



Alfalfa-Fescue Establishment Studies

Most of the alfalfa sown in the Northeast is sown in mixed stands with cool-season grasses. Mixed stands of alfalfa and tall fescue can produce forage of sufficient quality for lactating dairy cattle (see Grass Information Sheet #31).

Tall fescue is very competitive with alfalfa in the Midwest and generally not recommended. Since tall fescue has consistently very high yields and good persistence in the Northeast (see Grass Information Sheet #7), it is reasonable to look at tall fescue in mixture with alfalfa.



Figure 1. Small plots of alfalfa-fescue.

Methods, 2004

Hoedown and *Festival* tall fescue were sown with 12 lb/a of PLH-resistant alfalfa at Ithaca and Mt. Pleasant, NY sites in late summer of 2004. Grass was seeded at 2, 4, 6, 8, and 10 lbs PLS/a, with 5 replicates of both cultivars.

Samples were collected and hand-separated in late spring of 2005 and 2006.

Results, 2004 Seedings

There were no differences between the fescue cultivars. Mt. Pleasant had severe drought in 2005, results were more variable in both years following seeding. Dry conditions favored alfalfa in 2005 at Mt. Pleasant (Fig. 2). At Ithaca, only the two lb/a fescue rate in 2005 was significantly higher in alfalfa percentage (Fig. 3).

Mt. Pleasant was higher in alfalfa percentage during the drought of 2005 (48% alfalfa), while Ithaca was lower in alfalfa percentage in 2005 (averaging 28% alfalfa). In 2006, there was no difference in grass seeding rates for alfalfa percentage, averaging 36% alfalfa.

Mt. Pleasant averaged 37% alfalfa in 2006, but stands were much more variable. 2004 was a relatively good fall for establishment. Poorer establishment conditions would likely have a more negative impact on the lower seeding rates of grass in mixtures. In general, all fescue seeding rates resulted in too low of an alfalfa component in the mixtures.

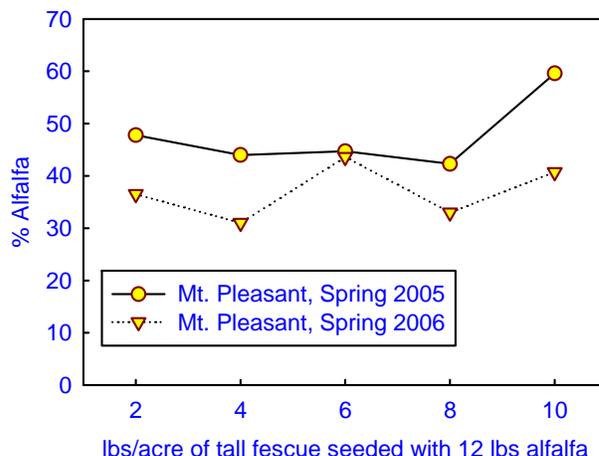


Figure 2. Alfalfa in the mixture as influenced by grass seeding rate for two years following seeding in 2004.

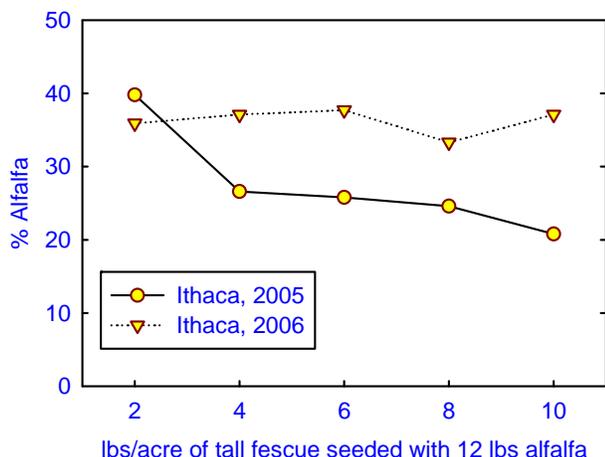


Figure 3. Alfalfa in the mixture as influenced by grass seeding rate for two years following seeding in 2004.

Methods, 2007 & 2008

As a followup, trials were established in both Ithaca and Chazy, NY in the spring and fall of 2007 and in the spring of 2008. Lower seeding rates of fescue were included. Alfalfa was seeded at the rate of 15 lb/a. *Enhance* tall fescue was seeded at 0.5, 1, 2, 3, 4, 5, 6, and 8 lb/a, with 6 replicates in each trial.

Results, 2007 & 2008 Seedings

Dry conditions persisted for all three seedings at Ithaca, NY, and for the 2008 seeding at Chazy, NY. Seeding under dry conditions resulted in variable alfalfa stands and very poor stands of tall fescue. Ithaca stands were too poor to evaluate alfalfa-grass composition.

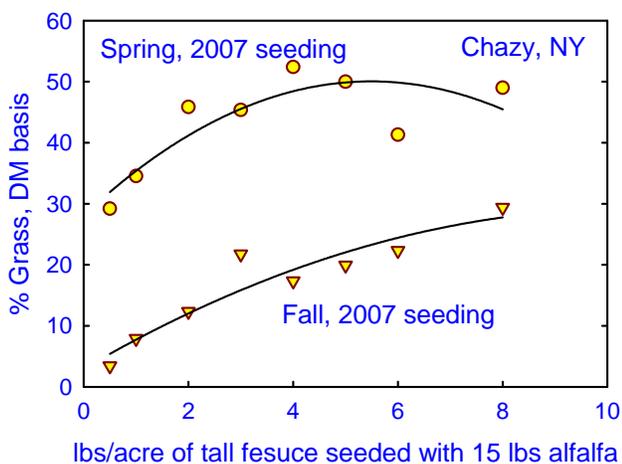


Figure 4. Tall fescue in the mixture as influenced by grass seeding rate in the late spring of 2008.

During this time period, several NY producers near Ithaca attempted to establish alfalfa-fescue stands and experienced similar results to this study. Mixed seedings ended up mostly or almost exclusively alfalfa.

The spring 2007 seeding at Chazy was more like the previous studies in 2004. Grass seeding rates of 2 lb/a or more resulted in approximately 50% grass in the stands. The drier fall seeding of 2007 resulted in an almost linear increase in the grass component with seeding rate, but only reached 30% at 8 lb/a. The 2008 Chazy seeding was too poor to evaluate for alfalfa-grass composition.

Summary

Results were exceptionally variable, primarily impacted by moisture availability after seeding. Without being able to predict moisture availability, a 4-6 lb/a fescue seeding rate with alfalfa may be best.

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>

Jerry Cherney, Mike Davis, Debbie J.R. Cherney

2011