Texas Cooperative EXTENSION The Texas A&M University System Research Report

Wheat Variety Forage Trial

Scott A. Anderson, County Extension Agent-AG
Dr. Billy Warrick, Extension Agronomist
2003-2004
Brown County

Summary:
Five varieties of wheat were planted for forage product on October 29, 2003. The seeding rate was 80 lbs/acre. All plots were treated equal. Approximately 200 lbs of fertilizer/acre was applied before the wheat was planted. Forage clippings in each variety plot were taken on January 20 and April 20, 2004. HG9 was the top forage producing wheat variety with 7,412 lbs/acre.

Objective:
To demonstrate the production of different varieties of wheat. To determine which variety will produce the most forage in a non-irrigated field with no additional fertilizer.

Materials and Methods:
Five wheat varieties - Abilene Ag 1, Lockett, Cutter, Jagalene and HG9 were planted in a selected field on October 29, 2003. Seeding rate was 80 lbs/acre. Less than two inches of rainfall was received for 60 days after planting. Approximately 250 pounds of fertilizer was applied prior to planting.

Results and Discussion:
Visual observations indicated good germination and plant emergence in all varieties. Forage clippings were taken from each variety on January 20 and April 20, 2004. The pounds of forage produced per acre for each variety are shown in Table 1.

Table 1: Variety Trial Clip Weights, January 20 and April 20, 2004.

Wheat Variety	Jan. 20 - - - - - - pounds per acre - - - - - -		Apr. 20 - - - - - - pounds per acre - - - - - -	
	Clip Weights Dry Matter	Est. Dry Matter Intake	Clip Weights Dry Matter	Est. Dry Matter Intake
Abilene Ag	281	70.35	4,990	1,247.60
Lockett	437	109.20	4,128	1,031.94
Cutter	425	106.26	4,065	1,016.19
Jagalene	288	72.03	5,316,	1,329.09
HG9	462	115.50	6,226	1,556.52
Assumes: Wheat Pasture is 21% dry matter content and harvest efficiency is 25%.				

Economic Analysis:
Planting wheat for grazing is a common practice in Brown County. Tables 2, 3 and 4 compare the five wheat varieties based grazing days, weight gain of stocker cattle and estimated grazing value.

Table 2: Estimated Grazing Days for calves weighing 300, 400 and 500 lbs.

Wheat Variety	Estimated Grazing Days assuming one head per acre (in days) - - - - - - - - - - in weight of calves — in pounds - - - - - - - - - 300	400	500
Abilene Ag	138.62	103.97	83.17
Lockett	114.66	86.00	68.80
Cutter	112.91	84.68	67.75
Jagalene	147.68	110.76	88.61
HG9	172.95	129.71	103.77

Assumes: A stocking rate of one calf per acre.
A dry matter forage intake level of 3% of body weight per day.
This means 300 lb calves consume 9 lbs of dry matter (42.85 lbs. of wheat wheat pasture forage) per day: 400 lb. Calves consumer 12 lbs of dry matter (57.14 lbs. Of wheat pasture forage) per day; and 500 lb. Calves consume 15 lbs. dry matter (71.43 lbs. of wheat pasture forage) per day.

Table 3: Estimated Total Weight Gain (in pounds per acre) for cavles weighing 300, 400 and 500 lbs.

Wheat Variety	Estimated Total Weight Gain (in pounds per acre) - - - - - - - - - - in weight of calves — in pounds - - - - - - - - - 300	400	500
Abilene Ag	277.25	181.94	124.76
Lockett	229.32	150.49	103.19
Cutter	225.82	148.49	101.62
Jagalene	295.35	193.83	132.91
HG9	345.89	226.99	155.65

Assumes: The following gain rates:
300 lb. in weight calves gain 2.00 lbs. per day.
400 lb. in weight calves gain 1.75 lbs. per day.
500 lb. in weight calves gain 1.50 lbs. per day.

Table 4: Estimated Grazing Value (in dollar per acre) for calves weighing 300, 400 and 500 lbs.

Wheat Variety	Estimated Grazing Value (in dollars per acre) - - - - - - - - - - in weight of calves — in pounds - - - - - - - - - 300	400	500
Abilene Ag	$91.49	$60.04	$41.17
Lockett	$75.68	$49.66	$34.05
Cutter	$74.52	$48.90	$33.53
Jagalene	$97.47	$63.96	$43.86
HG9	$114.14	$74.91	$51.37

Assumes: A $0.33 value per pound of gain for grazing value.
This is the midpoint of the common range of $0.30 to $0.35 per pound of gain contracts commonly offered to landowners who take livestock in on gain contracts. While calves coming off of wheat pasture may be priced at $0.85 - $1.10 per lb, other expenses will be incurred during ownership (veterinarian, medicine, supplemental feed, water etc. For this reason, we used the custom rate level ($0.33 per pound of gain) to value only the grazing value.

Producers should be especially aware of the expected rollback (spread) in prices between the price of lighter weight calves entering the wheat pasture and the prices expected for the heavier calves coming off of the wheat pasture.

Acknowledgment:
Appreciation is expressed to Dr. Billy Warrick, Extension Agronomist, for securing the wheat seed for this demonstration; Dr. Jason Johnson, Extension Economist, for economic analysis evaluation; and to Mr. Tommy Petross for serving as the demonstration cooperator.