TITLE:

Summer Annual Forages Demonstration, AG-CARES, 2003

AUTHORS:

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METHODS AND PROCEDURES:

Soil Type:	Amarillo fine sandy loam
Planting:	June 12, 2003
Previous Crop:	Cotton
Seeding Rate:	~160,000 seeds per acre or about 10 lbs./A with air vacuum planter
Plot Set-up:	Duplicate plots, 4 rows X 30'; half of plots (1 per hybrid) lost due to herbicide damage
Harvest Area:	2 rows X 5'
Fertilizer:	None
Herbicide:	None
Insecticide:	None
Rainfall:	See summary in AG-CARES report; 1.6" for June 3-9 prior to planting; 4.9" from June 12 to October 29 (period of physiological growth)
Date Harvested:	October 22, 2003; growth represented essentially total biomass production; harvest at comparable stage would have necessitated September harvest for non photoperiod-sensitive hybrids

PURPOSE OF THIS DEMONSTRATION:

South Plains producers frequently inquire about summer annual forages for either grazing or baling. If producers plan to graze or possibly take multiple cuttings then sorghum/sudans, which re-tiller better than forage sorghums, are a preferred choice. What kind of yields might producers expect from these forages under dryland? In 2002, we attempted an identical demonstration at AG-CARES by planting similar forages with a drill, but we achieved a very poor stand due to lack of good seed placement. This year we opted to plant the study with a planter as moisture conditions at planting were considered good, but with listed ground we expected problems getting plant establishment on all rows if drilled.

Most producers are still not familiar with the class of forages known as brown midrib (BMR) sorghum/sudans and forage sorghums. These BMR forages have less lignin, an indigestible component of forages even for ruminants, hence they are more palatable to livestock. Grazing demonstrations of these BMR forages in other South Plains counties have highlighted livestock grazing preference for BMR forages. Also, photoperiod sensitive forages, which head only in October regardless of planting date in response to reaching increased darkness, were included.

This test was conducted for demonstration purposes only. Since one plot for each forage was lost due to herbicide damage, these yield values should serve as an index only for yield comparisons. A particular hybrid in this study and its yield should be less important than an understanding of what sort of forage yields were obtained in 2003 in the face of a dry year.

RESULTS AND DISCUSSION:

Entry #	Hybrid	Company	Forage Type	Oct. 29 Height (ft.)	Dry tons/A
1	T-E Haygrazer	Golden Acres	Conventional sorgh/sudan	6.0	1.7
2	Nutri-Ton II	NC+	Conv. forage sorghum	3.5	2.7
3	Sweeter N Honey	Richardson Seed	Conv. sorgo-sorgh/sudan	6.0	2.1
4	Millennium II	Walter Moss	BMR* forage sorghum	3.5	2.8
5	Nutri Plus BMR	Production Plus	BMR sorghum/sudan	6.0	1.9
6	1990	Sorghum Partner	PS^ forage sorghum	4.0	2.6
7	HoneyGraze BMR	Richardson Seed	BMR sorghum/sudan	6.0	2.8
8	Experimental	Richardson Seed	BMR-PS forage sorghum	5.0	2.5
9	Maxi-Gain	Coffey Seeds	PS sorghum/sudan	6.0	2.7
10	Leafy 60	Coffey Seeds	Conv. hybrid pearl millet	3.0	2.7
11	800HS	NC+	PS sorghum/sudan	5.0	2.2
12	MegaMil	Walter Moss	PS hybrid pearl millet	3.5	2.7

*BMR, brown midrib forage; ^PS, photoperiod sensitive forage

Non-PS sorghum/sudans (4)	2.1
Photoperiod sensitive sorghum sudans (2)	2.5
Forage sorghums (4)	2.6
Hybrid pearl millets (2)	2.7
Demonstration average (12)	2.5

Again, these yield results are unreplicated and should be used only as an 'index' of yield during the 2003 growing season.

We noted substantial differences in maturity, as much as three weeks difference in heading, among conventional forages. Photoperiod sensitive forages (PS) may yield more due to full-season growth. Forage sorghum is primarily for one-time harvest and would not be suitable for grazing. Millets performed well even though the forage is not tall. Millet compensated for forage yield due to high drought tolerance and prolific tillering, which often results in higher quality forage. Tall forages did not necessarily yield more as there was negative correlation between plant height and forage yield ($r = -0.61$).

Growers in the Dawson Co. region should consider the purpose of any forage, i.e. what type of animal the forage will be fed to or whether a hay buyer understands and is willing to pay for quality. Protein content in the early maturity hybrids in this trial (which had reached dough stage) would be only 10% or less. Nevertheless, even for lower quality forage, producers could still expect a range of hay prices from the above forage of $30-45/ton, or substantial income of $90 or more per acre.

Finally, Extension encourages growers in dryland forage production to consider using a planter rather than a drill, even if on 40" rows. Seed placement and stand establishment are key to adequate forage yields in the face of expected droughty conditions. If a drill is old and worn out seed placement is difficult, soil planting conditions are marginal in soil moisture, or if ground is uneven (listed), then a planter may achieve better results than a drill. It certainly can reduce risk! If grazing livestock walk between the rows if 20-24" apart and not tromp the stubble enhancing forage regrowth.

For more information about summer annual forages check with your local Extension office, Calvin Trostle, or the Texas A&M—Lubbock website at http://lubbock.tamu.edu