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Crop Management Newsletter

News about Crop Management for producers in Dawson and Lynn Counties.

Thanks to the sponsors and the gins who support the Dawson/Lynn IPM Program
(found on page 2)

Why the Optimism?

Well, the 4th of July has come and gone and we are not seeing any white blooms. Does that mean we have no chance for a crop? Not at all, I honestly believe we are set up - with available underground moisture - and a cotton crop that is growing and developing where we can hit this out of the park - barring any environmental catastrophe (weather or insect) and we provide the crop the nutrition it requires.

Just because the seed was put in the ground "later the normal" this year, does not mean we are behind. Think with me for a moment: How many years does the later planted dryland corners get ahead of the earlier planted irrigated circle? The circle had to struggle through cooler soil and air temperatures where the dryland corners were planted into warm soils. That is essentially what has happened this year - we planted it all (corners and pivot) into the warm soils.

Although dependent on growing conditions, a delay in planting early in the planting window can have little impact on the date of flowering as cotton planted under optimum conditions will often catch up to earlier planted cotton that struggled with cool temperatures. Adequate soil temperature for a vigorous plant is critical.

During the growing season, research has shown that there is one two-week period where the heat unit accumulation and yield had a significant correlation - it coincides with the seedling stage of the cotton plant. This indicates the importance of warm temperatures on obtaining healthy stands to potentially obtain maximized yield.

The cotton plant develops in an orderly,

predictable pattern. If you are familiar with the fruiting stages, their sequence, and the time required for each stage, you can tell if your crop is on schedule.

Under normal conditions, you can generally find the first square on the plant 31 to 47 days (35 days average) after planting. With continuing favorable temperatures the first white bloom should be visible in approximately three weeks after the square is set. That will be from 20 to 27 days (23 days average) after the square or bud develops. So you should spot the first white bloom about 60 to 80 days from planting.

Research shows that in the High Plains, about 85% of the total bolls are set during the first three

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weeks of blooming, 10% during the fourth week, and less than 5% from the fifth through the seventh weeks.

The average number of days and heat units required for various growth stages of cotton.

Growth Stage	Days	Heat Units
Planting to Emergence	4 to 9	50 to 60
Emergence to First Square	27 to 38	425 to 475
Square to Flower	20 - 25	300 to 350
Planting to First Flower	60 to 70	775 to 850
Flower to Open Boll	45 to 65	850 to 950
Planting to Harvest Ready	130 to 160	2200

Let's now take those numbers and apply them to this season and see where we end up. We will use two planting dates, June 1 and June 10 and a total of 2200 HU, based on research conducted on the High Plains, for a mature crop.

Growth Stage	Date	
	Planting	June 1
First Square (35 day average)	July 7	July 16
First Flower (additional 23 days)	July 30	August 8
4 weeks of Flowering (95% boll set)	August 27	Sep. 5
Planting to Harvest Ready (130 to 160 days)	Oct. 9 to Nov. 8	Oct. 18 to Nov. 17

Special THANKS to those who support
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Many Thanks to the Gins who participate and support the Lynn/Dawson IPM Program

**Farmers Association Coop - O'Donnell
King - Mesa Gin
Tinsley Gin
United Gin Corporation
Woolam Gin**

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Based on June 1 Planting Date	Heat Units		
	Tahoka	O'Donnell	Lamesa
June (actual)*	492	500.5	506
July^	620	620	604.5
August^	589	589	573.5
September^	345	345	345
Total	2046	2054.5	2029
HU needed in October to obtain 2200	154 (4.9/day)	145.5 (4.7/day)	171 (5.7/day)

* Based on the Texas Tech Mesonet temperatures for each location.

^ Based on the daily average temperatures for the month from the Weather Channel.

Based on June 10 Planting Date	Heat Units		
	Tahoka	O'Donnell	Lamesa
June (actual)*	353	357	363
July^	620	620	604.5
August^	589	589	573.5
September^	345	345	345
Total	1907	1911	1886
HU needed in October to obtain 2200	293 (9.4/day)	289 (9.3/day)	314 (10.1/day)

* Based on the Texas Tech Mesonet temperatures for each location.

^ Based on the daily average temperatures for the month from the Weather Channel.

Based on May 23 Planting Date	Heat Units		
	Tahoka	O'Donnell	Lamesa
May 23-31 (actual)*	71.5	77	79
June (actual)*	492	500.5	506
July^	620	620	604.5
August^	589	589	573.5
September^	345	345	345
Total	2117.5	2131.5	2108
HU needed in October to obtain 2200	82.5 (2.7/day)	68.5 (2.2/day)	92 (3/day)

* Based on the Texas Tech Mesonet temperatures for each location.

^ Based on the daily average temperatures for the month from the Weather Channel.

I think the charts above show we have an excellent chance of obtaining the 95%+ boll set potential of the plant.

Still not a believer - let's look at a set of data from some research conducted here on the High Plains and summarized by Dr. Supak. The data shows the variation in heat unit schedules for cotton planted on different dates in Lubbock.

Planting to:

Planting Date	<u>Square</u>		<u>Flower</u>		<u>Open Boll</u>		<u>Termination</u>	
	Days	HU	Days	HU	Days	HU	Days	HU
May 14	45	549	67	988	102	1670	128	2117
May 29	35	545	56	941	93	1664	113	1983
June 11	33	628	53	1029	88	1704	100	1871
June 18	32	627	53	1030	88	1696	93	1756

All the above gives me the optimism I have for a real good crop, one I would say at this time looks to be a home run.

If asked what I would change about the season, I would say to add and additional 5 degrees to the nighttime temperatures and keep them in the low 70's.

The following tables give the rainfall, high and low temperatures and heat units by date for July.

Tahoka

Date	Rainfall	High	Low	Heat Units
7/1/2015	0	92	65	19.5
7/2/2015	0	91	66	18.5
7/3/2015	0	90	66	18
7/4/2015	0	92	65	18.5
7/5/2015	0	93	69	21
Total	0			95.5

O'Donnell

Date	Rainfall	High	Low	Heat Units
7/1/2015	0	89	67	18
7/2/2015	0	88	67	17.5
7/3/2015	0	87	68	17.5
7/4/2015	0	91	67	19
7/5/2015	0	91	69	20
Total	0			92

Lamesa

Date	Rainfall	High	Low	Heat Units
7/1/2015	0	90	64	17
7/2/2015	0	89	65	17
7/3/2015	0	89	68	18.5
7/4/2015	0	91	65	18
7/5/2015	0	93	70	21.5
Total	0			92