands of each with good vigor and approximately 50 inch height. Basal areas are getting larger, but no seed production this year due to spring/summer drought. FY00 due to very dry spring and summer with rains coming in early September resulting in green-up, both Trailhead and Magnar had fair vigor and only 36-40 inches of growth. FY01 both Magnar and Trailhead have poor vigor after very dry spring and summer (7.7 inches of precipitation this year). Each plant only has 2-3 reproductive stems, which probably did not produce seed this year. FY03 – Fair vigor for both Magnar (45 inch height – 0.5 AUM/ac) and Trailhead (38 inch height – 0.3 AUM/ac). Elk are using the fall green-up. FY04 fail stand and vigor for both Magnar and trailhead due to no summer thunder storms this year.

UT98005 Prevedel – Roosevelt FO Rush intermediate wheatgrass sprinkler irrigated field planting. Materials ordered 3/30/98. FY98 planted August 16, 1998 into excellent seedbed. FY99 excellent stand with excellent vigor and 20 plants per square foot. In early August plants went from very palatable to coarse. Fall rains softened it up making it more palatable to elk now utilizing field. FY00 stand produced approximately 3000 pound/acre under sprinkler irrigation. Elk graze stand until it gets rank, but will graze regrowth. Cooperator states Rush is an excellent grass for intensive

grazing systems. FY01 excellent stand and vigor with 7 AUMs per acre. Cooperator is very satisfied with Rush intermediate wheatgrass performance. FY03 Rush is doing very well in the excessive heat of this summer and is becoming more dominant in the pasture mix of Rush, Regar meadow brome and Paiute orchardgrass. Still producing about 7 AUM/ac. FY04 good stand and vigor – Rush is out performing Regar meadow brome pastures. Both Rush and Regar stands are being invaded by quackgrass.

UT99007 Curtis Rozmon - Price FO field planting on irrigated pasture. Trial includes 905438 switchgrass, 905439 switchgrass, Cave-In-Rock switchgrass, Blackwell switchgrass, Kanlow switchgrass, Latar orchardgrass, perennial ryegrass, and white clover. Site is MLRA D35, loamy fine sand soil, 0-1 percent slope, southwest exposure, 4000 feet elevation, 6-8 inch precipitation, irrigated, T23S R16E SE1/4 Section 25. Seed ordered March 22, 1999. FY99 not planted this year. FY00-FY03 didn't plant due to extreme drought. FY04 no evaluation.

UT00007 George Carter – Monticello FO. Tegmar intermediate wheatgrass - Topar pubescent wheatgrass – Paiute orchardgrass critical area planting. Seed ordered July 5, 2000. Site characteristics: Herm-Lles clay loam to stony loam, 8 percent slopes, west aspect, 8500 feet elevation, 14-16 inch rainfall zone, irrigated for establishment, T26S R23E Section 24. Planting planned for October 2000. FY01 no evaluation. FY02 planting was irrigated for establishment. Good stand of all three species establishing with good vigor. FY03 excellent stand of all three species with excellent vigor and production. Stand continues to be irrigated. FY04 no evaluation.

UT02001 Pete Pickup – Roosevelt FO. Field planting. Rush intermediate wheatgrass (3 acres) - Topar pubescent wheatgrass (5 acres) – Paiute orchardgrass (2 acres). Site information: MLRA D34, Turzo silt loam soil, 8 inch precipitation zone, irrigated, 4800 feet elevation, 2% slope, south exposure, T7S R2E Section 16. Seed ordered April 19, 2002. FY03 fair stand of Rush producing about 1 AUM/ac with fair vigor. Fair stand of Topar producing about .75 AUM/ac with fair vigor. Weeds are a problem in both stands of grass. FY04 good stands and vigor for both species. The plantings were hayed this year – Rush = 1.25 tons/acre and Topar = 1.0 ton/acre. Regrowth was grazed – estimate 0.25 AUMs/acre.

UT03002 David James – Monticello FO demonstration planting. Northern Cold Desert winterfat seed ordered February 18, 2003. Site information: MLRA D35; Limeridge shallow sandy loam soil series; 4 percent slope; south aspect; 4800 feet elevation; 6-8 inch precipitation zone; non-irrigated; T40S R20E Sections 6 and 36. FY04 no evaluation.

UT03003 Mike Wilcox - Monticello FO field planting. UT98004 planted fall (seeding germinated) 1998, but failed due to drought with little to no winter-spring precipitation. This is a dormant fall replanting of Rush intermediate wheatgrass. Luna pubescent wheatgrass is the standard of comparison. Barnam loam soil, 3 percent slopes, south aspect, 6000 feet elevation, 14 inch precipitation, non-irrigated, T31N R26E Section 8. FY00 very little germination this spring (<10%) due to very dry spring. FY01 no evaluation. UT00002 FY02 planting failed due to drought. Seed (Topar pubescent wheatgrass) for UT03003 ordered 2-21-03. FY03 not planted due to drought. FY04 no evaluation.