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5-1-1999

Forage News [1999-05]

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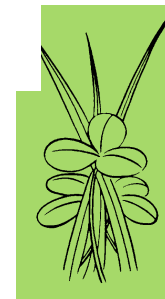
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Department of Plant and Soil Sciences, University of Kentucky, "Forage News [1999-05]" (1999). *Forage News*. 226.

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FORAGE NEWS



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May 1999

Garry D. Lacefield and Jimmy C. Henning, *Extension Forage Specialists* • Christi Forsythe, *Secretary*

BY-PRODUCT FEEDS FOR POSTWEANING FEEDING OF CALVES

Four trials and one demonstration involving 283 weaned calves were conducted to study the effects of various alternative feeds for weaned calves. High-fiber by-product feeds, such as soyhulls (soybean seed coats) and dry corn gluten feed (a by-product from the manufacturing of high fructose corn syrup) can be excellent substitutes for corn in high forage diets. Depression of forage digestibility, sometimes seen with high starch supplements, is minimized with these high fiber supplements which contain highly digestible fiber. They are also very palatable to calves and less likely to cause founder and acidosis in calves than grains. When these products can be purchased at prices which are competitive with corn, they can be excellent feeds to use in situations where forage utilization is a priority.

This research indicates (1) that calves can make rapid and efficient gains during short postweaning feeding periods, (2) some high-fiber feeds can be excellent supplements for high forage diets, and (3) soyhulls and corn gluten feed worked better than the other alternative feeds used in these studies. (*Dr. Roy Burris, U.K. Beef Specialist*)

HIGH LEVELS OF HARD SEED PRESENT IN ANNUAL LESPEDEZA

Many of you have questioned the high levels of hard seed present in annual lespedeza this year and in years past. This year, some certified seed that I ordered came in with a tag that said 10% germination, 78% hard seed (tested December 1998). That seemed excessive so I sent a sample in for germination testing in early April.

The test came back 71% germination, 7% hard seed.

What happened? Seed of most forage crops has natural dormancy (high hard seed content) right after harvest. Lespedeza is harvested in the fall, so the December 1998 test revealed a high level of hard seed. Dormancy naturally breaks in storage, and this was the case with the annual lespedeza that I had.

If you get questions like this in the future, you can use this example to put farmer's minds to rest. But I strongly suggest that you also do what I did, and that is to send in a sample for germination testing through Regulatory Services. Eric Fabrizio there does a germination test for crops vary, and the one for striate annual lespedeza is 14 days.

GRAZING TOLERANCE PUBLICATIONS AVAILABLE ON THE WEB

Four years of grazing tolerance research on alfalfa, tall fescue, and orchardgrass varieties are available on the UK College of Agriculture home page. The url is the same as for the other forage variety testing progress reports and is

<http://www.ca.uky.edu/agc/pubs/respubs.htm>

The publications are available as PDF and HTML files.

PR-415: ALFALFA GRAZING TOLERANCE VARIETY REPORT
PR-416: 1998 COOL SEASON GRASS GRAZING TOLERANCE VARIETY REPORT

KENTUCKY FORAGE & GRASSLAND COUNCIL - President's Corner

The spring grazing school held April 28-30 in Owen County was another "sellout". Thirty people were treated to three days of intensive instruction and hands-on experience in planning and managing intensive grazing systems. The weather was great and Joe Wyles and his staff at UK's Eden Shale Center were super in arranging for the field demonstrations. Special thanks also to Kim Strohmeier and the Owen County Extension Staff for their help and use of their meeting facilities. The next opportunity to participate in a grazing school will be Oct. 12-14 in Princeton.

Our two summer forage-livestock field days are "just around the bend". The first is May 22 in Boyd County in East Kentucky. Contact David Ditsch (606.666.2438) for information on this one. The second is our annual forage-beef field day scheduled for June 15 at Triple W Farms in Crittenden County - near Marion, Kentucky. The tours start at 10 AM. At Noon we will have lunch and a short program. Then tours will be repeated from 1-3 PM. Don't miss this one!!! If you're producing forages for grazing, hay or round bale silage, you need to be there. If you're raising beef cattle, lots of new ideas will be shown and discussed to help you do a better job of growing and selling cattle. Hope to see you there on June 15. (*Monroe Rasnake*)

LAYOUT AND DESIGN

There are several objectives to be considered when designing

a grazing system. The system should optimize the use of the available land, capital, and labor resources while achieving livestock performance and economic return targets. Systems may be classified into two broad categories, fixed or flexible. Fixed systems consist of permanent watering points and fence systems and are best suited for larger acreages with low labor availability. Flexible systems use movable fences and water tanks within a framework of permanent or semi-permanent fence. Flexible systems are best suited to smaller to medium size acreages, enterprises with high economic return potential, and where labor is available. There are several guidelines that can be used to help increase the grazing efficiency in planned grazing systems. Keeping animal travel distance to less than 250 m will enhance grazing distribution uniformity and nutrient cycling efficiency. Making paddocks more near to square compared to rectangular usually keeps stock closer to water and requires less fencing per paddock. Making subdivisions based on landscape position and soil types can help keep plant community and productivity of sites within paddocks more similar. Focusing on uniform carrying capacity per paddock rather than uniform size will generally result in better animal performance. Restricting alleyway usage for animal movement only will generally minimize the negative effects of alleyways such as erosion development and nutrient transport losses. Forward planning can result in much more satisfactory performance of the grazing system. (SOURCE: Jim Gerrish, ABSTRACTS AFGC/SRM, Vol. 52 SRM/Vol. 8 AFGC, Feb. 1999, p. 22)

SEEDING RATE OF DIFFERENT ALFALFA SEED LOTS

Many farmers neglect to calibrate their alfalfa seeder as they begin seeding in the spring. In doing so, they are failing to take into account differences in seed size and may be seeding at higher rates than necessary. With good alfalfa seed costing \$4.50 per pound this can be a costly mistake.

Over several years, Gary Vondracheck collected information on seeding rate of different varieties through farmers seeders left at the same setting. The results show that large differences in seeding rate can occur when a seeder is not calibrated with each new lot of seed.

In addition to seeding rate differences, seed lots also vary in seed size from 190,000 to 230,000 seeds per pound. The seed size alone can account for a difference of 4 to 6 seeds per square foot, even if the same number of pounds are seeded per acre.

Though we list the varieties tested, we do not believe that seeding rate differences were necessarily due to the variety. As with grain production on farms in the Midwest, alfalfa seed size and test weight varies from one production site to another and year to year due to weather conditions occurring during the growing season. This means that the same variety of alfalfa may have different seed size and test weight depending on where and when it was grown. Seed size and test weight are the factors likely affecting the variation in seeding rate. Thus a farmer should calibrate with each different lot of seed and each year even if the same variety of alfalfa is being planted.

It was also indicated that coated seed seeded at a higher rate than uncoated seed. If using coated seed, the seeding rate must be adjusted down to get the same seeding rate (pounds per acre) as when using uncoated seed.

Differences suggest that seeding rate can easily vary by 5 to 6 lbs per acre with the same seeder setting, regardless of seeder type. With good alfalfa varieties selling at \$4.50 per lb., this can mean a different in seeding cost of \$22.50 to \$27.00 per acre. It is definitely worthwhile to calibrate a seeder. If one does not want to take the time and effort to follow the calibration procedure for the drill, one should at least determine the acreage seeded with the first bag and, if different than 4 acres, adjust the seeding rate accordingly. (Dr. Dan Undersander, Extension Forage Specialist. University of Wisconsin, <http://www.uwex.edu/ces/forage/pubs/seedrate.html>)

WHAT'S NEW IN AUTOTOXICITY?

Our work in Wisconsin has shown severe yield decreases in the seeding year when alfalfa is planted following alfalfa. One question

that has been asked many times is if these effects carryover into subsequent years. Recent work at the University of Missouri suggests that the answer is yes. Table 1 shows results of a study showing yield differences are small, they do persist into the second and third year of the stand. It is likely that larger initial yield decreases (nearly 90% reduction was found when we planted within two weeks on very sandy soil) would result in larger effects in subsequent years as well.

Time After Alfalfa	Alfalfa Yield (Tons/Acre)		
	Seeding Year	Second Year	Third Year
2 weeks	1.9	4.7	3.9
1 year	2.1	5.2	4.1

Nelson, J., Univ. of Missouri

Other work at Missouri has shown that, while seed germination is affected somewhat, the autotoxin or toxins in alfalfa have their main effect on root growth. Roots of affected plants are stunted and more highly branched than unaffected plants. In addition, young roots are swollen and have fewer root hairs. Considering this, it is easy to see why yield effects would persist beyond the seeding year. Plants get a poor start and never catch up to where they would be had they not been affected by the autotoxicity. Our work supports this in that stand densities were similar when alfalfa followed alfalfa, but yields were decreased.

At this time of year, autotoxicity comes following winterkill or poor stand establishment. Remember that stands less than two years old have not presented a autotoxicity problem. Consequently, stands seeded last year that experienced winter kill or were lost for some other reason, can be seeded back to alfalfa. If older stands were lost, the best option is to rotate out of alfalfa. Another option is to late summer seed following an oat crop or some other short season crop. (Dennis Cosgrove, Extension Agronomist, The Forager, Vol. 23, No. 1, April 1999)

UPCOMING EVENTS

MAY 13	KY Grazing Mini-School, Morehead
MAY 18	KY Grazing Mini-School, Springfield
MAY 19	KY Grazing Mini-School, Richmond-EKU
MAY 22	KFGC Sponsored Forage Field Day, Boyd Co.
JUNE 15	KFGC/KCA Field Day, Crittenden Co.
JULY 15	Agronomy Field Day, Spindletop Farm, Lexington
JULY 22	All Commodity Field Day, UK Robinson Experiment Station, Quicksand
OCT 12-14	KY Grazing School, U.K. Research & Education Center, Princeton

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