

The Integrated Pest Management (IPM) Newsletter
for the Row Crops in the Lower Rio Grande Valley

2401 East Highway 83
Weslaco, Texas 78596
Telephone (956) 968-5581
Fax (956) 969-5639

WebSite: <http://entowww.tamu.edu>
TPMA Newsletter Website: www.tpma.org
District 12 Website:
<http://agfacts.tamu.edu/D12>

John W. Norman, Jr.
Extension Agent-IPM

PEST CAST

GENERAL SITUATION: Well, we missed the big one! Claudette went north, but some rain came our way this week, anyway. Some 3 + inch amounts of accumulated rain fell in parts of Cameron and Willacy counties with lesser amounts in Hidalgo county throughout this week. A chance for more rain through Saturday, July 19 was predicted. Some extra dry weather would actually be appreciated by cotton and grain producers for the next month and a half. Cotton is really open and a few fields have been harvested and more are to be defoliated shortly. Insect activity for those producers with fields that need protection from boll weevils: *Very tough.*

Cotton Crop Still Looking Good



One report of a dryland field being harvested last week with over a bale per acre was received this week. If we can average over a bale to the acre on most of the dryland then the irrigated likely will bring us to one of the better overall yields the LRGV has seen in several years. BUT, lets not get in to big of a hurry because we have another 6 weeks before harvest can be completed. Some fields will yield very high, both dryland and irrigated and some will yield very low, both dryland and irrigated. And besides, bugs and weather have not finished with this crop, so lets just keep hoping for the best. Right now, the cotton crops continues to look very good. The crop just needs to stop getting these daily rains.

Weevils Not Slowing Down

Boll weevil punctured square counts ranged from 20 to 100 per 100 plants this week. Many fields were about to start receiving defoliant because of the high weevil counts and damage. Small bolls were being punctured along with squares in most fields despite short interval spraying schedules. Many growers were opting to go a little early on their defoliation schedules to stop having to spray for weevils. This was especially true in irrigated areas. Many dryland fields were maturing out without nearly as much weevil activity as irrigated farms.

Late maturing fields were "catching the devil" from boll weevils and there was no end in sight from weevil activity without complete crop termination.

Trap counts continued to show increases as expected (See attached trap reports from Rio Farms, Inc.) Look for trapped weevil numbers to increase as defoliation increases.

Silverleaf Whiteflies Spreading

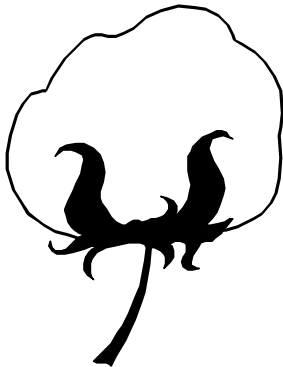
Silverleaf whiteflies (SLWF) have been observed in most cotton fields around the LRGV over the last month and a half. Lately, very large numbers of adult SLWF were found moving in small clouds in some fields, especially early in the morning

hours. But, unlike some years when SLWF were in these kinds of numbers starting in May, this season's SLWF were very late in appearance. SLWF do not appear to be posed to have any significant impact on yields or sticky cotton lint this season. The potential for sticky cotton lint is even lower now since we have been receiving these almost daily rain showers in various locations around the LRGV.

***Second Reading on
Defoliation Trial***

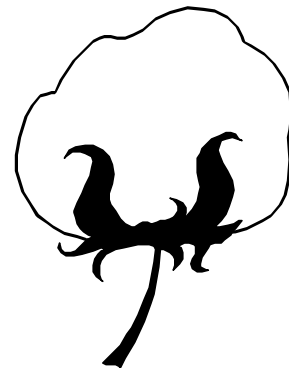
The second (14 days after defoliation) on our trial at Weslaco is attached for your viewing and information. In this report you will find not only the original 1st ratings conducted 7 days after treatments were applied but the 2nd ratings which were conducted 14 days after the treatments were applied. The 2nd ratings also contain regrowth ratings. With the amount of field moisture in most LRGV fields this year, we can expect more potential regrowth than normal and so we recommend that regrowth be carefully checked in all field trials this year.

There were at least two other cotton defoliation trials conducted in the LRGV during the last two weeks. One at Rio Farms and the other in Lyford area. If we can get these data from the trials prepared in time we will include them in next week's *Pest Cast*.



Planting Dates	Accum. H.U.	Planting Dates	Accum. H.U.
2/15-----	2702	3/15-----	2537
3/01-----	2669	4/01-----	2383

THE INFORMATION GIVEN HEREIN IS FOR EDUCATIONAL PURPOSES ONLY. REFERENCES TO COMMERCIAL PRODUCTS OR TRADE NAMES ARE MADE WITH THE UNDERSTANDING THAT NO DISCRIMINATION IS INTENDED AND NO ENDORSEMENT BY THE COOPERATIVE EXTENSION SERVICE IS IMPLIED.



Rio Grande Valley Cotton Defoliation Trial Weslaco, Texas

**Charles Stichler, Extension Agronomist
John Norman, Extension IPM Agent
Gary Schwarzlose, Bayer Crop Science
Gabriel Ortega, Extension Assistant
Seth Marable, Summer Intern, Wilbur-Ellis**

Final Report

1st (7 days after treatments) and 2nd (14 days after treatments) Ratings

Objective:

Evaluate commonly used cotton defoliation materials to determine the efficacy of the materials to prepare the crop for harvest.

Materials and Methods:

A field of Novartis 2108 was planted on February 14, at the Texas Agricultural Experiment Station Hiler Farm in Weslaco Texas. Plots were randomized in a complete block in two tiers, with treatments 1-15 in the first tier and 16-30 in the second tier. There was a difference in the stage of the cotton at the time of application. The first tier was approximately 40 percent open bolls, while the second tier was droughter cotton, smaller and more open at approximately 60%. The second tier of plots defoliated better and was more open in the results due to the later stage of maturity.

The products were applied by Gary Schwarzlose, Bayer Crop Sciences, with a Spider small plot sprayer traveling 4.5 mph. The application was made in 11 gallons of total spray per acre using 11002 TurboTeeJet spray tips at 30 psi. Spraying began at 9:30 AM and wind was 2-4 mph, temperature was 88 °F and relative humidity was 57%. The application was completed by 2:30 pm. A rain shower occurred late in the afternoon, approximately 7:00 pm. The sequential application in treatment 29 was made on July 9, with a C02 back pack sprayer.

Percent open bolls, defoliation, green leaves and dessication are visual ratings. Regrowth ratings are made by reference to publication number SCS-1999-20, "*Assessing Regrowth in Defoliated Cotton*" found on the internet at <http://soilcrop.tamu.edu/publications/pubs/scs1999-20.pdf>. Regrowth ratings in this report are listed from 0 to 5, where 0 = no regrowth and 5 = complete canopy replacement. The first ratings were made on July 9 by Charles Stichler, John Norman and Gary Schwarzlose, Gabriel Ortega and Seth Marable. The second ratings were made on July 16 by Charles Stichler, John Norman, Gary Schwarzlose and Gabriel Ortega.

Observations at the 1st Rating: (7 days after defoliation)

This test indicates again the importance of waiting until the cotton is mature - in the 60 - 70% open range before applying harvest aids. In the first tier of plots, where the cotton was still "pumping water" as a result of the recent rains, and the plant was not "shut down", the cotton plant does not defoliate as well, and more desiccation occurred as a result. In addition, when the plant is still picking up nitrogen late in the season, those leaves tend to "stick" or desiccate on the plant rather than abscise and fall off. By the second rating, it is expected that the leaves will fall off, but clean defoliation is generally accomplished more successfully when:

1. the plant is mature - the terminal has stopped growing and there are few new leaves on the

plant- old mature leaves always defoliate easier than young leaves.

2. the percent open cotton is approaching 70% or greater and the uppermost harvestable bolls are mature - no water in the fiber and the seed is mature.

3. the soil is dry, but not to the point of wilting. When the soil is moist and there is ample moisture in the soil, the plant continues to absorb water, which delays boll opening and slows the defoliation process. Products containing ethephon will increase boll opening when the plant does not “shut down” and continues to “pump water” into leaves and developing bolls. When the plant is dry, boll openers are less effective - as sunlight and low humidity will cause dry fiber in the bolls to split the suture lines between each lock on the boll and open naturally.

Conclusions:

Cotton defoliation is both a science and an art. Producers must evaluate the condition of the crop as well as the percent open bolls prior to making decisions on what materials to apply.

The following are general observations of some of the chemicals and what happens to plants when certain products are applied.

1. Def is a good defoliant, but alone it will allow regrowth to occur almost immediately. Def should be used in combination with a product that reduced regrowth if conditions are such that will promote regrowth. Chemicals containing thidiazuron, such as Dropp WP, Dropp SC, Free Fall and Leafless should be used on the first application. If a second application is necessary, and regrowth is occurring, a product such as Aim will do an adequate job of removing new regrowth.

2. Paraquat will not remove regrowth or new leaves. It also stimulates regrowth when leaves are removed.

3. If unopened bolls are present, products containing ethephon combined with defoliants are a good choice.

1st Rating : 7-09-03

Trt	Name	Product Rate	Product Cost	Total Cost	% Open Bolls	% Green Bolls	% Green Leaves	% Defol	% Desic.
1	Untreated				82 c	18 a	88 a	12 h	0 d
2	Dropp WP R-11 Surfactant	0.1 lb/A 0.25% V/V	6.31 0.39	6.70	83 bc	17 ab	37 bcd	60 fg	4 cd
3	Dropp WP R-11 Surfactant	0.2 lb/A 0.25% V/V	12.62 0.39	13.01	80 c	12 f-i	12 f-i	79 a-f	9 bcd
4	Free Fall Cotton Quik	0.1 lb/A 48 fl oz/A	5.65 9.00	14.65	92 a	8 c	13 f-i	81 a-e	6 bcd
5	Cotton Quik Ginstar	48 fl oz/A 3 fl oz/A	9.00 4.83	13.83	90 ab	10 bc	15 f-i	79 a-f	6 bcd
6	Dropp WP Ginstar	0.1 lb/A 4.3 fl oz/A	6.31 6.92	13.23	80 c	20 c	6 h-i	69 b-g	25 a
7	Dropp SC	1.6 fl oz/A	6.00	6.00	78 c	22 a	22 c-h	74-a-g	4 cd
8	Dropp SC	3.2 fl oz/A	12.00	12.00	78 c	22 a	15 f-i	72 b-g	13 abc
9	Dropp SC Ginstar	1.6 fl oz/A 4.3 fl/oz/A	6.00 6.92	12.92	82 c	0.25	7 h-i	78 a-f	15 abc

10	Dropp SC Finish 6 Pro	1.6 fl oz/A 16 fl oz/A	6.00 6.72	12.72	90 ab	10 bc	12 f-i	84 abc	4 cd
11	Dropp WP Hasten	0.1 lb/A 8 fl oz/A	6.31 1.04	7.35	80 c	20 a	28 c-f	66 c-g	6 bcd
12	Dropp WP Hasten	0.1 lb/A 16 fl oz/A	6.31 2.08	8.39	78 c	22 a	25 c-g	68 b-g	7 bcd
13	Dropp WP AMS	0.1 lb/A 17 lbs/100 G	6.31 0.27	6.58	83 bc	17 ab	17 f-i	81 a-e	2 cd
14	Dropp WP AMS Crop Oil Conc.	0.1 lb/A 17 lbs/100 G 16 fl oz/A	6.31 0.27 0.96	7.54	80 c	20 a	35 b-e	62 d-g	3 cd
15	Dropp WP Def	0.1 lb/A 12 fl oz/A	6.31 4.80	11.11	80 c	20 a	18 e-i	73 a-g	8 bcd
Trt	Name	Product Rate	Produc t Cost	Total Cost	% Open Bolls	% Green Bolls	% Green Leaves	% Defol	% Desic.
16	Dropp WP Finish 6 Pro	0.1 lb/A 16 fl oz/A	6.31 6.72	13.03	93 a	7 c	7 hi	83 a-d	10 bcd
17	Def Ginstar	8 fl oz/A 3 fl oz/A	3.20 4.83	8.03	88 ab	12 bc	8 ghi	84 abc	8 bcd
18	Def Ginstar	8 fl oz/A 6 fl oz/A	3.20 9.66	12.86	88 ab	12 bc	9 ghi	81 a-e	9 bcd
19	Def Kenetic (1.4 fl oz/A)	24 fl oz/A 0.1 % V/V	9.60 1.10	10.70	90 ab	10 bc	20 d-i	78 a-f	2 cd
20	Ginstar	6 fl oz/A	9.66	9.66	90 ab	10 bc	3 i	93 a	3 cd
21	Ginstar Syl-Tac	6 fl oz/A 4 fl oz/A	9.66 1.12	10.78	93 a	7 c	2 i	83 ab	15 abc
22	Finish 6 Pro Ginstar	16 fl oz/A 3 fl oz/A	6.72 4.83	11.55	94 a	6 c	5 hi	89 ab	5 bcd
23	Cyclone Max (3 lb) R11 Surf.	6 fl oz/A 1% V/V (14 fl oz/A)	1.92 1.54	3.46	92 a	8 c	22 c-h	75 a-g	3 cd
24	Cyclone Max (3 lb) Cayuse Plus	6 fl oz/A 1% V/V (14 fl oz/A)	1.92 1.12	3.04	93 a	7 c	23 c-h	73 a-g	4 cd
25	Leafless Crop Oil Conc.	10 fl oz/A 16 fl oz/A	11.60 .96	12.56	90 ab	10 bc	11 f-i	87 abc	3 cd
26	Leafless Crop Oil Conc	12 fl oz/A 16 fl oz/A	13.92 .96	14.88	92 a	8 c	9 ghi	88 ab	3 cd
27	Dropp WP Methyl parathion	0.15 lb/A 16 fl oz/A	9.46 4.00	13.46	93 a	7 c	8 ghi	73 a-g	17 a-b
28	Def Finish 6 Pro Guthion	16 fl oz/A 8 fl oz/A 16 fl oz/A	6.40 3.36 4.00	13.76	92 a	8 c	38 bc	62 efg	0 d
29	Aim Prep R-11 Surf. (7 DAIT) 2 nd Appl. Aim R-11 Surf.	0.75 fl oz/A 16 fl oz/A 0.25% V/V 1 fl oz/A 0.25% V/V	4.10 6.88 0.39 6.00 5.47 0.39	23.23	92 a	8 c	45 b	55 g	0 d

30	Aim Dropp WP R-11 Surf.	0.5 fl oz/A 0.12 lb/A 0.25% V/V	2.74 7.57 0.39	10.70	88 ab	12 bc	13 f-i	81 a-e	6 bcd
----	-------------------------------	---------------------------------------	----------------------	-------	-------	-------	--------	--------	-------

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

Second Rating - 7 - 16 - 03

Trt	Name	Product Rate	% Open Bolls	% Green Bolls	% Green Leaves	% Defol	% Desic.	Top Regrowth	Bottom Regrowth
1	Untreated		95.0 c	5.0 a	80.0 a	15.0 g	0.0 f	3.2 a	1.7 c-f
2	Dropp WP R-11 Surfactant	0.1 lb/A 0.25% V/V	97.0 ab	3.0 abc	20.0 b	79.7 f	0.3 ef	0.9 cd	1.8 c-f
3	Dropp WP R-11 Surfactant	0.2 lb/A 0.25% V/V	98.0 ab	3.0 abc	8.7 d-h	88.3 a-f	3.0 c-f	0.5 d-e	1.0 f
4	Free Fall Cotton Quik	0.1 lb/A 48 fl oz/A	96.0 bc	4.0 abc	9.3 c-h	89.0 a-e	1.7 c-f	0.7 de	3.0 ab
5	Cotton Quik Ginstar	48 fl oz/A 3 fl oz/A	97.0 ab	3.0 abc	9.3 c-h	88.0 a-f	2.7 c-f	1.8 c-e	3.2 a
6	Dropp WP Ginstar	0.1 lb/A 4.3 fl oz/A	98.0 ab	2.0 bc	3.0 gh	89.7 a-e	7.3 ab	0.2 de	1.3 d-f
7	Dropp SC	1.6 fl oz/A	96.0 bc	4.0 ab	7.0 e-h	91.3 abc	1.7 c-f	0.8 c-e	1.3 d-f
8	Dropp SC	3.2 fl oz/A	97.0 ab	3.0 abc	5.0 fgh	89.7 a-e	5.3 abc	0.8 c-e	1.3 d-f
9	Dropp SC Ginstar	1.6 fl oz/A 4.3 fl/oz/A	98.0 ab	2.0 bc	2.7 gh	88.7 a-f	8.7 a	0.2 de	1.3 d-f
10	Dropp SC Finish 6 Pro	1.6 fl oz/A 16 fl oz/A	97.0 ab	3.0 abc	10.0 c-h	88.0 a-f	2.0 c-f	0.7 de	2.2 b-e
11	Dropp WP Hasten	0.1 lb/A 8 fl oz/A	96.0 bc	4.0 ab	9.3 c-h	89.0 a-e	1.7 c-f	0.6 de	2.0 c-f
12	Dropp WP Hasten	0.1 lb/A 16 fl oz/A	96.0 bc	4.0 ab	7.7 d-h	89.3 a-e	3.0 c-f	0.7 de	1.5 c-f
13	Dropp WP AMS	0.1 lb/A 17 lbs/100 G	96.0 bc	4.0 ab	11.0 c-g	88.7 a-f	1.3 c-f	0.3 de	1.7 c-f
14	Dropp WP AMS Crop Oil Conc.	0.1 lb/A 17 lbs/100 G 16 fl oz/A	98.0 ab	2.0 bc	16.7 bcd	82.0 def	13. c-f	0.6 de	1.7 c-f
15	Dropp WP Def	0.1 lb/A 12 fl oz/A	96.0 bc	4.0 ab	10.0 c-h	87.0 a-f	3.0 c-f	0.6 de	1.8 c-f

Trt	Name	Product Rate	% Open Bolls	% Green Bolls	% Green Leaves	% Defol	% Desic.	Top Regrowth	Bottom Regrowth
16	Dropp WP Finish 6 Pro	0.1 lb/A 16 fl oz/A	98.0 ab	2.0 bc	3.7 g-h	92.0 abc	4.3 b-e	0.0 e	1.3 d-f
17	Def Ginstar	8 fl oz/A 3 fl oz/A	98.0 ab	1.7 c	5.0 fgh	90.3 a-d	4.7 bcd	0.4 de	1.5 c-f
18	Def Ginstar	8 fl oz/A 6 fl oz/A	98.0 ab	2.0 bc	3.3 gh	91.7 abc	5.0 bcd	0.4 d-e	1.7 c-f
19	Def Kenetic (1.4 fl oz/A)	24 fl oz/A 0.1 % V/V	98.0 ab	2.0 bc	9.3 c-h	89.7 a-e	1.0 def	1.5 bc	2.3 a-d
20	Ginstar	6 fl oz/A	98.0 ab	2.0 bc	2.3 gh	96.0 a	1.7c-f	0.0 e	2.0 c-f
21	Ginstar Syl-Tac	6 fl oz/A 4 fl oz/A	98.3 a	1.7 c	1.3 h	91.7 abc	7.0	0.3 de	1.5 c-f
22	Finish 6 Pro Ginstar	16 fl oz/A 3 fl oz/A	98.0 ab	2.0 bc	4.3 fgh	93.3 ab	2.3 c-f	0.4 de	1.5 c-f
23	Cyclone Max (3 lb) R11 Surf.	6 fl oz/A 1% V/V (14 fl oz/A)	98.0 ab	2.0 bc	15.0 b-e	83.0 cf	2.0 c-f	1.8 b	3.0 ab
24	Cyclone Max (3 lb) Cayuse Plus	6 fl oz/A 1% V/V (14 fl oz/A)	98.0 ab	2.0 bc	16.7 bcd	80.7 e-f	2.7 c-f	1.7 b	2.5 a-c
25	Leafless Crop Oil Conc.	10 fl oz/A 16 fl oz/A	98.0 ab	2.0 bc	5.0 fgh	93.3 ab	1.7 c-f	0.4 de	1.5 c-f
26	Leafless Crop Oil Conc	12 fl oz/A 16 fl oz/A	98.0 ab	2.0 bc	2.7 gh	95.0 a	1.7 c-f	0.1 de	1.2 ef
27	Dropp WP Methyl parathion	0.15 lb/A 16 fl oz/A	98.0 ab	2.0 bc	3.0 gh	95.0 a	2.0 c-f	0.3 de	1.0 f
28	Def Finish 6 Pro Guthion	16 fl oz/A 8 fl oz/A 16 fl oz/A	98.0 ab	2.0 bc	18.3 bc	80.7 ef	1.0 def	1.5 bc	2.5 a-c
29	Aim Prep R-11 Surf. (7 DAIT) 2 nd Appl. Aim R-11 Surf.	0.75 fl oz/A 16 fl oz/A 0.25% V/V 1 fl oz/A 0.25% V/V	98.3 a	1.7 c	13.3 bf	85.0 b-f	1.7 c-f	0.7 de	1.7 c-f
30	Aim Dropp WP R-11 Surf.	0.5 fl oz/A 0.12 lb/A 0.25% V/V	98.0 ab	2.0 bc	9.3 c-h	89.0 a-e	1.7 c-f	0.2 de	1.2 ef

Rio Farms, Inc.

Trap Line Data - 2003 - Boll Weevils per trap per day

Trap Lines	July 1	July 8	July 22	July 29	
Taco Baja	n/a	n/a	n/a	0.00	
Edinburg Area					
KURV	4.93	5.62	n/a		
Hans	0.33	0.14	1.07		
Fike Home	0.64	0.33	2.55		
Hill	0.21	0.17	1.60		
Bobby	0.79	1.76	8.21		
Seminary Rd.	5.42	0.67	11.04		
Delta Area					
L V-N. Sugar Mill	0.29	0.14	2.43		
La Sara	1.74	0.12	2.21		
MA North	2.91	0.40	10.36		
MA S. West	2.76	1.19	12.69		
Hargil	0.91	0.74	5.67		
DL South	1.91	2.02	41.00		
KSOX - E. DL	2.95	1.00	7.40		
Raymondville Area					
Ray West	1.31	1.60	13.62		
Ray East	2.00	0.07	11.76		
Southmost Area					
Florida	0.12	n/a	0.23		
Docberry	0.26	n/a	1.42		
Alaska	0.88	n/a	1.27		
Arkansas	2.02	n/a	3.18		
S. Oklahoma	n/a	n/a	n/a		
Santa Rosa Area					
Peterman	n/a	n/a	n/a		
Santa Rosa	n/a	n/a	n/a		
Dillan	n/a	n/a	n/a		
River	n/a	n/a	n/a		

Rio Farms, Inc.

Trap Line Data - 2003 - Boll Weevils per trap per day

Trap Lines	July 1	July 8	July 15	July 22	July 29
Progreso Area					
Nogales	0.00	1.21	1.26		
Las Palomas	0.86	1.67	2.60		
Santa Anna	1.45	3.74	6.83		
Las Milpas	0.14	0.12	0.12		
Progreso Gin	4.62	5.76	9.69		
Bridge	0.91	0.24	0.81		
Sebastian Area					
Armandice	n/a	n/a	n/a		
Santa Rosa Lake	n/a	n/a	n/a		
Rio Hondo Area					
Airport	0.41	n/a	5.28		
Parker Rd.	0.10	n/a	1.33		
Paredes Line Rd.	0.19	n/a	1.08		
777	0.07	n/a	0.61		
Mercedes Area					
Valley Acres Lake	0.53	n/a	4.00		
SRS - HQ	0.95	n/a	15.26		
Ross	n/a	n/a	n/a		
Rangerville Area					
Turner Rd.	n/a	n/a	n/a		
Tanimachi	n/a	n/a	n/a		
Chinaberry Rd.	n/a	n/a	n/a		
McCook Area					
Davis	n/a	n/a	n/a		
Citrico	4.48	11.43	30.12		
Wells	4.29	23.55	124.40		
Starr County					
Starrco	0.07	N/A	0.21		
La Casita	0.67	N/A	2.38		
Los Puertos	1.57	N/A	2.43		