Final Project Report to the NYS IPM Program
Agricultural IPM 2000 – 2001

Title:
Roughstalk Bluegrass Suppression in Alfalfa-Timothy and Alfalfa-Orchardgrass Seedings

Project Leader(s):
Russell R. Hahn
Department of Crop and Soil Sciences

Cooperator(s):
None

Type of grant:
Cultural methods; sanitation; physical controls

Project location(s):
Findings might be applied throughout the Northeast

Abstract:
A field experiment was established at Caldwell Field, Tompkins County, NY to evaluate the value of increasing the seeding rate of timothy and orchardgrass for suppressing roughstalk bluegrass (*Poa trivialis* L.) in alfalfa/timothy and alfalfa/orchardgrass seedings. No data on the effectiveness of the treatments was collected in 2001 since this was the year of establishment and since bluegrass will invade the perennial hay crop over time.

Background and justification:
It is estimated that at least two-thirds of the alfalfa seedings in New York State include a perennial forage grass, most often timothy. Alfalfa producers make these mixed seedings for a couple of reasons. First, clear seeded alfalfa will not persist on moderately to poorly drained soils that are common in New York. In addition, many producers include a grass in the mixture to speed hay drying. Roughstalk bluegrass is increasingly problematic in these mixed seedings. This weedy grass is problematic because it matures prior to first cutting harvest and the woody stems reduce the palatability and quality of the first cutting hay or haylage. Postemergence grass herbicides such as Poast Plus (sethoxydim) can be used to suppress/control this weedy grass in clear alfalfa seedings. Unfortunately, Poast Plus applications will also control the desirable perennial grasses in mixed seedings. Observations suggest that normal seeding rates (4-6 lb/A) of timothy are not adequate to prevent this weedy grass from infesting the

alfalfa/timothy seedings. It is possible that an increased seeding rate of timothy might minimize these bluegrass infestations by eliminating the niche that this invasive species occupies.

Objective:

Establish a field experiment to determine the value of increasing the seeding rate of timothy in an alfalfa/timothy seeding and or orchardgrass in alfalfa/orchardgrass seeding as a cultural suppression/control for roughstalk bluegrass.

Procedures:

A field experiment was established at Caldwell Field in Tompkins County, NY on April 30, 2001. Alfalfa 'Pioneer 5347 LH', Timothy 'Mariposa', and orchardgrass 'Shawnee' were the varieties selected for this experiment. The following treatments were included:

1. Alfalfa at 12 lb/A as an untreated check.
2. Alfalfa at 12 lb/A for chemical control of bluegrass.
3. Alfalfa at 12 lb/A plus Timothy at 5 lb/A.
4. Alfalfa at 12 lb/A plus Timothy at 10 lb/A.
5. Alfalfa at 12 lb/A plus orchardgrass at 5 lb/A.
6. Alfalfa at 12 lb/A plus orchardgrass at 10 lb/A.

The treatments were established in a randomized complete block design with four replications. The entire plot area was sprayed with 2 qt/A of Butyrac 200 (2,4-DB) on June 25, 2001 to control annual broadleaf weeds. Indivudal plots were harvested on September 5, and the plot area topdressed with 350 lb/A of 2-10-40 on September 14, 2001.

Results and discussion:

Although indivdiual plot yields were harvested on September 5, no effort was made to do botanical separations of the forage since the bluegrass has not yet become established in the plot area. As bluegrass invades the plot area over the next several growing seasons, samples will be taken at the time of the first cutting each year to determine the botanical composition (alfalfa, timothy or orchardgrass, and bluegrass) of the forage in each plot. Representative samples will also be analyzed for quality.

References: (if applicable)

None

Samples of materials:

None