



TEXAS COUNTY AG NEWSLETTER

August 2007 <http://countyext.okstate.edu/texas>

Wheat Planting Date & Rate Studies

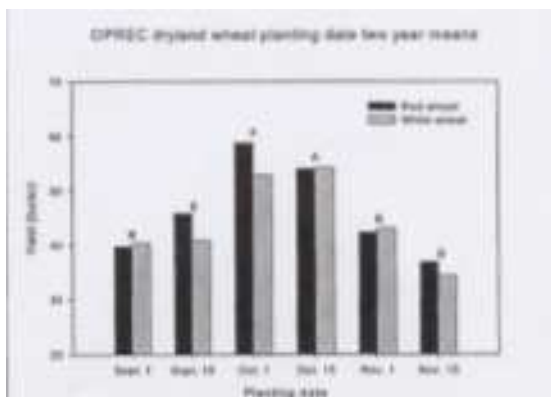
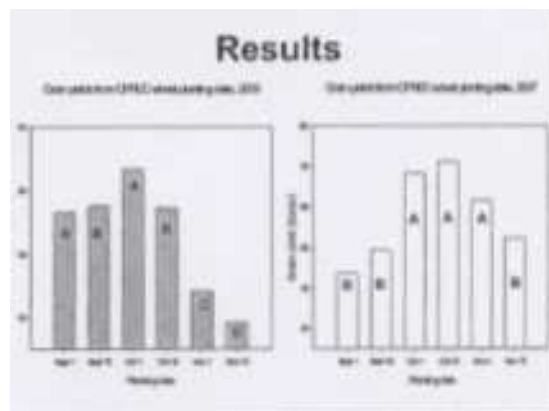
by Rick Kochenower, Oklahoma Panhandle Research & Extension Center, Goodwell, OK

Some very useful research has been carried out by Rick Kochenower at OPREC on planting rate and planting date of wheat.

Reviewing first the planting date studies: Six dates --- Sept 1, Sept 15, Oct 1, Oct 15, Nov 1 and Nov 15 were observed. Tam 111 and Guymon were the two varieties used. The following two graphs show the results of the study over a 2 year period - 2006 & 2007. One graph shows the difference in yield between the two years. And the other graph shows the side by side comparison of the two varieties used.

Planting Date

- Six dates
 - Sept 1 -15, Oct 1-15, Nov 1- 15
 - Seeding rates (Sept 1 45 lbs, Sept 1 - Oct 1 60 lbs, Oct 15 90 lbs, Nov 1 – 15 120 lbs)
- Two varieties Tam 111 and Guymon



Conclusions

- October 1 is optimum date
- Recommendations
 - Sept 20 – 25 start planting even if you are dusting it in
 - in 2006 wheat dusted in Oct. 1 would have out yielded wheat planted into moisture on Oct 15 by minimum of 15 bu/ac

In conclusion, the information shows that Oct 1 is the optimum date recommendations it would be to start planting ---Sept 20-25 if you are dusting-in. In 2006 wheat dusted in Oct 1 would have out yielded wheat planted into moisture on Oct 15 by minimum of 15 bu/acre.

Seeding Rate

What is the optimum seeding rate? Probably the most common question this time of year. The study used 5 seeding rates (30, 45, 60, 90 & 120 lb/acre). Two varieties are also used - one red and one white. The results are summarized in the following charts

Seeding Rate

- One of the most common questions I get asked
- Five seeding rates (30, 45, 60, 90, 120) lbs
- Two varieties a red and white

Results (bu/ac)

Seeding rate (lbs/ac)	2004		2005		2007	
	TAM 111	Test wt	Guymon	TAM 111	Guymon	TAM 111
30	15.3	53.7 *	51.5	61.9 **	65.3	74.1 **
45	16.4	53.9 *	57.5	71.2 *	70.1	83.1 *
60	14.7	54.3 *	55.3	69.0 **	65.4	80.4 *
90	17.6	65.2 *	54.1	65.4 **	69.7	84.2 *
120	17.1	65.2 *	54.4	57.4 *	72.8	84.5 *

Test weight 2005 and 2007

- No differences observed in either year with either variety
 - Guymon - 05 (64.2 - 64.6)
- 07 (62.2 - 62.3)
 - TAM 111 - 05 (61.6 - 62.0)
- 07 (59.6 - 60.4)

Landscape & Maintenance

August:

- Water all plantings thoroughly unless rainfall has been adequate.
- The fall vegetable garden is planted now. (F-6009)
- Divide and replant spring blooming perennials.
- Irrigated warm-season lawns may be fertilized again. (F-6420)
- Hedges and shrubs can be pruned, if necessary, about mid-August.
- Young trees and shrubs may be fertilized again.
- Discontinue dead-heading roses by mid-August to help initiate winter hardiness.
- Brown patch disease of cool-season grasses can be a problem. (F-6420)
- Meet water requirements of turf. (F-6420)
- For areas being converted to tall fescue this fall, begin spraying bermuda-grass with glyphosate products in early August. (F-6419 & 6421)
- White grub damage can become visible this month. Apply appropriate soil insecticide if white grubs are a problem. Water product into soil. (F-7306)
- Watch for 2nd generation of fall webworm in late August/early September.
- Pre-emergent herbicides for winter-annual weed control in warm-season grasses can be applied in late August. Water in the product after application. (F-6421)



Nitrates in Summer Crops

Nitrates can be at dangerous levels in various summer crops. Summer forage crops as well as immature grain sorghum can have build up of nitrates. The following info will more thoroughly explain nitrate toxicity.

Nitrate Toxicity

The storage of excessive nitrates can be deadly when ingested by ruminant animals (beef cattle). Some steps can be taken to minimize the risk of haygrazers accumulating nitrates and causing nitrate poisoning in beef cattle. Forage type selection and minimal fertilization are key to reducing the risk of nitrate poisoning. Pearl millet has the greatest ability to accumulate nitrates. Sorgho X sudan and sudan X sudan crosses tend to accumulate less nitrates. Over fertilization is another problem that attributes to nitrate build ups in these plants. Farmers apply large amounts of nitrogen to haygrazer fields trying to produce large amounts of forage. Haygrazer will really react to the nitrogen in the soil and produce large amounts of forage but what good is it if you can not feed it to your cattle.

Once the haygrazer has been planted and is ready for harvest either by grazing or haying, the number one thing to do is check the haygrazer to see if nitrate poisoning is a concern or not. If it is not a problem then grazing or haying can be done without much concern. Haygrazers that are high in nitrates should not be cut for hay. Once the forage is cut, the nitrate will stay in the forage until it is consumed. Many times you can wait for a rain or let the forage mature more and this will help to reduce the amount of nitrates accumulated in the plants. Young plants tend to have more nitrates than do older plants (soft dough state). If the haygrazer is hot (high in nitrates) then there are other precautions that can help to reduce the risk of nitrate poisoning when grazing the forage. Thin cattle in poor health are more susceptible to nitrate poisoning. Hungry cattle should be filled for 2—3 days prior to turning them on to the haygrazer. Release cattle in the afternoon when nighttime nitrate accumulations have subsided. Provide large quantities of fresh drinking water to cattle. Water dilutes the nitrate concentrations in the rumen and reduces the potential of toxicity.

Prussic Acid Poisoning

It was discovered in the early 1900s that under certain conditions sorghums are capable of releasing hydrocyanic acid (HCN or commonly called prussic acid). Prussic acid when ingested by cattle, is quickly absorbed into the blood stream, and blocks the animal's

cells from utilizing oxygen. Thus the animal dies from asphyxiation at the cellular level.

Animals affected by prussic acid poisoning exhibit a characteristic bright red blood just prior to and during death. Some plant factors that attribute to prussic acid accumulation include:

1. Young plants contain more HCN per unit weight than do older plants.
2. Any stress condition such as drought or freeze damage will increase HCN amounts.
3. There is more HCN in the leaves than in stems—the topmost (younger) leaves contain more HCN than do the lower leaves.
4. Sun-curing of hay will reduce HCN, especially if the hay is crimped.
5. High nitrogen rates, regardless of phosphorus level, will increase HCN potential.
6. Imbalance of nitrogen and phosphorus in the soil increases HCN potential.
7. HCN potential in sorghum plants is genetically controlled and varies among sorghum types.

Proper management practices can help to reduce the chance of prussic acid poisoning. The following practices can help prevent losses due to prussic acid poisoning.

1. Do not turn in hungry cattle. Feed some hay first then turn in cattle in late afternoon.
2. Prevent selective grazing of lush young re-growth by using rotation grazing.
3. Allow plants to reach at least 18-24 inches in height before grazing is allowed.
4. Do not graze after frost until all plants are field cured. Tillers grown after a light frost will be exceptionally high in HCN. Wait at least 7 days before grazing after a killing frost.
5. When turning cattle into a field with possible HCN problems, the following is recommended:
 - Turn in only a few cattle at first and see how they do.
 - Ask your local veterinarian to be present in case of problems.

Testing for Nitrates and Prussic Acid

Nitrate levels can be checked in haygrazer plants by 2 methods. One method is done by using diphenylamine solution to check for the presents of nitrates. This “drops test” method can be done at the OSU Extension Center in very little time. Splitting a few stalks and applying the solutions takes very

(Continued from "Nitrates in Summer Crops")

little time. This method must be done using fresh cut plants. The producer should bring in plant samples that have just been cut that morning. The plants will have their highest concentration of nitrates at this time of day. The plants should be cut at ground level as the highest concentration of nitrates will be in the lower part of the plants. The lab in Stillwater can also check the nitrates using the dry weight method. This can be done with both fresh and dry samples.

If more info is needed, call Steve at the Texas County OSU Extension Service at (580)337-7300.

**TEXAS COUNTY FAIR DATES
AUGUST 15TH - 18TH!**

**TEXAS COUNTY JR LIVESTOCK SHOW
FEBRUARY 19-21, 2008**

Steve Kraich, Ag/4-H Educator
Texas County OSU Extension Service

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