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Integrated control of leafy spurge (*Euphorbia esula*) with Bozoisky Russian wildrye (*Psathyrostachys juncea*) and luna pubescent, wheat grass (*Agropyron intermedium* var. *trichophorum*)

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A study was established near Devil's Tower in Crook County, Wyoming to determine the potential of Bozoisky Russian wildrye and Luna pubescent wheatgrass competition as an alternative to repetitive herbicide treatment for control of leafy spurge. Grasses were seeded with or without tillage August 8 1989. Glyphosate was applied before seeding grasses in 1989 to eliminate weed competition with seedling grasses. Applications of 2,4-D and metsulfuron were applied after seeding to control annual weeds. Evaluations made 7 years after seeding have been based on one or more of the following: percent grass stand, plants per 20 feet of row, percent leafy spurge control, percent downy brome infestation, grass yield, and percent canopy cover.

The tilled areas had significantly more plants per 20 feet of row than did the no-till areas for Bozoisky. There was no difference between till and no-till for Luna. The tilled areas had significantly less downy brome than did no-till areas. There is more downy brome in the Bozoisky than the Luna. The downy brome infestation appears to be on the increase. Both grasses had very good yields in the tilled areas and good yields in the no-till areas. Luna has produced more forage than Bozoisky in both the tilled and no-till areas. Luna is maintaining excellent control of leafy spurge in both till and no-till areas (91% in the tilled plots and 86% in the no-till plots). Control in the Bozoisky till plot is at 90% and is 71% in the no-till plots. Percent canopy covers show leafy spurge to be on the increase in both till and no-till plots for both grass species. The increase is greatest in the Bozoisky no-till plots. Both grasses initially had very good establishment in the till and no-till areas and have maintained excellent to fair leafy spurge control 7 years after seeding.