Texas South Plains Spring-Planted Oats

Suggestions for Late-Season Small Forage Production When Wheat Pasture Falls Short

January, 2006

Calvin Trostle

Extension Agronomy, Lubbock

806.746.6101, ctrostle@ag.tamu.edu

Past Several Years

- Oats planted in late winter for “catch up” small grains forage production
  - There’s not enough wheat for grazing
  - Wheat condition is poor (2006)
  - More cattle on hand than expected
- Up to 50,000 acres per year in TX High Plains
- Oat forage yields look very good, but seldom grazed
  - Oats may be more tender, don’t take grazing as well

Why not stay with wheat?

- **Wheat—has greatly reduced grazing potential from winter & early spring seedings**
- **<u>Inadequate chilling of wheat seed</u>: At some unpredictable point wheat seed gradually fails to vernalize (minimum amount of chilling) in order to grow reproductively**

Why not stay with wheat?

- Example: wheat (TAM 200) vs. oats in 2001 (Hale Co.) and 2002 (Lubbock Co.)
  - 2001, seeded March 20th, and one-time hay harvest, TAM 200 ranked 6 of 13 for total forage
  - 2002, seeded Feb. 15th (5 weeks earlier than 2001), only about 20% of wheat vernalized and forage yield was less than half of lowest yielding oat variety
  - 2002, most wheat was less than 10” tall in spite of irrigation

Why not stay with wheat?

- Hard to predict when the wheat may vernalize
- Oat is a safer bet
- But oat seed cost might make you think about drilling wheat anyway
  - What is the risk if you don't get much forage production due to potential lack of adequate chilling in wheat?

Why not stay with wheat?

- Wheat can be seeded earlier than oat in late winter as it is a bit more cold tolerant
- But with little rainfall and cold conditions, seeding earlier may not make much difference in forage yield
  - What is 10 relatively cold days worth in terms of forage production?

Other small grains?

- Rye also is more tolerant of colder seeding conditions, but rye isn't a preferred grazing forage
- Triticales are not well suited for late winter seeding in this area
  - T-2700 is only variety triticale experts would recommend for spring-seeding

OK, you choose oats…

- Whoa! Seed cost is high, so maybe I will consider wheat again
- But at what risk?—Especially if you have to have production, and wheat might not deliver yields
- Shop around for oat seed varieties and availability throughout the Texas High Plains

Oat Seed Quality& Seeding Rate

- Oat standard test weight is 32 lbs./bushel
- Minimum germination of 85%
- Irrigated, agronomically target oats at 90-100 lbs./A (3 bushel/A)
  - Good yields observed with 2 bushels/A (Lubbock)
- Dryland, 2 bushels/A, but lower seed rates probably adequate provided you can get stand
  - Dryland oat forage will require good soil moisture
  - Seed cost might be unreasonable for dryland

Spring-Planted Oats
Texas South Plains

- Plant early when average daily soil temperature = 45 F although 50 F is ideal
  - Lamesa, about Feb. 1-10 (general estimate)
  - Lubbock, Feb. 7-14
  - Dimmitt, Feb. 10-20
- For Lamesa, ideally seed no later than March 1 (and not recommended after about March 15)
- Excellent spring forage production
- Perhaps best used for hay

Lubbock Trials, 01-02

- Seeded mid-Feb. to mid-March
- Flood irrigated
- ~60 lbs. N/acre
- Replicated

Lubbock Oat Forage Results (dry lbs./A)

Oat Maturity	Multiple Clipping	One-time Hay Harvest
Short	4,600	3,260
Long	5,040	5,660

Five long-maturity varieties; seven short.

Conclusions, LBB 01-02

- Short maturity oats produced more grain
- Longer maturity varieties yield more forage in A&M--Lubbock testing, especially for one-time hay harvest
  - **Medium-long**: Troy, Monida
  - **Long**: Charisma, Magnum
  - **Very Long**: Walken
  - **Short maturity**, lower forage yielding oats: Bob, Jerry, Nora, Chilocco, TAMO 397, Dallas

Additional Oat Variety

- Harrison was not tested, but this longer maturity oat also has good forage yields based on grower feedback from Midland to Ft. Stockton

Texas South Plains Oat Production Tips

- N requirements met sufficiently with 40-60 lbs. N/acre for most production
- Delay in planting may cause heat stress, especially for Walken: very long maturity
- Pre-plant glyphosate or 2,4-D
- Once established, if needed: Aim, Glean, Buctril, Peak, 2,4-D (but not Ally)

Extra, Extra...

- Will you bale oat or other small grains hay in 2006?
- When will you do it? What will you use the hay for (feed or sell)?
- **Key Question**: What happens to forage quality the longer you wait?

Lubbock Co. Oat Trial, 2002
One-time Hay Harvest, var. Troy

Growth Stage	Harvest	Dry lbs./A	%CP
Early Boot	May 17	3,240	18.4
Init. Heading	May 24	4,510	16.3
Fully Headed	May 31	5,465	13.9
Milk	June 7	6,010	12.5
Mealy Ripe	June 14	6,420	11.5
Firm Dough	June 21	6,845	8.7

Troy oat was harvested for six Fridays in a row among extra plots. Yield was Taken for three plots at each date, individual each sample analyzed for crude protein. When you consider your tonnage and forage quality goals, and your use or your market, which scenario is best for you?

Wheat Hay--Castro Co.
2002

Growth Stage	Dry lbs./A	%CP
Boot	2,590	18.6
Mid-heading	4,890	14.1
Soft Dough	6,230	9.4

Hay Forage Quality

- Overlooked, underrated

- Selling hay?
- What kind of livestock is the forage for? Don’t waste good boot quality forage on cows
- Poor quality forage to stockers, trying to gain weight, will have to be supplemented

Plant Quality Oat Seed

- Test Wt. ≥ than 32 lb/bu
- Germination ≥ 85%
- You have a right to ask about seed quality before they ship your oats!
- If seed is poor quality
  - Plant higher seeding rate
  - Plant under optimum conditions
  - Seed treatments may help

Nitrogen

- If small grains stand is thin (sound familiar in 2006?), but uniform, an early N application may enhance tillering (increase heads per square foot)
- For mid-season applications: 1) topdress onto dry soil, especially for high pH soils to minimize N losses (this reduces N volatilization losses)

Nitrogen for Grain

- Leaf sheaths strongly erect (Feekes 5.0)--ideal stage of growth for topdress N when grain is desire
  - but if it looks a little scraggly and yellow, if might need some help sooner...
- Later applications will not affect the potential number of seed per head
- For the short growing season of spring-seeded oats, consider putting all N out at planting

Nitrogen for Forage

- N needs to go on the field sooner
- For September seeded wheat, consider ~70% of N out up front to drive fall forage production, remainder topdressed in spring.
- For spring-planted oats, I would suggest growers put most or all N on at-plant, or incorporate prior to seeding
  - If you can easily put out N through pivot, then perhaps delay some N