Reed Canarygrass Seeding Rate Studies

Reed canarygrass can be difficult to establish in the Northeast. Producers often claim that it takes a year longer to establish than other cool-season grasses. Reed canarygrass works best with a prepared seedbed and is not recommended for seeding into an unprepared seedbed, especially frost seeding.

The nationally recommended seeding rate for reed canarygrass is 5 to 9 lbs per acre, while current University recommendations in the Northeast range from 8 to 14 lbs of seed/acre. Some organizations are recommending higher seeding rates for reed canarygrass, partly to help solve a perceived establishment problem. Our goal was to evaluate the influence of seeding rate on reed canarygrass establishment.

Red Clover Companion Crop

Occasionally producers sow red clover along with reed canarygrass, to obtain sufficient forage in the second year of the seeding, while the reed canarygrass is still establishing slowly. We observed reed canarygrass plots alongside reed canarygrass-red clover plots and found that even at relatively low red clover seeding rates (3-4 lbs/a), the seeding year stands were solid red clover. Reed canarygrass eventually dominated in the mixed plots, but it took about one extra year to establish the reed canarygrass if sown with red clover.

Figure 1. Reed canarygrass seeding rate study at Chazy, NY in early June.

Seeding Methods are Critical

Reed canarygrass is much more sensitive to seeding too deeply, compared to other cool-season grasses. A firm seedbed is essential, and a level seedbed will result in a uniform seeding. Shoes should sink no more than 1 inch into a prepared seedbed. Seed should be sown between ¼ and ½ inch deep, seeds sown deeper will fail to emerge and establish. Proper seedbed preparation and seeding depth will result in relatively quick establishment.

Seeding Rate Studies

Our objective was to determine if increasing the suggested seeding rate will speed up reed canarygrass establishment and increase yield. Small plots were seeded with *Rival* reed canarygrass (495,000 seeds/lb) in prepared seedbeds at 5, 10, 15, 20, and 25 lbs PLS/acre. Replicated plots (6 reps) were seeded in early August of 2001 and 2002 in Ithaca (Williamson silt loam), Mt. Pleasant (Bath-Volusia silt loam), and Chazy (Roundabout silt loam). Make sure to calculate pure live seed rates; some seed lots of reed canarygrass can be as low as 50% germination.

Three harvests were taken the year after seeding, and stands were evaluated based on spring tiller counts and yield. There was adequate moisture after seeding at all three sites in 2001. Late summer of 2002 was below normal in July/August rainfall, resulting in visibly thinner stands going into the winter of 2002.

The number of tillers in the spring following late summer seeding were directly influenced by seeding rate for all 6 site/year seedings (Fig. 2). Although tiller counts in spring of 2002 (2001 seedings) showed significant differences, these differences did not translate into yield differences. In the spring of 2003 (2002 seedings), there was also no correlation between tiller counts and spring yield at Ithaca. On the other hand, tiller counts at

Chazy and Mt. Pleasant (2002 seedings) were significantly correlated (r = 0.80 and 0.60) with spring harvest yield in 2003.

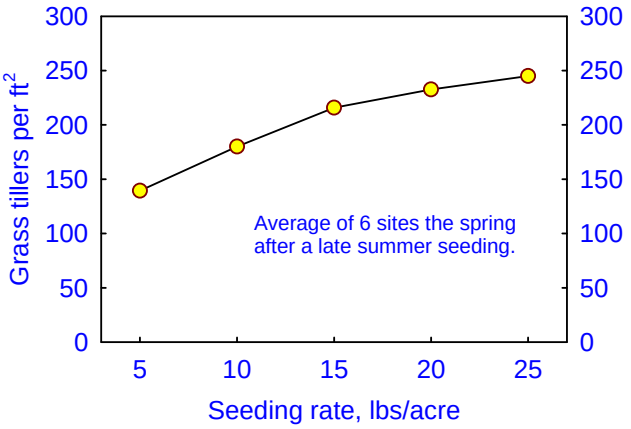

Figure 2. Reed canarygrass tillers per square foot as influenced by seeding rate.

Seasonal yields at 3 sites for 2 years are shown in Fig. 3. For the 2001 seeding, 10 lbs/a produced maximum yield in the first production year. In a droughty seeding year (late summer, 2002), 15 lbs/a was required for maximum production in the first production year. The yield increase resulting from a seeding rate increase from 5 to 15 lbs seed/acre offsets the increased cost of seed for the higher seeding rate. By the second production year the 5 lb/a rate produced full stands for all six site/year seedings.

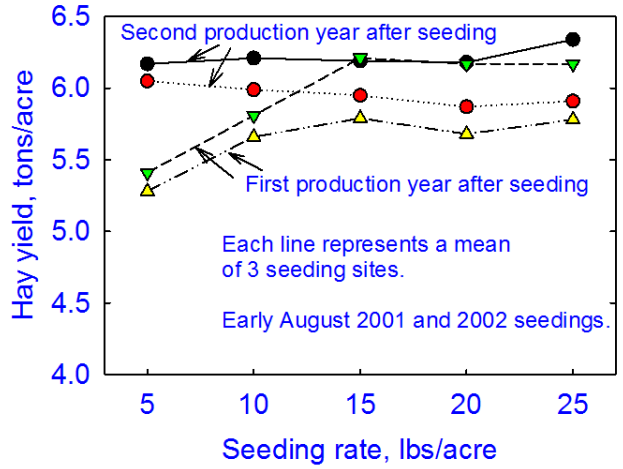

Figure 3. Reed canarygrass yields as influenced by seeding rate. The yellow symbols represent 2001, while the green symbols represent 2002 seedings.

Conclusions

Under ideal seeding and moisture conditions a 5 lb/acre seeding rate will eventually result in good stands, but ideal conditions cannot be predicted. Seeding rates as low as 5 lb/acre produced as much yield as higher seeding rates the second year after seeding, for all six site/year combinations. Moisture limitations during the period after seeding will impact yield the first year after seeding at low seeding rates, and this impact can be partially offset with increased seeding rate.

Summary

We have observed numerous seedings of reed canarygrass over the past two decades. If the seedbed was well prepared and the seed placed at the correct depth, reed canarygrass established just as quickly as other cool-season grasses. We found no evidence to suggest increasing reed canarygrass seeding rate any higher than the current highest suggested rate in the region, 14 lbs/acre.

Additional Resources

- 2011 Cornell Guide for Integrated Field Crops Management. Electronically accessible at: http://ipmguidelines.org/Fieldcrops/.
- Cherney, J.H., D.J.R. Cherney, and D. Parsons. 2006. Grass Silage Management Issues. p. 37-49. In Proceedings from "Silage for Dairy Farms: Growing, Harvesting, Storing, and Feeding". NRAES-181. 23-25 Jan., 2006. Harrisburg, PA. Natural Resource, Agriculture, Engineering Service, Ithaca, NY.

Disclaimer

This information sheet reflects the current (and past) authors' best effort to interpret a complex body of scientific research, and to translate this into practical management options. Following the guidance provided in this information sheet does not assure compliance with any applicable law, rule, regulation or standard, or the achievement of particular discharge levels from agricultural land.

For more information

Cornell University Cooperative Extension

Grass Management Manual
http://forages.org

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