UW Extension

Ag Up-Dates

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Special Forage Edition
June 2004

Forage Planting Alternatives

Mike Ballweg, Crops & Soils Agent, Sheboygan County

For many dairy producers growing enough quality forage is becoming an increasingly larger concern. Mid-June finds us with many unplanted acres across the county. I've been asked, what are the alternatives at this point for growing forages.

The University of Wisconsin and the University of Minnesota have conducted 2 years of research on late planted forage. Below are several data tables from forage research conducted throughout Wisconsin and Minnesota.

Influence of planting date on total season dry matter (DM) yields of emergency forages at Pelican Rapids (Otter Trail County), MN in 2002. Yields representing multiple harvests are followed by the number of harvests in ( ).

	Planting Date		
Entry	Early May 21	Mid June 17	Late July 3
	Ton DM/acre		
Corn (81 day RM)	6.6	6.0	4.4
Corn (95 day RM)	6.6	6.0	4.3
Corn (103 day RM)	6.2	6.3	4.1
BMR Sorghum		6.9	5.1
Sudangrass	7.8 (3)	4.3 (3)	4.2
Sorghum x Sundan	6.5 (3)	3.7 (3)	4.9
Barley	1.4	1.2	0.8
Barley/Pea	1.8	1.2	0.9
Oat/Pea	1.6	1.6	1.3
Soybean (0.8 RM)	3.0	2.4	1.8
Soybean (2.0 RM)	5.8	3.6	1.8

Late Season Forage Planting Alternatives (Continued)

Influence of planting date on total season dry matter (DM) yields of emergency forages at Rosemount (Dakota County), MN in 2002. Yields representing multiple harvests are followed by the number of harvests in ( ).

	Planting Date		
Entry	Early May 15	Mid June 10	Late June 28
	Ton DM/acre		
Corn (81 day RM)	6.8	6.8	6.2
Corn (95 day RM)	6.9	7.7	6.9
Corn (103 day RM)	9.3	9.0	6.6
BMR Sorghum	7.7	6.6	6.4
Sudangrass	8.3 (3)	7.6 (3)	5.9 (2)
Sorghum x Sundan	7.6 (3)	8.2 (3)	6.4 (2)
Barley	2.0	1.2	1.5
Barley/Pea	2.2	2.1	0.5
Oat/Pea	2.4	2.3	1.2
Soybean (0.8 RM)	2.0	2.5	- -
Soybean (2.0 RM)	2.8	- -	- -

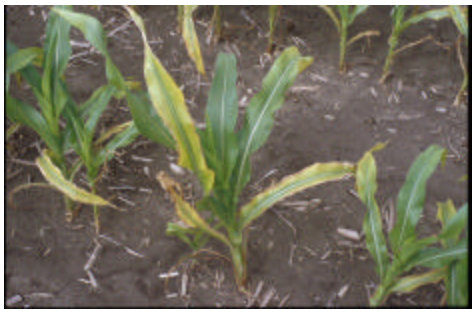
Yields of sudangrass and sorghum x sudangrass crops were unusually high in 2002 due to the combined effects of above average temperatures and rainfall.

Corn for Corn Silage Summary

Mike Ballweg, Crops & Soils Agent, Sheboygan County

In summary, here are several of my agronomic conclusions.

1. **We should be able to plant corn for silage until about July 1st.**
2. Plant shorter maturity hybrids (80-85d) to help ensure grain fill, and better quality corn silage.



3. Increase plant populations to 34,000-36,000 plants/acre.
4. Starter fertilizers are recommended and use adequate nitrogen applications.
5. Yields will probably be 50% of a normal crop.

Late Season Forage Planting Alternatives (Continued)

2003 total season forage DM yield of forages planted on 1 July, at 5 locations across Wisconsin and Minnesota.

		Wisconsin			Minnesota		
Special	Entry	ARL	MAR	SPO	STP	PEL	AVG
		DM Yield (ton/acre)					
Corn	80-85d (1877)	7.62	2.66	4.60	4.62	2.51	4.40
Corn	90-95d (2395)	8.67	2.48	5.38	4.18	2.50	4.64
Corn	100-105d (25870	9.05	2.80	4.75	4.51	2.76	4.79
Forage Sorghum	Dairy Master BMR	9.41	3.20	3.87	4.65	3.41	4.91
Sudangrass	Greenleaf	3.10	2.21	2.84	3.86	2.97	3.00
Sorg-Sudan	Greentreat IV	na	2.28	2.89	3.60	2.89	2.91
Sorg-Sudan	Drip-O-Honey BMR	4.56	2.24	2.90	3.10	2.22	3.00
Soybean	B076RR (RM0.7)	2.33	1.33	1.10	2.90	na	1.91
Soybean	X53252RR (RM2.5)	3.00	1.45	1.46	2.92	na	2.21
Barley	Westford	1.16	1.43	2.02	1.17	0.86	1.33
Barley Pea	Robust/Trapper	2.01	1.73	1.44	1.54	1.26	1.60
Oat Pea	Jerry/Trapper	2.26	1.64	1.39	1.56	1.25	1.62

ARL—Arlington, MAR—Marshfield, SPO—Spooner (irrigated), STP—St. Paul, and PEL—Pelican Rapids (Otter Trail Co.).

Sudangrass, Sorghum—Sudan Hybrids

Sorghums and sudangrasses are warm weather crops and will perform best in years when the growing season is characterized by higher than normal temperatures.

Cool conditions like we generally have in eastern Wisconsin will severely limit production. While I've seen successful sorghum—sudan, sudangrass yields, I've seen many more near total failures.

Nitrogen requirements for growing warm season grasses are similar to those of corn.

Alfalfa Weevil Watch

Alfalfa weevil larvae are slate-colored when small, but bright green when full grown (3/8 inch). There is a white stripe down the back, and the head is black. They chew and skeletonize leaves. If larval populations are large, the entire plant may be defoliated, giving the field a grayish cast.

Although most of the feeding damage is done by larvae, at times adult damage is significant. Larvae and adults can continue to feed on new growth of the second crop. Populations can be great enough to kill plants and, as a result, fields can be lost.

If substantial weevil damage has been observed during harvest, stubble should be checked carefully for signs of damage to new growth of the second crop. Some fields may fail to green-up because adults and larvae are consuming new crown buds as fast as they are formed. Check the stubble, the soil surface around alfalfa plants, and under leaf litter for larvae and adults. If you find them and if there is no sign of regrowth in 3 or 4 days after harvest, spray the stubble as soon as possible.

Treatment also is suggested if feeding damage is apparent on 50% of the new growth.

If you find no larvae or adults, lack of regrowth is due to other factors.

The presence of adult weevils requires an insecticide that is labeled for control of both adult weevils and larvae. The label for Furadan lists both. Technically, Imidan, Lorsban, and Penncap-M could be used since they list alfalfa weevil, not larvae.

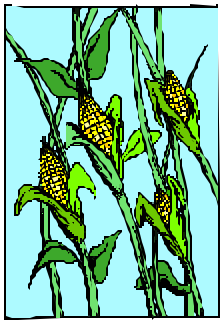
Soybean yield response to planting date.

Planting date	Soybean
	Relative yield (%)
May 1	100
May 10	100
May 20	100
June 1	90
June 10	75
June 20	67
July 1	60

Lauer (1997) and Gaska (2000)

Brown Midrib Sorghum Forage

Dr. Tom Burmood



The brown midrib trait was discovered in corn at Purdue University in 1926. Early studies revealed the trait resulted in lower fiber and lingnin within the plant. Brown midrib corn hybrids for silage were introduced to the market in the late 1970's, but withdrawn due to standability issues. Cargill Hybrid Seed Co re-introduced brown midrib corn for silage in the 90's and currently the trait available in hybrids from Mycogen. In 1978 the mutant was identified in sorghum. Research indicated the trait reduced lignin in sorghum comparably to corn and sparked interest for utilization in sorghum forage production.

Sorghum forage is produced from different hybrid types which include hybrid forage sorghum, hybrid sorghum x sudan crosses and sudans. Hybrid forage sorghums typically produce grain and are used for silage. Sorghum x sudan crosses may or may not produce grain and can be used for silage, but also are used for green chop, pasture or hay production as well. Sudans are used mostly for grazing. The brown midrib trait is commercially available in forage sorghum and in sorghum x sudan hybrids. Because of the versatility of use, most BMR hybrids are sorghum x sudan crosses. Currently, three genes, BMR-6, BMR-12 and BMR-18 are used in the sorghum industry to produce primarily brown midrib hybrids. Although agronomic issues such as standability remain, forage analysis and feeding trails have demonstrated improved digestibility from brown midrib forage.

Forage Yield Associated with the Brown Midrib Trait in Sudangrass

M.D. Casler, J.F. Pedersen, and D.J. Undersander

The brown midrib phenotype reduced forage yield, compared with the normal phenotype, by an average of 15% for the first harvest and 30% for second harvest.

The increased forage nutritional value of the brown midrib lines resulted in increases in relative feed value of 7 to 23%.

Mean forage yield of brown midrib and normal sudangrass lines evaluated at two locations (Arlington, WI, and Ithaca, NE) in 1997 and 1998.

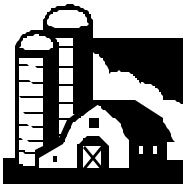
	First harvest		Second harvest	
Sudangrass line	Arlington	Ithaca	Arlington	Ithaca
	——————Mg ha^{-1}——————			
Greenleaf-bmr	8.23**	11.29	2.88*	3.63**
Greenleaf-normal	9.65	10.28	3.59	4.74
Piper-bmr	7.60**	8.21**	2.72**	3.91**
Piper-normal	11.22	11.23	4.04	5.5
LSD0.05	0.48	2.06	0.68	0.71

*Brown midrib line mean is significantly different from normal counterpart line mean at $P < 0.05$.
**Brown midrib line mean is significantly different from normal counterpart line mean at $P < 0.01$.

Wisconsin Farm Technology Days
Sheboygan County
July 11, 12, 13
2006
Host Farm: Quonset Farms
The Hesselinks

Special Point of Interest:

- Forage Planting Alternatives
- Brown Midrib Sorghum Forage
- Alfalfa Weevil Watch
- Forage Yield Associated with the Brown Midrib Trait in Sudangrass



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