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Forage Producers Tech Guide: Forage Maturity and Digestibility, the BMR Effect

Producers are aware that the digestibility of forages decreases as plants mature. As part of the in vitro rumen fluid digestibility studies that Sharp Brothers Seed Co. has conducted, we had analysis performed to see what effect the BMR trait would have on digestibility as it relates to forage maturity. Following are analysis and our conclusions.

Sorghum Sudangrass digestibility-Early Season-Sampled July 29, 2002-Healy KS

	<u>% crude protein</u>	<u>% lignin</u>	<u>% IVTD</u>
Grazex BMR 727 (preboot)	11.54	5.52	77.83
Grazex II (boot)	10.88	6.06	72.62

Above you see two sorghum sudangrass varieties compared when harvested early or at the optimum time. The BMR sorghum sudangrass is clearly more digestible.

Sorghum Sudangrass digestibility-Late Season-Sampled September 5, 2002-Healy KS

	<u>% crude protein</u>	<u>% lignin</u>	<u>% IVTD</u>
Grazex BMR 727 (hard dough)	8.52	5.70	75.34
Grazex II (hard dough)	9.01	9.95	59.80

The second chart shows the digestibility of the same two hybrids as were compared in the first chart but in an extremely mature stage of growth, hard dough. Note that the BMR is better and that the difference between the standard genetics Grazex II and the Grazex BMR is much greater than the difference between these hybrids in the preboot to boot stage. We have seen this situation again and again: **As compared to standard genetics forages the BMR hybrids have noticeably better digestibility when immature and huge advantages in digestibility when very mature.** We're not suggesting that producers purposely delay harvest of BMR sorghum sudangrass since there is little accumulation of additional tonnage after the early heading stage. Note that sorghum sudangrass hybrids do have excellent regrowth characteristics after haying or grazing). However, when harvest is delayed because of weather or temporary shortages of labor, the BMR sorghum sudangrass maintains much better quality than do standard genetics products. This may be the difference between an acceptable hay product and bedding which the animals will not consume.

% IVTD: The abbreviation for % in vitro true digestibility. This is the digestibility rating assigned to a feedstuff based upon laboratory analysis with rumen fluids.