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Legume Re-Establishment in Pastures after the Application of Residual Herbicides

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Legume Re-Establishment in Pastures after the Application of Residual Herbicides

Abstract

Integrated management of pastures and hayfields sometimes require the application of broadleaf herbicides to manage weeds. Weed infestations are usually caused by a variety of factors including but not limited to drought, poor grazing management, and feeding weed infested hay in pastures. Weeds can adversely affect livestock access to forage as well as reduce forage quantity and quality. Producers are often hesitant to apply herbicides to manage weeds because of the effect the herbicides will have on forage legumes present in the pasture.

Keywords

Agronomy

Disciplines

Agricultural Science | Agriculture | Agronomy and Crop Sciences

Legume Re-Establishment in Pastures after the Application of Residual Herbicides

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Introduction

Integrated management of pastures and hayfields sometimes require the application of broadleaf herbicides to manage weeds. Weed infestations are usually caused by a variety of factors including but not limited to drought, poor grazing management, and feeding weed infested hay in pastures. Weeds can adversely affect livestock access to forage as well as reduce forage quantity and quality. Producers are often hesitant to apply herbicides to manage weeds because of the effect the herbicides will have on forage legumes present in the pasture. Many problematic pasture weeds such as Canada thistle (*Cirsium arvense*) and musk thistle (*Carduus nutans*) are best controlled by residual herbicides that will control later emerging seedlings of these and other weeds. While these residual herbicides provide long-term weed control of a variety of weeds, they can adversely affect re-establishment of legumes in pastures if replanting occurs too soon after the herbicide application. Studies in Nebraska, Missouri, Kentucky, Pennsylvania, Virginia, and in Iowa at the McNay Research Farm over the past 4 years show that forage legumes can be successfully re-established into pastures 12 months after the application of maximum labeled rates of aminopyralid-containing herbicide products, ForeFront[®] (2.6 pints/acre) or Milestone[®] (7 fluid ounces/acre) herbicides. In pastures with dense perennial weed infestations, producers will often

apply residual herbicides two years in a row to provide long-term weed control. This study was initiated to evaluate the re-establishment of several forage legumes (red clover, white clover, birdsfoot trefoil, and alfalfa) after one year or two consecutive years of application of ForeFront[®] R&P herbicide. ForeFront is a new herbicide from Dow AgroSciences and is a premix of the new active ingredient, aminopyralid, and 2,4-D.

Materials and Methods

Herbicide treatments were applied to plots (40 ft × 400 ft) in May 2007 in a randomized complete block design with 3 treatments and 3 replications. The treatments were:

1. ForeFront[®] R&P herbicide at 2 pints/acre applied Spring 2007—legumes to be seeded spring 2008.
2. ForeFront[®] R&P herbicide at 2 pints/acre applied spring 2007 and to be applied spring 2008—legumes to be seeded spring 2009.
3. ForeFront[®] R&P herbicide at 2 pints/acre applied spring 2008—legumes to be seeded spring 2009.
4. Untreated check.

The pasture contained a mixture of smooth brome grass, Kentucky bluegrass, tall fescue, and orchardgrass. Weeds present included Canada thistle, dandelion, and curly dock. White clover plants were scattered throughout the plots.

Results and Discussion

No data has been collected yet. The first legume plantings will occur in the spring 2008 and establishment success will be assessed.