ASSESSMENT OF CONSERVATION RESERVE PROGRAM (CRP) MID-MANAGEMENT OPTIONS FOR SUPPRESSION OF SMOOTH BROME. Marie L. Schmidt*, Richard T. Proost, Mark J. Renz, Graduate Research Assistant, Outreach Specialist, and Professor, University of Wisconsin, Madison, WI 53706.

The Conservation Reserve Program (CRP) was initially established as a cropland set-aside program offered by the United States Department of Agriculture in the 1985 Farm Bill. Over the past twenty years priorities for this program shifted to support wildlife habitat, specifically nesting habitat, food and cover for upland birds. Due to this shift, many fields that were planted in a monoculture of cool season grass such as smooth brome are now considered improper habitat for this program. Recently, the Farm Service Agency has required owners of these properties to suppress cool season grasses and diversify the plant species present by inter-seeding the fields with desirable forbs. This management is intended to enhance wildlife habitat by increasing plant species and structural diversity as well as remove duff and control woody vegetation. While options for management are provided by National Resource Conservation Service, limited information exists on the effectiveness of herbicides and tillage in suppressing cool season grasses, establishing desirable forbs, and how these treatments can affect soil loss. Experiments were conducted near New Glarus and Horicon Wisconsin to evaluate the effectiveness of glyphosate at 0.56, 0.84 and 1.12 kg ha^{-1}, sethoxydim at 0.11, 0.21 and 0.32 kg $ha^{-1}$and fluazifop at 0.21, 0.28 and 0.42 kg ha^{-1} in suppressing smooth brome dominated fields compared to tillage and untreated plots. Herbicides and tillage were applied in the spring on 4/29/08 and 5/12/08 at each site respectively. At the New Glarus site, plots were inter-seeded with alfalfa using a no-till drill 1 day after treatments (DAT) were applied.

Suppression of smooth brome and other cool season grasses was observed with treatments containing glyphosate and fluazifop at both sites during the summer. Percent control was 75-85% and 88-94% for treatments containing glyphosate and 48-58% and 84-91% for treatments containing fluazifop 97 DAT and 77 DAT at the New Glarus and Horicon site respectively. Suppression did diminish with time, and at the New Glarus site, only treatments containing glyphosate were able to maintain suppression of smooth brome 127 DAT, with glyphosate at 0.56, 0.84 and 1.12 kg ha^{-1} reducing cover of smooth brome by 84, 89, and 91 percent respectively. At the Horicon site, smooth brome remained suppressed 106 DAT with fluazifop, glyphosate, sethoxydim and tillage. Fluazifop at 0.21, 0.28 and 0.42 kg ha^{-1} reduced cover by 57, 82 and 83% compared to the UTC respectively, while glyphosate at 0.56 and 0.84 kg ha^{-1} and sethoxydim at 0.32 kg ha^{-1} reduced smooth brome cover 73, 60 and 51% respectively. Differences in suppression between sites may have been due to large populations of goldenrod species at the Horicon site in combination with no inter-seeding. Establishment of alfalfa was successful at the New Glarus site with all treatments, but only enhanced with glyphosate treatments. Cover of alfalfa 127 DAT with these treatments were 34-55% compared to 2% in untreated plots.

Although all methods were effective in establishing a more diverse plant community, the use of glyphosate was more effective at suppressing populations and allowing for establishment of alfalfa while also suppressing other undesirable broadleaf weeds. While disking suppressed smooth brome, results did not persist throughout the year as cover was only reduced at the Horicon site 39% 106 DAT. These data in combination with the potential for increased soil loss on highly erodable land should cause land managers to hesitate in recommending disking for mid contract management of cool season grasses.

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