

PEST MANAGEMENT NEWS

Jones

Mitchell

Nolan

Scurry

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THE INTEGRATED PEST MANAGEMENT NEWSLETTER
 FOR THE LOWER ROLLING PLAINS

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Wheat News

We have had some cold temperatures since the second week of January that has helped keep the greenbug numbers in check. These temperatures have also had a negative impact on natural enemies, primarily the parasitic wasp, *Lysiphlebus testaceipes*, (no common name) and lady beetles. Once temperatures begin to warm back up, greenbug numbers may also buildup rapidly. At temperatures below 65° degrees F, greenbugs are able to reproduce much faster than its natural enemies. On very young plants, greenbug numbers of 25 to 50 per foot of drill row may require treatment. Other threshold levels are as follows:

Plant height (inches)	Number of greenbugs per linear foot
3 - 6	100 - 300
4 - 8	200 - 400
6 - 18	300 - 800

Last newsletter I reported on a greenbug sampling system “Glance ‘n Go”, which was developed by the Oklahoma State University and USDA-ARS wheat research program at Stillwater, Oklahoma. It calculates a treatment threshold based on potential crop value, cost of control and time of year. The sampling system is quicker and more simple than counting actual number of greenbugs. Glance ‘n Go scouting forms and information can be obtained at <http://entopl.okstate.edu/webs.htm> and then clicking “Cereal Aphids Pest Management.” which is under the heading “Agricultural Models”. **The limitation of the sampling system is that it can only be used for wheat after it reaches the 4-leaf stage.**

If treatments are warranted, Lorsban® 4E @ 0.5-1.0 pt./acre or Dimethoate 4E @ 0.5-0.75 pt./acre are the two (2) most commonly used products to control greenbugs. The effectiveness of these products are better when applied at temperatures above 50° F. When temperatures are lower, use the highest recommended rate.

If you are planning to take the wheat to harvest and adequate nitrogen fertilizer has not been applied previously, nitrogen should be applied at least two (2) weeks prior to wheat jointing. The following recommendations are taken from an article, **TOP DRESSING AND WEED CONTROL SUGGESTIONS IN WHEAT - 2005** by Dr. Brent Bean and Dr. Calvin Trostle (Texas Cooperative Extension Agronomists).

Wheat foliage may appear light green when growth occurs during cool, cloudy weather. If this yellow-green color persists after several days of sunshine, it is likely due to inadequate nitrogen. The presence of vigorous darker green wheat growth around cattle droppings and urine spots is added evidence nitrogen is deficient. Also, nitrogen deficient wheat will generally have yellow older leaves as the plant transfers nitrogen to younger growing leaves.

The rule of thumb for determining wheat nitrogen need is 1.5 lbs of nitrogen per bushel of expected yield. For example, a 35 bushel wheat crop that has not been grazed, will require 52.5 pounds of nitrogen for the entire growing season. In the absence of a soil test, dryland wheat exhibiting nitrogen deficiency symptoms in the late winter or early spring should be fertilized with 30 to 40 lbs of nitrogen. Likewise, irrigated wheat fields should be fertilized with 60 lbs of nitrogen with additional nitrogen applied in the irrigation water as needed, depending on the yield goal and previous rate of nitrogen applied.

Ideally, the nitrogen should be applied two (2) weeks prior to wheat jointing. This will hopefully improve the chances of nitrogen moving into the soil where the roots can pick up the nitrogen when the wheat begins its rapid growth during the jointing phase. This is also just prior to when the wheat plant will begin to form the wheat head and potential kernel numbers per head is determined. Research has shown there is very little benefit to grain yield when nitrogen is applied after the second joint (node) is visible on the wheat plant. Any nitrogen added after this time may benefit grain protein, but will have little effect on yield.

Leaf burn from liquid nitrogen application is often a concern with growers. Leaf burn can be minimized by applying nitrogen while temperatures are cool. Even if leaf burn occurs it will have little effect on final grain yield.

If both weeds are present and nitrogen is needed, consider applying herbicide and fertilizer together in order to save on application costs.

A flush of winter weeds, especially mustard weeds, may begin to germinate with the recent moisture. Texas Agricultural Experiment Station research has shown one uncontrolled tansy mustard weed per square foot can reduce dryland wheat yield by 10 percent. These weeds should be controlled while they are small and have not had a chance to use up valuable soil moisture that will be needed by the wheat crop this spring. Mustards that have grown out of the rosette stage and are beginning to bolt in order to flower are much more difficult to control. Also, lower rates of herbicide can be used to control small weeds compared to larger weeds. Many of the herbicides labeled for use in wheat, including 2,4-D, will be very effective on small mustard weeds. In choosing which herbicide to use consider how much residual effect is needed, and which crop will be planted on the land following the wheat. Use the herbicide with as long of a residual as can be tolerated considering the crop rotation plan. A list of herbicides labeled for wheat, along with their residual and crop rotation restrictions, can be found at Texas Cooperative Extension Bookstore web site (<http://tcebookstore.org/>) following links to Agriculture/Crops/Small grains. The publication B-6139 Weed Control Recommendations in Wheat can be purchased or read online for free.

Cotton Variety Trial Data

A broad list of cotton variety trials conducted across the Southern Rolling Plains can be found at Dr. Billy Warrick's web site (<http://sanangelo.tamu.edu/agronomy/>), and follow links to Newsletter/February 3, 2007 Newsletter/Linked is the production data. The following tables are from trials conducted in Jones, Mitchell, Nolan, and Scurry counties. The trial in Jones county was stripper harvested and weighed in a boll buggy. All other trials were hand harvested.

Table 2. Data from Erick Richards' 2006 Dryland Cotton Variety Test (Jones County)

Variety	Yield Per Acre				Fiber Quality					CCC Loan Value	Lint Gross Return (\$/acre)	Seed Gross Return (\$/acre)	Total Gross Return (\$/acre)
	In Pounds		% Turnout		Color- Leaf	Fiber Length (staple)	Mic	Strength (gram/tex)	Uniformity				
	Lint	Seed	Lint	Seed									
Deltapine 143 B2RF	270	426	31.4	49.4	312	35	4.9	24.0	78.7	54.70	147.92	30.86	178.78
Phytogen 425 RF	282	365	35.4	45.9	312	33	4.9	24.8	81.4	50.60	142.57	26.49	169.05
Stoneville 4700 B2RF	284	408	33.5	48.1	312	32	4.9	22.3	80.1	47.95	136.05	29.56	165.61
Phytogen 470 WR	265	331	36.4	45.4	212	32	4.9	27.6	82.3	50.45	133.79	23.98	157.77
Phytogen 370 WR	256	346	34.5	46.6	212	33	4.9	25.3	81.3	50.90	130.45	25.12	155.57
Beltwide 9775 B2F	241	434	29.4	53.0	212	33	4.9	22.8	82.2	50.35	121.14	31.45	152.59
Stoneville 4554 B2RF	251	335	34.9	46.5	212	31	4.9	27.6	80.7	50.35	126.59	24.26	150.85
Beltwide 2038 B2F	244	433	29.7	52.8	112	32	4.9	22.6	81.7	48.75	118.78	31.38	150.17
Stoneville 4357 B2RF	241	360	31.8	47.5	112	33	4.9	22.7	80.4	50.35	121.56	26.12	147.68
Beltwide 4630 B2F	238	413	30.1	52.3	112	32	4.9	21.0	79.1	47.10	112.11	29.97	142.09
NexGen 3273 B2RF	228	367	31.7	51.1	212	32	4.9	22.3	81.8	48.20	109.76	26.63	136.39
FiberMax 9060 F	206	303	33.8	49.7	212	34	4.9	25.2	82.3	53.75	110.86	22.00	132.86
FiberMax 960 BR	193	338	29.8	52.0	312	33	4.9	29.4	82.8	52.00	100.57	24.49	125.05
FiberMax 9063 B2RF	174	342	27.8	54.6	212	33	4.9	27.6	80.0	52.05	90.66	24.79	115.44
FiberMax 960 B2R	170	263	32.3	49.9	212	33	4.9	27.1	82.0	52.05	88.52	19.05	107.57

Seed income calculated using a price of \$145 per ton.

Table 2. Agronomic Data from Nub Morris' Dryland Cotton Variety Test (Mitchell County, 2006).

Variety	Yield Per Acre				Fiber Quality					CCC Loan Value	Lint Gross Return (\$/acre)	Seed Gross Return (\$/acre)	Total Gross Return (\$/acre)
	In Pounds		% Turnout		Color- Leaf	Fiber Length (staple)	Mic	Strength (gram/tex)	Uniformity				
	Lint	Seed	Lint	Seed									
Phytogen 485 WRF	634	1129	26.7	47.7	312	34	4.90 a	30.83 a	83.9 a	54.15	342.59	81.85	424.44
Deltapine 147 RF	612	1098	26.7	47.8	212	35	4.40 b	27.03 bcd	81.1 bc	55.95	341.80	79.63	421.43
NexGen 3550 RF	626	1172	26.0	49.8	212	33	4.77 ab	28.90 ab	82.0 abc	52.55	332.07	84.95	417.02
Stoneville 4554 B2F	596	1075	26.7	48.2	212	34	4.90 a	28.80 abc	83.2 ab	55.05	327.12	77.96	405.08
Beltwide 4630 B2F	555	1130	25.0	50.5	212	34	4.70 ab	26.40 cd	83.3 ab	55.38	309.05	81.92	390.97
Americot 1504 B2F	563	1112	25.2	49.9	212	34	4.87 a	25.10 d	83.0 ab	54.40	307.58	80.65	388.23
Stoneville 4664 RF	571	1215	24.3	51.6	212	33	4.77 ab	29.33 ab	81.4 abc	52.30	298.57	88.12	386.69
Americot 1532 B2F	533	1100	24.5	50.6	212	35	4.83 a	25.97 d	81.4 abc	55.72	297.27	79.74	377.01
Deltapine 143 RF	489	977	24.7	49.9	112	35	4.73 ab	26.10 d	79.7 c	57.05	278.68	70.81	349.49
Prob (F)	NSD	NSD	NSD	NSD	-	NSD	0.0075	0.0001	0.0014	NSD	NSD	NSD	NSD

Means in a column followed by the same lower case letter do not differ significantly (P=0.05, Tukey's significant range test).

NSD = No Significant Difference (P=0.05, ANOVA, SAS Institute 1993).

Seed income calculated using a price of \$145 per ton.

Table 1. Agronomic Data from Don Martin's Irrigated Cotton Variety Test (Nolan County, 2006)

Variety	Yield Per Acre				Fiber Quality					Lint CCC Loan	Seed Gross Return	Total Gross Return		
	In Pounds		% Turnout		Fiber			Strength	Value				(\$/acre)	(\$/acre)
	Lint	Seed	Lint	Seed	Color- Leaf (staple)	Length Mic	Uniformity							
FiberMax 960 B2R	1256	2327	28.5	52.8	112	36	4.9	32.4	82.1	58.95	740.38	168.69	909.08	
Beltwide 2038 B2RF	876	1785	26.4	53.8	212	35	4.6	27.2	84.0	57.60	504.45	129.39	633.85	
FiberMax 960 BR	870	1670	27.6	53.0	112	35	4.9	32.2	81.0	57.70	501.71	121.06	622.77	
Phytogen 370 WR	967	1524	31.4	49.5	212	32	4.9	31.9	83.5	51.25	495.40	110.48	605.88	
Beltwide 4630 B2RF	761	1456	27.9	53.4	112	34	4.9	27.6	83.5	55.25	420.18	105.53	525.72	
Deltapine 117 B2RF	806	1335	30.5	50.5	212	33	4.9	29.1	81.6	52.05	419.71	96.80	516.51	
FiberMax 989 B2R	694	1388	26.6	53.2	112	35	4.9	33.3	84.4	58.10	403.25	100.64	503.89	
FiberMax 9063 B2F	677	1529	24.9	56.2	212	35	4.9	32.3	83.0	57.95	392.50	110.83	503.33	

NOTE: 1) Yield was determined by hand harvesting

2) Gross return per acre for cottonseed was based on a sale price of \$145 per ton

Table 1. Agronomic Data from Steve Moore's Dryland Cotton Variety Test (Scurry County, 2006)

Variety	Yield Per Acre				Fiber Quality					Lint CCC Loan	Seed Gross Return	Total Gross Return		
	In Pounds		% Turnout		Fiber			Strength	Value				(\$/acre)	(\$/acre)
	Lint	Seed	Lint	Seed	Color- Leaf (staple)	Length Mic	Uniformity							
FiberMax 960 B2R	388 a	749	27.4	52.9	112	37	3.5	33.3	84.7	59.60	231.20	54.30	285.50	
Deltapine 494 R	370 ab	647	28.3	49.5	212	35	3.7	31.5	83.9	58.25	215.40	46.89	262.29	
Deltapine 434 R	316 abc	473	32.8	49.1	112	34	3.7	23.7	81.4	53.75	169.93	34.31	204.24	
FiberMax 800 R	165 abc	355	26.2	56.4	112	36	3.5	34.8	85.9	59.55	98.16	25.73	123.89	
Deltapine 147 RF	175 bc	294	34.2	57.5	212	35	3.5	27.4	80.9	57.25	100.10	21.31	121.41	
Deltapine 167 RF	121 bc	242	26.5	53.2	212	33	4.0	30.1	80.7	52.50	63.28	17.54	80.82	
FiberMax 960 R	101 bc	237	22.3	52.2	212	36	3.7	34.1	84.3	59.55	60.21	17.16	77.36	
AFD 3074 RF	109 bc	230	25.0	52.9	312	33	3.6	28.1	80.6	51.75	56.19	16.66	72.85	
Stoneville 4664 RF	58 c	125	24.3	52.1	212	33	4.0	29.7	81.9	52.50	30.55	9.05	39.60	

In Table 1, the individual or combination of letter a, b, or c shown beside the number in the lint column are to indicate statistical significance. There is no statistical difference between numbers that have the same letter (even when there appears to be a large numerical difference).

Seed income calculated using a price of \$145 per ton.