TRICAL® Triticale Excels in University Dairy Forage Studies

Purdue University Dairy Farm Reports Excellent Results Growing & Feeding TRICAL® Triticale

Purdue University is in its third year of raising TRICAL® triticale for its dairy herd. The triticale is bagged, using a ¾ inch (17mm) cut when it is in the early boot stage. The early harvest stage has the advantage of very high protein, dry matter digestibility, and fiber digestibility, with the extra advantage of allowing the University farm to double-crop with soybeans. Holsteins fed TRICAL® triticale produced high milk yield, protein, and butterfat.

The Purdue University farm reports the following values from lab analysis of last year's crops of TRICAL® Triticale and other forages.

Type of Forage	ADF	NDF	Crude Protein	IVDMD[1]
		% of Dry Matter		
TRICAL® Triticale[2]	31.9	50.0	19.2	79.7
Alfalfa haylage[3]	32.3	42.7	21.4	71.5
Corn silage	22.5	37.1	8.6	74.8

[1]IVDMD In vitro dry matter digestibility
[2]Average of two varieties [3]Average of two crops

ADF and NDF, Traditional Measures of Forage Quality, Can Be Misleading

Note that the digestibility of the TRICAL® triticale was the highest of all the forages even though it had the highest Neutral Detergent Fiber (NDF) of the three samples, and much higher Acid Detergent Fiber (ADF) than the corn silage. The fiber of TRICAL® forages is highly digestible when harvested at the boot stage. This important fact points out the inadequacy of using ADF or NDF as indicators of digestibility when comparing small grain forages such as triticale with other forages such as alfalfa or corn silage. The com-bination of high overall digestibility and high content of highly digestible fiber makes boot stage triticale forage a valuable feed for production and animal health.

Cornell University Study Documents Outstanding Yield and Forage Quality of TRICAL® Triticale

Researchers at Cornell University have reported outstanding yield and quality from TRICAL® triticale grown for dairy forage trials in New York. The trials were planted in early to mid September and harvested in early to late May, making the crop an ideal

complement to BMR Sorghum-Sudan or no-till, mid-season corn in a doublecrop rotation.

In addition to producing excellent yields, the quality of the TRICAL® forage was outstanding. In 2001-2002, harvested in the flag leaf stage of maturity, the TRICAL® forage had crude protein in the mid teens and digestibility in the low eighties.

Harvest Stage	ADF	NDF	Crude Protein	IVTD*
		% of Dry Matter		
Flag Leaf	28.4	50.5	16.3	82.7

*IVTD: In vitro true digestibility

In 2002-2003, when fertilized with 150 to 200 lbs/A of nitrogen, the TRICAL® forage averaged 17% crude protein and digestibility near 90%.

Harvest Stage	ADF	NDF	Crude Protein	IVTD*
		% of Dry Matter		
Flag Leaf / Early Boot	28.2	53.8	17.0	88.0

Importance of Proper Crop Fertilization

Based on the high yield potential and protein levels, the researchers note that soil fertility can have a major impact on forage production.

Although triticale typically yields more than wheat even if soil nitrogen is low, both yield and crude protein of TRICAL® forage triticale are very responsive to higher nitrogen fertilization. Nitrogen needs are seldom met from manure alone. Use soil and tissue tests to guide fertility management.