

Pasture, Rangeland and Non-cropland

Biennials and Perennials: Musk thistle, Field bindweed etc.

Fall is the preferred time for applying biennial (Musk thistle) and perennial weed (Field bindweed) control. Fall applications allow for more time to apply herbicides than in the Spring and correspond to the most effective time for their control. Seedlings that emerge in Summer after a fall herbicide application will not bolt (form seedheads) but will remain in the rosette stage. Biennials, especially thistles, are most susceptible in the rosette form. Herbicide applied to bolted Musk thistle will not prevent seed dispersal. Herbicides should be applied as late as possible in the fall but prior to a killing frost to allow for maximum seedling emergence and rosette growth. Any seedlings that emerge after spraying will remain vegetative and can be controlled in the Spring or Fall of the following year. Eradication of biennial thistles is difficult due to the high number of seeds in the soil seed bank.

Biennial thistles can be controlled with 2,4-D, 2,4-D + aminopyralid (Pasturall HL, ForeFront HL), dicamba+2,4-D (Range Star), imazapic (Panoramic, Plateau), metsulfuron methyl (EscortXP) + 2,4-D, picloram (Tordon 22K) or picloram (Tordon) + 2,4-D. Tordon and Pasturall/ForeFront are the most effective. Adding 2,4-D to Tordon will control a broad spectrum of annual, biennial and perennial weeds. Escort XP is most useful during Spring and early Summer as it prevents seed production in early stage (no color in seedhead) bolted plants. It is most effective when added to 2,4-D.

Herbicide Rates: Grazing restrictions vary with herbicides and individual application rates so **read the label carefully before applying**. Following are **suggested** rates. **Always read the label**.

ForeFront HL: 24 oz per acre. (34 oz per acre for multi species control)

Panoramic or Plateau: 12 oz per acre.

Pasturall HL: 32 oz per acre. (48 oz per acre for multi species control)

Range Star: 32 oz per acre (48 oz for multi species control)

Tordon 22K: 8-16 oz per acre

2,4-D: 32 oz per acre (64 oz per acre for multi species control)



Musk thistle rosette (Fall/early Spring)

Herbicides most effective at this stage.



Bolted Musk thistle (late Spring/early Summer)

Herbicides ineffective-must be cut or mowed.