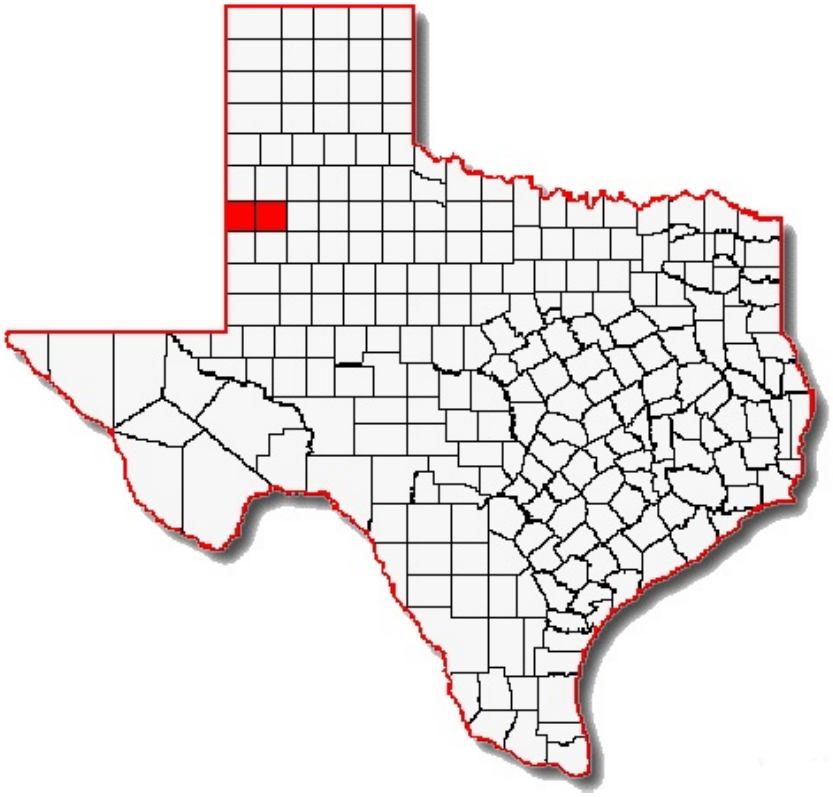
TEXAS A&M AGRILIFE EXTENSION

INTEGRATED PEST MANAGEMENT



Hockley & Cochran
IPM Program
2012

TEXAS IPM
Partners with Nature

Hockley and Cochran Counties Pest Management Program

2012 Annual Report

Prepared by

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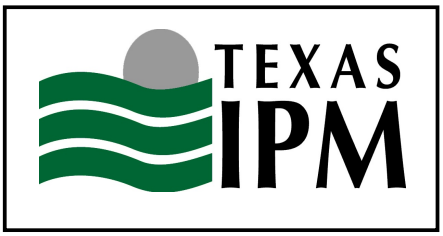
Cochran/Hockley Integrated Pest Management Steering Committee
and
Texas Pest Management Association



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TEXAS A&M AGRILIFE EXTENSION

ACKNOWLEDGMENTS

The success and achievements of any Extension program depend on the support and participation of area producers, agribusiness, and others.

Appreciation is extended to the following for their participation as Cochran/Hockley Pest Management Association Steering Committee members:

Chris Locke, Chair
Sherri Clements, TPMA State President
Ricky Davidson
Duane Cookston
Wes Bradshaw
Sammy Harris
Bruce Lawrence
Gene Polasek
Tony Streety
Larry Smith

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Natalie Silhan. . . . . County Secretary, Cochran County

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2012 HOCKLEY - COCHRAN IPM PROGRAM HIGHLIGHTS WITH PEST AND CROP SUMMARY

The Hockley - Cochran IPM Steering Committee functions as a program area committee for both counties. There are representatives on the committee from each county as well as a crop consultant representative which has a customer base in both counties. The committee met in 2012 to organize and conduct the Extension IPM Program, field scouting program, provide direction for applied research and other educational efforts as IPM applies. The committee also gave direction to for long-term plans and evaluation. The scouting program at times dominates the business of the committee as they are responsible for determining program size and scope, associated fees, and details for employing field technicians.

Fourteen individuals farms with 38 fields were involved with the scouting program in 2012. A total of 3074 acres were scouted. This acreage included irrigated cotton, peanuts, and corn. The scouting program participants were assessed a scouting fee of $5.50 for irrigated land per acre. Fields were visited every week by the IPM Agent and a verbal scouting report was provided to producers the same day. The field inspections included: insect pest and beneficial populations; weed and disease's noted; and crop stage and growing conditions. Discussions also included irrigation and fertility management; growth regulator use; and other agronomic considerations. Mr. Layton Hinson was employed as summer IPM Intern and Keaton Silhan was employed as field technician. They assisted with all research and demonstration projects from spring planting until fall harvest.

2012 Pest and Crop Summary

The 2012 crop production year will be remembered for the continuation of a severe drought since the fall of 2010. This drought has been historical in terms of low rainfall, high temperatures, and persistent high velocity winds. Following are excerpts from the ***West Plains IPM Update*** newsletter which describe the conditions throughout the season.

May 22, 2012

Planting is at full steam for producers in Hockley and Cochran Counties. Many are nearing completion of their irrigated cotton acres. Some have begun planting dryland cotton acres as the planting deadline looms in the not too distant future. Planting moisture ranges from still good to non-existent. Subsoil moisture is generally not good across most of the area. Peanuts are at crack and coming to a stand; little milo has been noted to date; and cotton ranges from still in the bag to 1 true leaf. No major insect issues have been noted. However, thrips need to be watched very closely on acres which were unprotected at-plant or have been emerged for over 14 days. One thrips per plant on 1 true leaf or younger is the threshold. Use foliar acephate or dimethoate. Keep an eye out for grasshopper along field margins and other pests which may cross the turnrow from adjacent CRP or pastures.

June 8, 2012

Cotton ranges from just planted to 6 leaf cotton plants. Rain on Monday the 4th was a blessing

for most. Although some hail accompanied this rain in some locations. Rainfall amount ranged from 0.25" to 2.25". Many acres of cotton were planted dry or had been planted a few weeks ago, had germinated, and was very near running out of moisture. Hopefully the rainfall amounts were enough to keep these acres moving along for some time. Suffice to say usually at this time of year it is always a bit ugly. Many producers are still occupied with planting or replanting, and sand-fighting. However, very quickly we will be getting back to managing weeds, nematodes, and dealing with fertility issues.

The scouts and I are finding very few insect pest this week. Thrips still are not at numbers I would consider a concern. Most cotton which we are checking is 3-5 true leaf cotton and has out paced thrips damage.

My inspection of fields with a history of southern root-knot nematode I am beginning to find root cyst damage from this soil borne pest. This would indicate that any protection earlier has played out. Vydate C-LV at 17 oz per acre has provided excellent protection against yield loss from southern root-knot nematodes in Hockley and Cochran Counties. Timing is critical though. An application should be made as soon as any protection from seed treatment or other at-plant management begins to lessen. If you have questions about the use of Vydate give me a call.

June 14, 2012

Cotton ranges from still dry seed, dusted in to dryland acres; to irrigated acres with 8 true leaves and beginning to square. Rain this week was highly variable, accompanied by some hail, but mostly high damaging winds.

No insect pests have been noted this week so far. Weeds have been the major pest this week.

Weed resistance has begun to show itself this season. A few fields, which have been treated with glyphosate at least twice, have Palmer amaranth or pigweed which is escaping control. It is important that 3-6 days following an application of glyphosate that you go back and evaluate effectiveness on pigweed. If you see pigweed wilting, yellowing etc., typical symptoms of glyphosate injury which is a good thing. However, if you see pigweed with no symptoms you've got problems. The other things which plays into this is residual herbicides. We must utilize residuals. Such as Dual or Staple, or some layby treatment. This takes the pressure off the continuous use of glyphosate. Be prepared also to cultivate or hoe in some situations.

Peanuts are doing well. Now is the time to evaluate nodulation. I am seeing the first blooms as well. No insect or disease pest noted this week. As with cotton the weeds would be the pest of the week. If you put down a pre-plant and at-plant herbicide weed control should be excellent right now. If you are seeing escapes now you need to employee some further strategies soon. These few escapes now can indicate huge problems in a few weeks. May need to use both a post and pre emerge herbicide as Butyrac and Dual. Contact me with your situation and we'll walk through it and see which direction to go.

Grain sorghum is also doing well in terms of little or no pests issues right now.

June 22, 2012

Generally most crop acres have made good progress this past week. Though the wind and sand did cause some set-back for a few earlier in the week. Most cotton acres are now squaring, with an average 1st square found at node 7 (see square just above my thumb in picture to right). We are averaging about 9.5 total nodes. Obviously the cotton which is protected in some degree of residue like old cotton stalks to wheat stubble have made the most progress. In fact, in some of

those protected situations (as in the stalk and terminated wheat to left; pay no attention to the antelope) a plant growth regulator may need to be considered where top three node lengths average out to more than 1.25" per node.
No insect pests of any concern were noted this week. Only weed pests have been of primary concern. I have received increasing phone traffic on glyphosate resistant pigweed (*A. Palmeri*). I cannot overemphasize the importance of removing these escapes before they produce seed and also the use of a residual pre-emerge herbicide. Please call if you have questions.

Priorities this coming week: check moisture, may need to begin irrigation if haven't already; and implement your fertility plan.

Peanuts are growing well under the current conditions. Most fields I have checked have good nodulation. Not great, but good. Those fields will most likely need the addition of nitrogen fertilizer. Bloom set has been very good. Other than weeds no pest problems.

June 29, 2012
The weather pattern of hot and dry will hopefully moderate in a couple of days. It will become very difficult to met water demands if this continues. Dryland is fading quickly with no rainfall. If you are interested in tracking heat units try this link:
http://www.weather.com/outlook/agriculture/growing-degree-days/

COTTON
Based on the IPM Scouting Program cotton fields the average number of total nodes is 10 (range 5 to 13); the 1st fruiting branch at 7 (range 5-8); 96% (range 69-99%) square retention of 1st position; node length is 0.7" (range of 0.5"-1.3"), and plant populations average 38,500 per acre (range 21,000 to 58,000). I have not seen a bloom so far (except on some volunteer) but do anticipate that by July 9th I will. Based on average plant mapping data and going into bloom with 8 nodes above white flower, we should generally begin bloom around July 16th. This also means that 50% of the acres could bloom before this date and 50% will bloom after this date. I suspect a majority of the acres in Hockley and Cochran Counties will begin blooming around July 18-24. This is fairly normal for the past few years. With a last effective bloom date of August 20, that gives us a full month for effective blooming.
Cotton pests are generally quiet at the present. Weed control and application of fertilizer has been the order of the day for the past several days. With current temps the growth regulators may not be necessary. Watch node length. Cotton fleahopper numbers continue to remain very low to none existent. Lygus adults have started to increase in their movement in and out of fields. No cotton aphids or spider mites have been noted this week. No bollworm eggs or larvae were found this week in scouting fields.

PEANUTS
Peanuts are doing very well under current conditions. Most all fields are well into bloom. No pegs seen yet. Weed control still remains as pest priority number one. Light leaf spot has been noted. Watch cultivating too closely or throwing soil to crown. Fertility plans must be made and implemented now.

GRAIN SORGHUM
Sorghum ranges from still in the bag to almost boot stage. Limited whorl feeding by larvae pest.

This has not been near as severe as past years. Also little to no aphids in general - greenbugs, yellow sugar cane aphids and cornleaf aphids, have been noted. Beneficial insect and spiders are present in most fields with numbers dependent on limited food source.

WHEAT RESIDUE ISSUE

With the current weather pattern the heavy wheat cover in some cotton fields really concerns me. The wheat stem or straw literally is a straw which can wick-out soil moisture, especially under these high evaporative periods (high temp, low humidity, +10 mph winds). Once the residue has served its purpose of protecting young germinating plants, try and break down the straw and severe it from the soil as much as possible. It is difficult to run a sweep through this residue and generally we do not want to cultivate in minimum-till, unless we have a weed or volunteer cotton problem. So to the right is a photo of stalk cutter gangs set to chop in the row middles. This is a perfect rig for breaking down the wheat stalk/straw, yet maintaining the residue on soil surface.

July 11, 2012

Cotton ranges from 7 leaf stage to 17 true leaves with square set very good +85%. I am seeing more and more blooms every day. Generally, it will be after July 15 or so before we see most cotton beginning to bloom.

Cotton insect pests remain very quiet. In the IPM Scouting Program I have noted only a hand full of fleahoppers and Lygus. To-date none of these infestations have reached a threshold to justify treatment. Beneficials numbers are surprisingly good in some fields; though limited food source is available. Pheremone trap catches indicate that we should anticipate a fairly normal cotton bollworm year - some chronic numbers scattered across the area from now through first part of August then an acute run from mid to late August.

Weeds seem to be the most dominate pest at this time. A long varied list of weed species noted throughout both counties. If you need help identifying a weed and coming up with a control plan give me a call. Remember, these weeds serve as host to many of our cotton pests.

Cotton has made excellent progress over the last few weeks. Obviously there have been some major hurdles and most likely some of those will continue. Many acres are just now nearing bloom. These fields will be going into bloom with an range of 8-9 nodes above white bloom. This is a fairly typical value for our more recent cotton varieties. I still have an optimistic outlook for most area cotton production. As long as the water holds up or we receive some good measurable precipitation I will remain optimistic.

Peanuts continue to bloom with pegging and pod set going strong. We are about 7-14 days ahead of where we were at last year at this same time. Irrigation is critical at this point in

peanuts. It is critical not only for the plant to grow but also it creates an environment which is conducive for peg penetration of soil. If soil surface is too hot and dry pegs will not develop properly, and hence no pod. No insect pests have been noted in peanuts. I have not seen much in the way of pathogens either. The dry environment will help reduce the incidence of foliar diseases. Weeds continue to be challenging. There are excellent herbicides labeled for peanuts. Just remember though that the options become fewer and more costly as the season progresses.

July 20, 2012

Cotton aphids are about the only consistent insect pest I am finding in area fields. This has allowed beneficial insect numbers to increase in some fields but not in all. However, many of these aphids are only lasting a day or two with swift demolition from lady beetles, spiders, and green lacewings larvae. I do not anticipate any field treatments. In general we have been in pretty good shape up to this point. However, I am concerned that we are again seeing, as last year, "the haves and the have not" of irrigation water. Decisions about prioritizing fields which share water, or portions of fields with limited irrigation capacity and lack of rainfall must be made now to limit or jeopardize crop/yield losses . When I compare our cotton crop to the same time the last couple of years we still in a good situation if the weather would just cooperate. So I do hold out some optimism about our yield potential.

I would like to give you a snapshot of what the average cotton plant looks like from Hockley and Cochran Counties. Based on the IPM Scouting Program cotton fields:

Average number of total nodes is 16 (range 10 to 18)
1st fruiting branch at node 7.3 (range 5-9)
Square retention of 1st positions is 88% (range 72-99%)
Node length is 1.1" (range of 0.6"-2.6")
Plant populations average 39,780 per acre (range 23,500 to 59,500)
Ave. Blooming plant has 8.7 nodes above white flower (NAWF)

I am seeing a few more blooms and small bolls daily. The milder weather over the past couple of weeks has allowed the plant to make very good progress in terms of both vegetative and reproductive growth. We are going into bloom with close to 9 nodes above white bloom. This places first bloom (50% of all plants in field with bloom) on most early fields at July 14, with most fields hitting first bloom at around July 23. This is a full week earlier than last year.

Grain Sorghum - Local fields need to be monitored for aphids, mites, head worms and midge. No major problems have been detected or reported. Stay on top of weeds.

Peanuts - Local fields need to be monitored closely for foliar diseases and pod rots. Wrap up any fertilizing and stay on top of weeds. No major issues reported or found this last week.

August 3, 2012

Cotton ranges from just beginning to bloom with as many as eight nodes above white flower (NAWF) to hard cut-out with no nodes above white flower or literally blooming out the top. Looking at the IPM scouting program fields as a representation of the area cotton crop, we see that 75% of the fields have reached physiological cutout (< 5 NAWF) this week. For these fields which have reached 5 NAWF we need approximately 400 more heat units (HU) to be safe from most insect damage. With the current weather trend of +20 heat units per day, those fields which have reached cutout should be safe around August 20-25th (400 HU divided by 20 HU/day = 20 days, added to the 1st thru the 5th of August). The remaining 25% of the cotton acreage has such a wide range of maturity levels and is difficult to say when it will be safe. I would approach these later maturing fields from this angle. We historically say that August 15th is the last effective bloom date, or that date which a boll can be formed, have time to mature, and contribute to yield. Now that is not to say that a boll can not be formed after the 15th of August but the odds of it contributing to yield and especially quality are low. Therefore, if we continue with this weather pattern into September, and are accumulating 20 HU/day we can add 20 days to this date of August 15. This would give us a target of September 4 for the latest those late fields would need to be monitored for possible insect infestations. The measurement of NAWF is such an important gauge of maturity and can help project time needed to be safe from insects and especially manage irrigation. In fact, if you call me with questions on managing irrigation or other situations in your cotton one of the first questions I will ask is "how many nodes do you have above white flower on average in the field in question".

Insect activity has been almost non-existent this week. I cannot find cotton aphids like I had been a couple weeks ago in small pockets of 1-2 plant infestations. But keep watching out for aphids, especially in skippy stands and/or where nitrogen was applied late. Monitor non-Bt cotton varieties for bollworm activity as we are in the window of time when they would historically be active.

One thing which you may notice over the next several days is fruit being shed from the cotton plant. This shed is not insect induced. But rather an adjustment in the fruit load, which has been in most cases above 80% since squaring began. So the plant is unable to retain more than approximately 62% of fruit. So hopefully any fruit coming off is either second or third position small squares and from the upper portions of the plant. Moisture stress, and lack of sufficient nitrogen or other nutrients can also induce fruit shed.

August 15, 2012

Since the last newsletter **cotton** insect pests have remained fairly quiet. Many fields are reaching that point of maturity when many insect pests cannot cause economic damage. So this being said, I would say that most cotton needs to be watched for another 10 days. The insect to be mindful of through open cotton is cotton aphids and cotton bollworms on conventional non-Bt or Widestrike cotton varieties. I have been finding cotton aphids in area fields as well as bollworm moth flights have been fairly heavy over the last 10 days. Late cotton which still has 4 or more nodes above white flower will need to be monitored through the first week of September.

The rain last night for most in Hockley and Cochran counties will help some in irrigation management and possibly irrigation termination over the next couple of weeks. I f you have questions give me a call.

Weed pressure may increase over the next few weeks as we finish out the season and receive some late rains. I would continue to pay particular attention to Palmer amaranth or pigweed

which may be resistant to glyphosate. Do your best in limiting these pigweed from going to seed and adding more resistant plants to the seedbank. It will be imperative that you make note of pigweed resistant fields now and plan accordingly to tackle this problem in 2013 with a good base herbicide program of a yellow preplant incorporated herbicide.

Peanuts are generally doing well under these current conditions, but will need time to finish out what could be a very good crop. Risk factors for disease have increased with threat of rain and higher humidity, plus heavy irrigation. Foliage feeders have increased this week, with some fields near Whiteface exceeding threshold. Irrigation will need to continue for awhile unless good rains are received.

Grain Sorghum has been making good progress under irrigation. Headworms (a.k.a. corn earworm, cotton bollworm) and various armyworms have continued this past week. Watch for midge on later planted milo.

August 21, 2012

Well, they are back! As of yesterday, Monday 20th of August, I found Kurtomathrips in Hockley County. Not long after I found the thrips in Hockley County that I received a text message from Manda Anderson in Gaines County that she was finding them as well. So most likely they can be found in points in-between. I suspect they have been here a few weeks because what I was finding were only the immature stages, meaning they had been reared at that location. I was not however finding adults. Hopefully the change in weather will not allow them to cause too much damage from this point on. If you will recall from last year, that once it began to cool down and we received just a bit of moisture, these thrips mostly disappeared. I found these thrips on FM 41 near Ropesville. The cotton field is under center pivot irrigation, yet the thrips were located on a few rows on the south edge which just fell outside of the well watered portion of the field. Also, I noted that the right-of-way had been mowed just a few weeks ago as well. This may have forced the thrips off a more desirable host plant. The rest of the newsletter will be about this unusual pest. The following is taken in part from 2011 Focus newsletter article by David Kerns, Former Extension Cotton Entomologist.

Other Pests and Crop Considerations

Continue to watch for worm infestations in peanuts. I have treated a few acres near Whiteface. With this weather protect peanuts from diseases. Work on weed problems.
Sorghum needs to scouted for headworms. Work on weeds here as well.
Start making your exit plan on irrigation in cotton.

September 7, 2012

The **cotton** has made good progress with generally +90 degree temperatures and clear skies. In fact, we have averaged 18.6 heat units per day for the last 30 days. As I have stated before "we make cotton in August." Scattered rains have been received over the last few weeks but this was a very dry month for most everyone. There is a chance of rain this weekend with cooler temps going into next week. Okay so I aspire to be a weatherman. However, I mention this only because of my nervousness as we go into September. Pray for open sunny weather with an occasional gentle rain. We all know though that we can have some weather events which can undo all the hard work we have applied to our crops. Now I do not mean a hail-out, I'm talking regrowth, delayed maturity etc. So this said, and to my point...I would rather err on the side of

being dry than too wet. Be careful irrigating into September unless it is through a drip system. On the other hand don not think for a moment that it was wrong to water this last week with the hot temps. I only caution you as we move further into September.

As far as pests are concerned I am not seeing much in cotton. Some Kurtamathrips in some stressed dryland or irrigated edges; an occasional pocket of cotton aphids; and a few fields with lingering grasshoppers near rangeland.

Cotton fields which reached physiological cut-out (5 nodes above white flower) before August 10 have accumulated more than 400 heat units, and are safe from most insects other than cotton aphids. I will continue to watch scouting program fields through September 14 and alert you if the need arises.

In **grain sorghum** the worms are the primary concern still. Some fields have needed to be treated for head worms. Pressure has lightened considerably over the last couple of weeks but continue to keep watch for awhile longer.

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2012 Hockley IPM Agent Activity

Newsletters	
No. Issues Written	22
No. Non-Extension Recipients	7305
No. Extension Recipients	2648
Total Newsletter Recipients	9953
Articles in Local Growers Newsletters	6
No. Newsletters Carrying Articles	6
No. Recipients	12700
Radio Programs	79
AgriLife News press releases	2
Articles in State/National Trade Journals	3
No. Subscribers	100000
Published Abstracts & Preceedings	3
Extension Publications	1
Website Page Views	373
Website Unique Views	369
Newspaper Articles	11
Circulation	46500
No. Newspapers Carrying	9
Farm, School or Site Visits	1007
Scouts or Practitioners Trained	15
Agricultural Consultants Trained	96
TDA Ag CEU Credits Offered	22.5
No. of People Trained	108
Non-Ag or Non-TDA CEU Credits Offered	8.75
No. of people trained	20
IPM Steering Committee Meetings	3
No. of Committee Members Present	22
Presentations and Participants:	
No. AG County, multi-Co. meetings & tours	25
Participants at AG Meetings/Tours	149
No. Other Educational Meetings for Adults	10
Participants at Other Ed. Meetings	33
No. Educ. Prog. for Youth (school, 4H, etc.)	23
Participants at ed. Programs for youth	431
Other Extension Volunteers Trained	32
No. Research/Demo. Proj. Initiated	17
No. Direct Ag Contacts (includes phone & e-mail)	12264
Other Direct Contacts (includes phone & e-mail)	18734

2012 IPM Education in Hockley and Cochran Counties

Kerry Siders, Extension Agent – Integrated Pest Management, Hockley and Cochran Counties

Relevance

Cotton is important to both Hockley and Cochran Counties with 400,000 acres planted annually and accounting for an average of $160 million in agriculture income from 2008-2010. The IPM Steering Committee in Hockley and Cochran Counties has determined that it is important that educational efforts continue to be applied to assist cotton producers with the management technologies for insect, weed, and disease pests, and other production issues.

Response

The Cotton IPM Education efforts are directed by the Hockley and Cochran Counties IPM Steering Committee. This committee has been responsible for the review of past efforts, future needs as they apply to cotton IPM, prioritize efforts, plan efforts, implement efforts, and assist with evaluation of efforts. Texas A&M AgriLife Extension Service has delivered the following educational opportunities to address this relevant issue:

Contributor to both oral and poster presentations at the 2012 Beltwide Cotton Conferences in Orlando, Florida.

Invited to give presentation on winter weed identification and management at the Southern Mesa Cotton Conference.

West Plains Cotton Conference held during March; I gave presentations on cotton pests and pesticide laws and regulations.

West Plains IPM Update from January through November, 20 issues to 394 recipients via e-mail

Radio reports with High Plains Radio Network Levelland (KLVT) and Fox Radio Ag Talk 950 Lubbock on cotton issues year round, 86 programs

Cotton turn-row meetings throughout summer with producers.

Established 8 cotton variety trials which demonstrated new experimental lines

Evaluated cotton variety for cotton root-knot nematode management

Evaluated new seed treatment products for cotton root-knot nematode

Provided daily IPM education to 13 cotton producers through scouting, scouting report, report interpretation, management suggestions, and management evaluation for insects, weeds, disease, and other agronomic consideration from April through November

Soil sampling for cotton root-knot nematode in scouting fields for management recommendations

Invited to be part of an IPM Panel discussion at the West Texas Agricultural Chemical Institute Annual Meeting in Lubbock in September, over 200 in attendance.

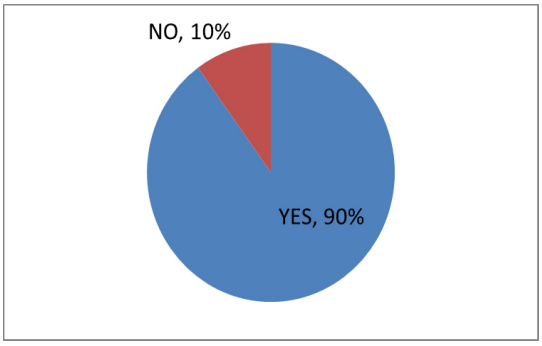
The Texas Pest Management Association, Plains Cotton Growers Association, Texas A&M AgriLife Research, Texas Tech University, Texas Department of Agriculture, US Department of Agriculture NRCS, Levelland Chamber of Commerce, National Weather Service, and many supporters from the local agricultural industry contributed greatly to these educational endeavors.

A post evaluation using the standard Cotton IPM Evaluation was employed. The link to the on-line evaluation was opened on November 6 via e-mail to 50 recipients of the West Plains IPM Update. The evaluation was then closed on November 14. Twenty-one of the 50 responded, for a 42% response rate.

Results

The following are the IPM evaluation questions with the summary of answers:

1. Has the Hockley/Cochran IPM program demonstration and educational activities resulted in lower pesticide use in your operation in recent years? ***19 of 21 said "yes"***



2. If you answered "YES" above, please estimate your percentage reduction in pesticide use?

   Average pesticide use reduction = 52%, range from 0-98%

3. Please enter your cotton acres and estimate the dollar value per acre the IPM Program has had in recent years on production.

   Average value of IPM on cotton = $50.29/acre, with range of $15-$12/acre

   Responses represent 32,400 acres of cotton

   Value to the 21 producers responding = $1,938,090

4. Please enter your Grain Sorghum acres and estimate the dollar value per acre the IPM Program has had in recent years on production.

   Average value of IPM on grain sorghum = $25.00/acre, with range of $10-$35/acre

   Responses represent 1940 acres of sorghum

   Value to the 5 producers responding = $31,900

5. Please enter your Peanuts acres and estimate the dollar value per acre the IPM Program has had in recent years on production.

   Average value of IPM on peanuts = $100.00/acre, with range of $50-$150/acre

   Responses represent 585 acres of peanuts

   Value to those producers responding = $67,750

6. Across your farm operations, all crops, what would you estimate the value of the IPM program on your farm?

   Average value of the IPM program overall = $57.10/acre, with range of $20-$123/acre

   Responses represent 37,130 acres

   Value to those producers responding = $2,360,900

In summary, and based on the above points, it is apparent that the IPM Program has had a positive impact on the production system, the profitability of the producers and the economic and environmental viability of the area served.

The Cochran/Hockley IPM Steering Committee members are: Chris Locke, Sherri Clements, Duane Cookston, Sammy Harris, Wes Bradshaw, Bruce Lawrence, Tony Streety, and Ricky Davidson. Thank you to each one of these folks for their valuable input and direction into the IPM program.

Plans are to continue this long-term educational program for cotton producers in Hockley and Cochran Counties. Current and future technologies based on Integrated Pest Management principles to improve profitability and sustainability, as well as protect the environment will benefit all Texans.

These efforts will be interpreted to the IPM Committee, the Commissioners Courts, local media, Chambers of Commerce, agricultural industry personnel, and elected officials.

TEXAS A&M AGRILIFE EXTENSION

Making a Difference

Weed Resistance Education in Hockley and Cochran Counties

Kerry Siders, Extension Agent – Integrated Pest Management, Hockley and Cochran Counties

Relevance

The control of weeds in crops is paramount in maintaining good crop yields by limiting weed/crop competition for space, nutrients, water, light and hampering harvest procedures. The use of glyphosate and glyphosate tolerant cotton has become a standard weed control system here in Hockley and Cochran Counties of Texas. With the advent of glyphosate resistant Palmer Amaranth (pigweed) this system and cotton production has become compromised.

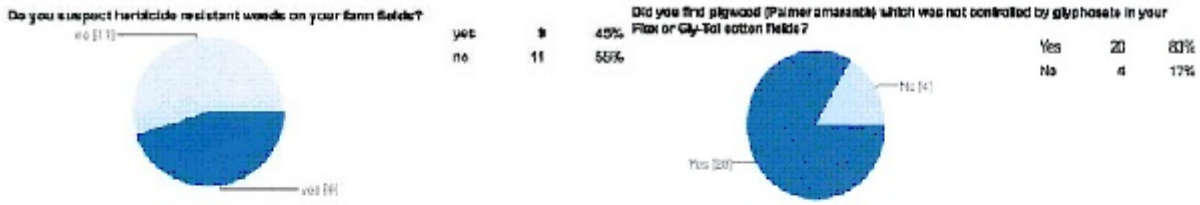
Response

The Texas A&M AgriLife Extension Service IPM Program in Hockley and Cochran Counties developed an educational program which would help producers recognize the problem, develop plan to manage the problem, and then limit the spread of the problem. The following educational opportunities to address this issue:

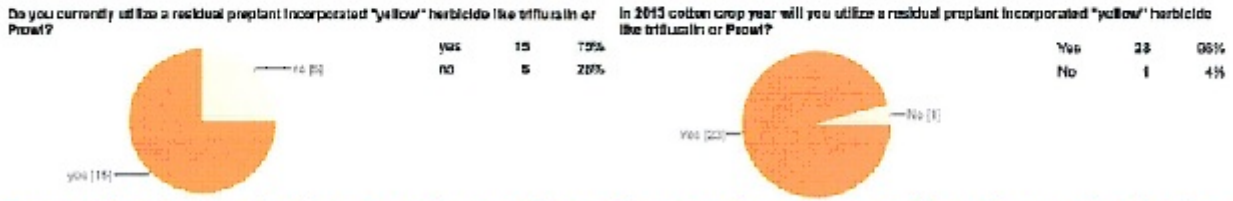
- West Plains Ag Conference on March 27 in conjunction with the Business Connection event (over 200 in attendance): I presented talk on weed resistance to glyphosate.
- Radio programs (16) on weed resistance management from March through October on KLVT – Levelland, Ag Talk on FOX Talk – Lubbock Region, and All Ag All Day with Tony St. James presented to thousands of listeners.
- State IPM meeting in New Braunfels gave presentation on weed resistance and its management.
- West Plains IPM Update Newsletter articles in 5 issues about recognizing resistance, management, and mitigation.
- Provided data to Dr. Peter Dotray for Texas Agricultural Industries Association Annual Meeting on weed resistance status in Hockley and Cochran Counties.
- Many phone calls and farm visits to verify resistance; discuss control measures and other management options, and to document extent of resistance in the counties.
- Pre and Post survey of weed resistance issue in Hockley and Cochran Counties.

A pre-evaluation was sent on March 22, 2012 via Google Docs Online Survey Tool to 60 random producers on West Plains IPM Update Newsletter mailing list. The survey was closed March 29 with 20 responses. Response rate was 33%. Then on September 17, 2012 a post-evaluation was sent via Google Docs Online Survey Tool to 50 random producers on the West Plains IPM Update Newsletter mailing list. It was closed on September 21 with 24 responses. Response rate was 48%.

Results



In March only about 45% of the producers suspected that they had herbicide resistance weeds in their farm fields. By September 83% said that they had found pigweed which was not controlled by glyphosate in Flex or Gly-Tol cotton fields. This increase of 184% in awareness of the presence of weed resistance can be attributed in part to the educational efforts of the IPM Program.

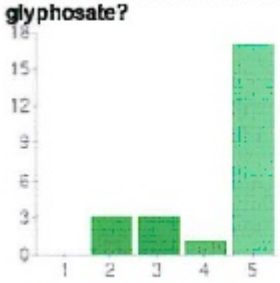


From March until September there was an increase of 128% (from 75% increasing to 96%) in producers saying that they will utilize a residual pre-plant incorporated "yellow" herbicide, which will help control pigweed resistant to glyphosate.

In terms of using other residual herbicides such as at-plant, lay-by, and/or pre-emergence herbicides tank-mixed with post-emergence herbicides there was a similar increase from March till September with 128% (75% increasing to 96%) saying yes they would include its use

Now the answer I received from this question is a bit confusing. However, I suspect that in March producers gave themselves more credit in using tillage to control weeds than they really were using. Once they began to realize that the weed resistance issue was a real problem they took notice of actually how little tillage they were employing. So though it appears to be a decline in those who say they will use tillage. These numbers stand alone in reflection of what producers were giving themselves credit for in March at 85% use; then in September projecting that number would be 79% for 2013. The other way to look at the answer provided for this question would be that producers understand now that they will be less dependent on the use of glyphosate for weed control. This in turn puts more reliance on the pre-emerge herbicides. So this shift from post-emerge herbicide use back to pre-emerge herbicides could reduce in-season cultivation or tillage as reflected in this questions answer.

How serious of a threat to cotton production do you consider pigweed resistance to glyphosate?



Not Serious ThreatVery Serious Threat

1 -Not Serious Threat	0	0%
2	3	13%
3	3	13%
4	1	4%
5 -Very Serious Threat	17	71%

Though not asked in March this question still reflects the seriousness at which producer have assigned this situation of having pigweed resistant to glyphosate. Seventy-one percent of the responses stated that this was a "very serious threat".

In summary, and based on the above points, it is apparent that the IPM Program has had a positive impact in even a short period from March through September in increasing the awareness, providing some alternatives for weed management, and overall recognizing a serious threat to production of cotton in Hockley and Cochran Counties which on average accounts for $160 million in agricultural income from 2008-2010.

Plans are to continue this effort in 2013.

THE USE OF VYDATE ON SOUTHERN ROOT-KNOT NEMATODE TOLERANT COTTON IN THE HIGH PLAINS OF TEXAS

COOPERATORS

David Pearson, Bruce & Ty Turnipseed, and Sammy Harris

COORDINATOR

Kerry Siders, Extension Agent - IPM, Hockley and Cochran Counties

Hockley County

INTRODUCTION

Plant parasitic nematodes are an economically important pest of cotton throughout most of the cotton growing areas of the United States. On the Texas High Plains, the southern root-knot nematode, *Meliodogyne incognita*, is the predominate nematode species of the population infesting cotton. In irrigated cotton where nematode populations are historically high (usually areas where sandier soils are most prevalent) many growers opt to utilize a partial nematode tolerant cotton variety since the loss of Temik. The use of foliar applied Vydate has provided protection from nematodes when it was used alone or in combination with Temik. Partial nematode tolerant cottons have yield loss when not protected chemically by nematicides as demonstrated when Temik was available. The need for additional control has encouraged the use of Vydate CLV following plant stand establishment.

OBJECTIVE

To determine the efficacy with and without foliar applied Vydate for control of southern root-knot nematode in partial nematode tolerant cotton varieties based on final cotton lint yields from two years in Hockley County, Texas

MATERIALS AND METHODS

Field trials were conducted in Hockley County, near Levelland, Sundown and Ropesville, Texas.

Based on fall soil sampling each year, a minimum of 7,000 eggs and 1,500 root-knot juveniles were present per 500 cm^3 of soil from study fields. Cotton containing Flex or Glytol and Bollgard II or Widestrike technology in 'FiberMax 9170', 'DeltaPine 1032', or 'Phytogen 367, 375, or 499' was planted on 12 May 2011 near Sundown; 'FiberMax 2011, 2484', 'DeltaPine 1219', 'Phytogen 367', 'Stoneville 4288, or 5458' was planted on 17 May 2012 near Ropesville; and 'FiberMax 9160', 'Stoneville 5458', 'DeltaPine 1044', 'Phytogen 367, 375, or 499' was planted on 22 May 2012 near Levelland on 40-inch rows and irrigated using a pivot or drip irrigation system. Plots were a minimum of 6-rows wide × 50-feet long. Plots were arranged in a randomized complete block design with 3 replications. Foliar applications of Vydate CLV were applied with a self-propelled sprayer calibrated to deliver 17 gallons per acre. Vydate CLV applications were made on 8 and 15 June 2011 at Sundown, 12, 19 and 26 June 2012 at Levelland, and 7, 14 and 21 June 2012 at Ropesville. A detailed list of treatments are outlined in Table 1.

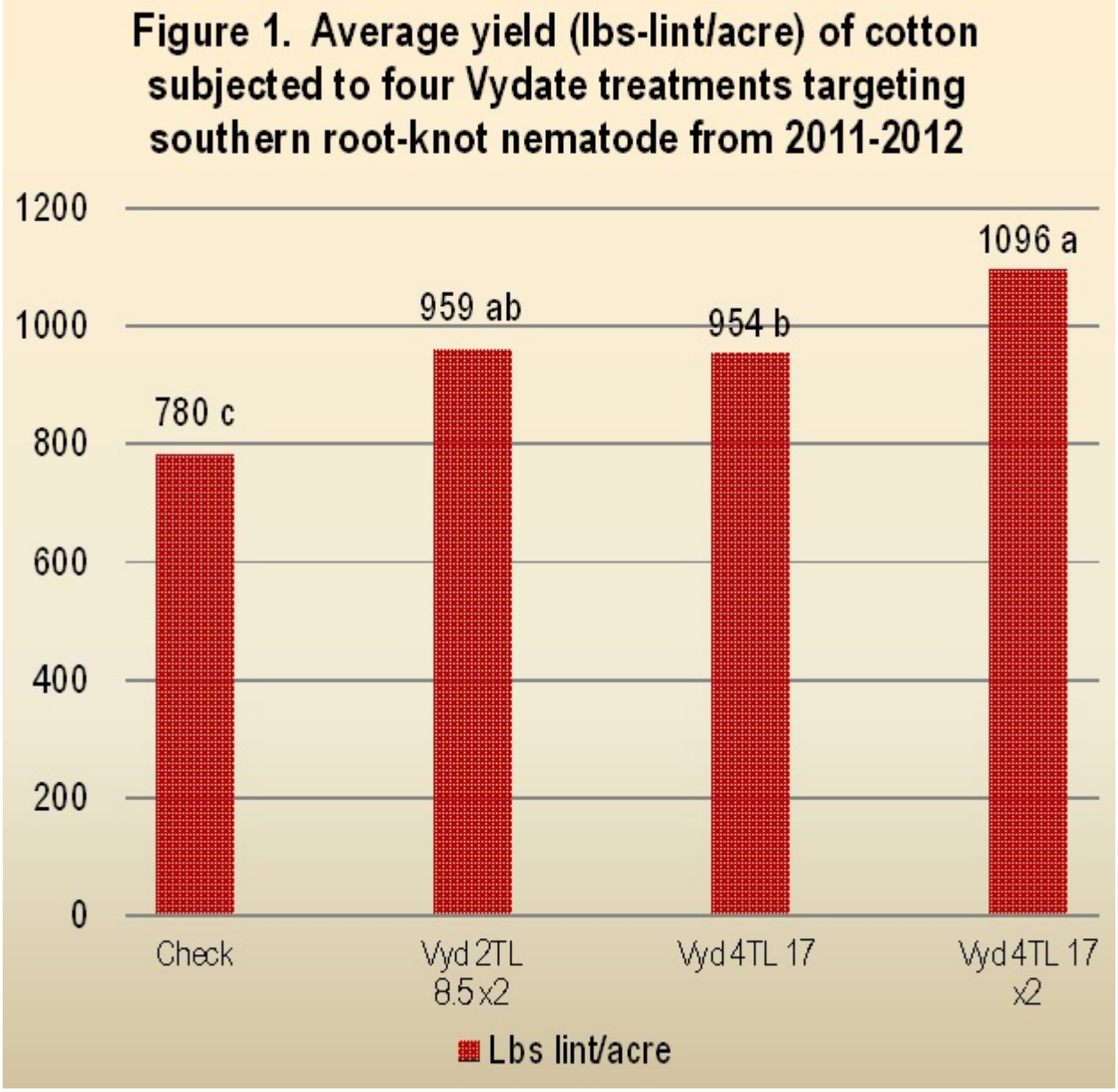
Table 1. Treatment regimes for southern root-knot nematode on partial tolerant cotton varieties 2011-12.
1) Untreated check
2) Early foliar application of Vydate CLV 8.5 oz at 2 true leaf cotton stage, followed by Vydate CLV 8.5 oz 7 days later (2012 only)
3) Foliar application of Vydate CLV 17 oz at 4 true leaf cotton stage
4) Foliar application of Vydate CLV 17 oz at 4 true leaf cotton stage, followed by Vydate CLV 17 oz 7 days later

Test locations were scouted weekly to minimize the impact of insect pests such as thrips and plant bugs. No additional insecticides were needed. Plots were harvested on 26 October 2011, and 17 and 23 October 2012 using a stripper. All samples were weighed, ginned and classed. Cotton lint yield data was analyzed using complete factorial and the means were separated using an F protected LSD ($P \leq 0.05$).

RESULTS

All treatments provided significantly (P=0.05) higher cotton lint yields than the untreated check (780 lbs lint/acre) (Fig. 1). Vydate C-LV applied foliar to 4 true leaf stage cotton with one 17 oz application provided 954 lbs. lint/acre. When applied at the 4 true leaf stage with 17 oz followed by another 17 oz 7 days later it is significantly better yield at 1096 lbs. lint/acre. When applied twice at 8.5 oz beginning at 2 true leaf stage cotton the yield was 959 lbs. lint/acre, which is not significantly different from the 17 oz rate applied once or twice.

When analyzing for interactions, Vydate treatments and variety treatments were significant. While the interaction term was not significant. Therefore, the benefits of Vydate treatments were consistent across all varieties.



No effect was noted on cotton lint grades in any of the years. The value of Vydate for southern root-knot nematode control for both years is shown in Table 2.

The check is the base of comparison with $0.00 value. The early Vydate application at 2 TL with 8.5 oz fb 8.5 had a value of $86/acre. Which is very similar to the value of one application of 17 oz at 4 TL of $83/acre, and with same treatment cost of $14/acre. Compared to two applications of 17 oz starting at 4TL provided a value of $149/acre, despite the doubling of cost of treatment of $28/acre

Table 2. Value of Vydate treatments on southern root-knot nematode 2011-2012, Hockley and Cochran Counties, Texas

Treatments	Cost of Treatment[1]/acre	Value[2] of Yield Change/acre over Check	Value of Treatment[3] Per acre
Check	$0.00	$0.00	$0.00
Vydate 8.5 oz @ 2 TL, fb 8.5 oz 7 DAT	$14.03	$100.24	$86.21
Vydate 17 oz @ 4 TL	$14.03	$97.44	$83.41
Vydate 17 oz @ 4 TL, fb 17 oz 7 DAT	$28.05	$176.96	$148.91

[1]Cost based on 2012 local price.

[2]Value is based on cotton loan price average for TX Southern High Plains for 2012 at $0.56

[3]Value of treatment is difference in Cost of treatment minus Value of Yield Change.

SUMMARY

Based on the two year's data, managing southern root-knot nematodes using partial tolerant cotton and foliarily applying Vydate C-LV at 2nd true leaf through 4th true leaf stage of cotton growth is critical to achieve best cotton lint yields. All Vydate treatments were significantly better than check. Two applications of Vydate @17 oz beginning at the 4th true leaf stage followed by another application 7 days later was best; followed closely by the two applications of Vydate @ 8.5 oz at 2nd true leaf with another application 7 days later. The Vydate C-LV treatments provided a gain of $83.41 to $148.91 over check.

ACKNOWLEDGEMENTS

Thanks to Case Medlin with DuPont for financial support. To Phytogen, Delta Pine, and FiberMax companies for cottonseed. Thanks to David Pearson, Bruce Turnipseed, and Sammy Harris for their cooperation. Thanks also to Dr. Terry Wheeler, Texas A&M AgriLife Research Plant Pathology, Lubbock for technical assistance

ALTERNATIVES TO TEMIK 15G FOR MANAGEMENT OF ROOT-KNOT NEMATODES

COORDINATORS

Terry Wheeler (Texas AgriLife Research, Lubbock), Kerry Siders (Texas AgriLife Extension Service, Hockley/Cochran counties), Manda Anderson (Texas AgriLife Extension Service, Gaines county), Scott Russell (Texas AgriLife Extension Service, Terry/Yoakum counties)

INTRODUCTION:

Root-knot nematodes infest at least 40% of the cotton acreage in the Southern High Plains. Prior to 2011, many cotton producers used Temik 15G (aldicarb) to manage nematode problems. Alternative methods of nematode control include: nematicide seed treatments (Aeris, Avicta), fumigation (Telone II, Vapam), crop rotation (peanut), and using partially resistant cultivars (Deltapine 174RF, Phytogen (PHY) 367WRF, Stoneville (ST) 4288B2F, and ST 5458B2F).

OBJECTIVE

A test was initiated in 2011 to examine the chemical and varietal components of nematode control at two sites, and was funded by the Plains Cotton Improvement Program. This project was continued in 2012 at four sites, and funded by the Texas Cotton State Support Committee.

MATERIALS AND METHODS

Chemical treatments in all tests are:

1) None (no insecticide or nematicides)
2) Cruiser (insecticide only)
3) Avicta Complete Cotton (insecticide, nematicide, and extra fungicide protection)
4) Cruiser on seed, plus Vydate CLV (insecticide/nematicide) at the 4-5 leaf stage
5) Avicta Complete Cotton on seed, plus Vydate CLV
6) Temik 15G at 5 lbs/acre in the furrow at planting
7) Cruiser on seed and fumigation with Telone II (3 gal/acre) before planting.

Varieties in the test include Fibermax (FM) 9160B2F as a susceptible variety at all sites; PHY 367WRF as a partially resistant variety at Whiteface and Brownfield; and ST 5458B2F

as a partially resistant variety at Brownfield, Lamesa, and Seminole.

All sites were planted with four row plots, 33-36 feet long, with a factorial arrangement of all treatments, in a randomized complete block design with six replications. Data collected included plant stand, galls/root at 35 days after planting, root-knot nematode density in August, and yield.

RESULTS

Lamesa (LAM12): The root-knot nematode pressure was low at this site early in the season, with an average of 1.7 galls for FM 9160B2F and 1.2 galls/root for ST 5458B2F (Table 1). There was no chemical effect on galls/root (Table 2), root-knot nematode density (Table 3), yield (Table 4), or net value (yield x loan value – chemical and variety costs) (Table 5). Buildup of the nematode population during the season was good, with an average of 9,446 root-knot/500 cm^3 soil for FM 9180B2F and 3,883 root-knot/500 cm^3 soil for ST 5458B2F (Table 1). The partially resistant ST 5458B2F yielded more (1,302 lbs of lint/acre) than FM 9160B2F (1,262 lbs of lint/acre, Table 1). However, the net value was higher for FM 9160B2F ($713/acre) than for ST 5458B2F ($687/acre) in 2012 (Table 1). The average values for all variety/chemical combinations for galls/root, root-knot nematode density, yield and net value for Lamesa are in Table 6.

Table 1. Effect of variety[1] on root galling, root-knot nematode (RK) density, lint yield, and value ($)/acre (lint yield x loan value) for six locations[2].

Location	Galls		RK/500 cm^3 soil		Lint yield		Yield x loan ($/a)	
	S	R	S	R	S	R	S	R
WF11	5.2 a[3]	4.0 a	9,538 a	1,090 b	1,115 b	1,241 a	1,026 b	1,131 a
WF12	1.4 a	0.3 b	4,418 a	615 b	700 b	742[4] a	381 b	401 a[1]
SEM11	13.3 a	10.0 b	23,777 a	8,147 b	804 b	1,002 a	721 b	865 a
SEM12	1.2 a	0.5 b	10,690 a	2,291 b	1,096 a	1,093 a	544 a	543 a
LAM12	1.7 a	1.2 b[4]	9,447 a	3,883 b	1,262 b	1,302 a[5]	713 a	687 b
BF12	7.0 a	3.3 c	14,295 a	6,851 b	556 b	606 a	284 b	308 a
		5.0 b		8,354 b		578 ab		278 b
Average	**5.3**	**3.5**	**12,351**	**4,462**	**870**	**938**	**565**	**602**

[1]The susceptible (S) variety was Fibermax 9160B2F. The partially resistant (R) variety was either (Stoneville 5458B2F or Phytogen 367WRF). At the BF12 site, both partially resistant varieties were tested, with PHY 367WRF as the top entry and ST 5458B2F as the bottom entry.
[2]There were two locations in 2011 (WF11= Whiteface 2011 and SEM11 = Seminole 2011), and four locations in 2012 (WF12, SEM12, LAM12 (Lamesa, 2012), and BF12 (Brownfield 2012).
[3]Different letters indicate significant differences between varieties within a location, at $P = 0.05$, unless otherwise indicated.
[4]$P \leq 0.054$.
[5]$P = 0.077$.

Table 2. Effect of nematicides on root galling at approximately 35 days after planting at six locations[2] tested in 2011 or 2012.

Chemical[1]	WF11	WF12	SEM11	SEM12	LAM12	BF12	Average
None	4.6 a[3]	0.7 a	13.8 a	1.6 a	1.9 a	5.5 a	4.7
Insecticide (I)	1.8 a	1.5 a	12.8 a	0.3 a	0.9 a	5.7 a	3.8
NST[1]	5.5 a	0.5 a	11.6 a	1.1 a	1.4 a	5.2 a	4.2
I + Vydate (V)	1.2 a	1.2 a	13.2 a	0.5 a	1.6 a	3.8 a	3.6
NST + V	4.7 a	0.6 a	13.1 a	1.0 a	1.6 a	4.4 a	4.2
Temik 15G	7.1 a	0.7 a	6.1 b	0.2 a	1.6 a	5.5 a	3.5
I + Telone II	4.2 a	0.6 a	5.3 b	0.8 a	1.2 a	5.4 a	2.9

[1]Insecticide was Cruiser, NST was Avicta Complete Cotton, which was a nematicide seed treatment (Avicta 500) that also included an insecticide (Cruiser) and fungicide combination (Dynasty). Vydate CLV (17 oz/acre) was included as an over-the-top banded nematicide at the 4-5 leaf stage. Temik 15G (aldicarb) was applied at 5 lbs/acre in the furrow at planting. Telone II (3 gal/a) was applied in the bed before planting (number of days varied with location) at a depth of 12 inches and then seed was treated with Cruiser to provide insect protection.
[2]There were two locations in 2011 (WF11= Whiteface 2011 and SEM11 = Seminole 2011), and four locations in 2012 (WF12, SEM12, LAM12 (Lamesa, 2012), and BF12 (Brownfield 2012).
[3]Different letters indicate significant differences between varieties within a column at $P = 0.05$.

Table 3. Effect of nematicides on root-knot nematode density/500 cm^3 soil in August at six locations[2] tested in 2011 or 2012.

Chemical[1]	WF11	WF12	SEM11	SEM12	LAM12	BF12	Average
None	10,390 a[3]	2,320 a	17,835 a	4,278 a	4,112 a	11,740 a	8,446
Insecticide (I)	5,240 a	3,510 a	12,315 a	3,932 a	8,035 a	14,200 a	7,872
NST	4,190 a	1,270 a	21,330 a	3,928 a	3,960 a	8,339 a	7,170
I + Vydate (V)	150 b	2,660 a	16,095 a	7,009 a	4,437 a	6,349 a	6,117
NST + V	6,480 a	2,930 a	18,240 a	11,300 a	10,703 a	8,052 a	9,618
Temik 15G	5,350 a	3,967 a	14,670 a	8,033 a	10,325 a	7,343 a	8,281
I + Telone II	5,280 a	960 a	11,700 a	6,952 a	5,083 a	12,810 a	7,131

[1]Insecticide was Cruiser, NST was Avicta Complete Cotton, which was a nematicide seed treatment (Avicta 500) that also included an insecticide (Cruiser) and fungicide combination (Dynasty). Vydate CLV (17 oz/acre) was included as an over-the-top banded nematicide at the 4-5 leaf stage. Temik 15G (aldicarb) was applied at 5 lbs/acre in the furrow at planting. Telone II (3 gal/a) was applied in the bed before planting (number of days varied with location) at a depth of 12 inches and then seed was treated with Cruiser to provide insect protection.
[2]There were two locations in 2011 (WF11= Whiteface 2011 and SEM11 = Seminole 2011), and four locations in 2012 (WF12, SEM12, LAM12 (Lamesa, 2012), and BF12 (Brownfield 2012).
[3]Different letters indicate significant differences between varieties within a column at $P = 0.05$.

Table 4. Effect of nematicides on lint yield (lbs/a) at six locations[2] tested in 2011 or 2012.

Chemical[1]	WF11	WF12	SEM11	SEM12	LAM12	BF12	Average
None	1,158 a[3]	726 a	857 a	1,126 a	1,229 a	598 a	949
Insecticide (I)	1,136 a	716 a	888 a	1,137 a	1,254 a	544 a	946
NST	1,201 a	736 a	850 a	1,101 a	1,285 a	579 a	959
I + Vydate (V)	1,214 a	735 a	981 a	997 a	1,299 a	558 a	964
NST + V	1,131 a	719 a	926 a	1,120 a	1,329 a	604 a	972
Temik 15G	1,123 a	674 a	886 a	1,078 a	1,266 a	588 a	936
I + Telone II	1,285 a	741 a	934 a	1,099 a	1,314 a	592 a	994

[1]Insecticide was Cruiser, NST was Avicta Complete Cotton, which was a nematicide seed treatment (Avicta 500) that also included an insecticide (Cruiser) and fungicide combination (Dynasty). Vydate CLV (17 oz/acre) was included as an over-the-top banded nematicide at the 4-5 leaf stage. Temik 15G (aldicarb) was applied at 5 lbs/acre in the furrow at planting. Telone II (3 gal/a) was applied in the bed before planting (number of days varied with location) at a depth of 12 inches and then seed was treated with Cruiser to provide insect protection.
[2]There were two locations in 2011 (WF11= Whiteface 2011 and SEM11 = Seminole 2011), and four locations in 2012 (WF12, SEM12, LAM12 (Lamesa, 2012), and BF12 (Brownfield 2012).
[3]Different letters indicate significant differences between varieties within a column at $P = 0.05$.

Table 5. Effect of nematicides on net value[1] ($/acre) at six locations[2] tested in 2011 or 2012.

Chemical[3]	WF11	WF12	SEM11	SEM12	LAM12	BF12	Average
None	1,059 a[4]	320 a	664 b	485 a	596 a	226 a	558
Insecticide (I)	1,031 a	306 ab	709 ab	482 a	602 a	205 ab	556
NST[1]	1,082 a	309 ab	638 b	457 ab	611 a	199 b	549
I + Vydate (V)	1,097 a	311 ab	783 a	407 bc	622 a	185 b	568
NST + V	1,013 a	295 ab	705 ab	460 ab	629 a	203 ab	551
Temik 15G	1,010 a	274 b	661 b	444 ab	599 a	197 b	531
I + Telone II	1,093 a	245 c	643 b	389 c	561 a	130 c	510

[1]Net value is the (yield (lbs of lint/acre) x loan value) – variety cost ($74.35/acre) – chemical cost. Chemical costs for Cruiser was $8.10/acre, Avicta Complete Cotton was $16.20/acre, Cruiser + Vydate CLV = $13.65/acre, Avicta Complete Cotton + Vydate CLV = $21.75/acre, Temik 15G = $17.50/acre, and Cruiser + Telone II = $82.80/acre.

[2]There were two locations in 2011 (WF11= Whiteface 2011 and SEM11 = Seminole 2011), and four locations in 2012 (WF12, SEM12, LAM12 (Lamesa, 2012), and BF12 (Brownfield 2012).

[3]Insecticide was Cruiser, NST was Avicta Complete Cotton, which was a nematicide seed treatment (Avicta 500) that also included an insecticide (Cruiser) and fungicide combination (Dynasty). Vydate CLV (17 oz/acre) was included as an over-the-top banded nematicide at the 4-5 leaf stage. Temik 15G (aldicarb) was applied at 5 lbs/acre in the furrow at planting. Telone II (3 gal/a) was applied in the bed before planting (number of days varied with location) at a depth of 12 inches and then seed was treated with Cruiser to provide insect protection.

[4]Different letters indicate significant differences between varieties within a column at $P = 0.05$.

Table 6. Measured variables at Lamesa in 2012 for each combination of chemical treatment and variety (Average of six replications).

Variety[1]	Chemical[4]	Plants /ft. row	Galls / root	RK[2]/ 500 cc soil	Lbs of lint/acre	Net value[3] ($/acre)
FM	None	1.79	2.1	4,760	1,187	601
FM	Insecticide (I)	1.45	1.1	7,070	1,211	641
FM	NST	2.16	1.3	5,020	1,296	622
FM	I+Vydate (V)	1.89	1.7	6,827	1,293	632
FM	NST+Vydate	2.25	2.2	18,980	1,289	608
FM	Temik 15G	2.22	2.4	14,430	1,240	588
FM	I+Telone II	2.13	1.2	9,040	1,320	596
ST	None	2.09	1.7	3,463	1,270	603
ST	Insecticide (I)	1.96	0.7	9,000	1,298	581
ST	NST	2.15	1.6	2,900	1,273	642
ST	I+Vydate (V)	2.48	1.6	2,047	1,306	626
ST	NST+Vydate	2.36	1.0	2,427	1,368	590
ST	Temik 15G	2.32	0.8	6,220	1,293	533
ST	I+Telone II	2.23	1.2	1,127	1,309	596

[1]FM is Fibermax 9160B2F, ST is Stoneville 5458B2F.
[2]RK is root-knot nematode.
[3]Net value is the (yield (lbs of lint/acre) x loan value) – variety cost ($74.35/acre) – chemical cost. Chemical costs for Cruiser was $8.10/acre, Avicta Complete Cotton was $16.20/acre, Cruiser + Vydate CLV = $13.65/acre, Avicta Complete Cotton + Vydate CLV = $21.75/acre, Temik 15G = $17.50/acre, and Cruiser + Telone II = $82.80/acre.
[4]Insecticide was Cruiser, NST was Avicta Complete Cotton, which was a nematicide seed treatment (Avicta 500) that also included an insecticide (Cruiser) and fungicide combination (Dynasty). Vydate CLV (17 oz/acre) was included as an over-the-top banded nematicide at the 4-5 leaf stage. Temik 15G (aldicarb) was applied at 5 lbs/acre in the furrow at planting. Telone II (3 gal/a) was applied in the bed before planting (number of days varied with location) at a depth of 12 inches and then seed was treated with Cruiser to provide insect protection.

Whiteface 2012 (WF12): The root-knot nematode pressure was low at this site this year, as seen with the low gall ratings (Table 1). There was a variety response to all measured variables, with the susceptible variety having more galls/root and higher density of root-knot nematode than the partially resistant PHY 367WRF (Table 1). PHY 367WRF had higher yield and better net value than the susceptible FM 9160B2F (Table 1). Chemical treatments did not affect root galls (Table 2), root-knot nematode density (Table 3), or lint yield (Table 4). However, the most profitable treatment was the nontreated check, while the fumigation treatment had the lowest net value and Temik 15G had the second lowest net value (Table 5). All variety/treatment combinations are presented in Table 7.

Table 7. Measured variables at Whiteface in 2012 for each combination of chemical treatment and variety (average of six replications).

Variety[1]	Chemical[4]	Plants /ft. row	Galls / root	RK[2]/ 500 cc Soil	Lbs of Lint/acre	Net value[3] ($/acre)
FM	None	2.4	1.1	4,533	708	311
FM	Insecticide (I)	2.5	2.7	6,680	668	281
FM	NST	2.2	0.7	1,420	698	290
FM	I+Vydate (V)	2.4	2.1	5,120	710	299
FM	NST+Vydate	2.4	1.0	5,120	717	294
FM	Temik 15G	2.4	1.1	6,293	681	279
FM	I+Telone II	2.6	1.0	1,760	716	233
PHY	None	2.7	0.4	107	744	329
PHY	Insecticide (I)	2.5	0.4	340	764	331
PHY	NST	2.6	0.3	1,120	774	329
PHY	I+Vydate (V)	2.6	0.3	200	760	324
PHY	NST+Vydate	2.5	0.3	740	722	295
PHY	Temik 15G	2.7	0.4	1,640	668	270
PHY	I+Telone II	2.4	0.3	160	765	258

[1]FM is Fibermax 9160B2F, PHY is Phytogen 367WRF.
[2]RK is root-knot nematode.
[3]Net value is the (yield (lbs of lint/acre) x loan value) – variety cost ($74.35/acre for FM or $76.54 for PHY) – chemical cost. Chemical costs for Cruiser was $8.10/acre, Avicta Complete Cotton was $16.20/acre, Cruiser + Vydate CLV = $13.65/acre, Avicta Complete Cotton + Vydate CLV = $21.75/acre, Temik 15G = $17.50/acre, and Cruiser + Telone II = $82.80/acre.
[4]Insecticide was Cruiser, NST was Avicta Complete Cotton, which was a nematicide seed treatment (Avicta 500) that also included an insecticide (Cruiser) and fungicide combination (Dynasty). Vydate CLV (17 oz/acre) was included as an over-the-top banded nematicide at the 4-5 leaf stage. Temik 15G (aldicarb) was applied at 5 lbs/acre in the furrow at planting. Telone II (3 gal/a) was applied in the bed before planting (number of days varied with location) at a depth of 12 inches and then seed was treated with Cruiser to provide insect protection.

Seminole (SEM12): Root-knot nematode pressure was light early in the season at this site, based on early season gall ratings (Table 1), but did build up adequately over the course of the season. Galls/root and root-knot nematode density was affected by variety (Table 1), where the susceptible variety had higher numbers than the partially resistant ST 5458B2F. Yield and net value (yield x loan value) was similar between both varieties (Table 1). Chemical treatment did not affect galls/root, root-knot nematode density, or yield (Tables 2-4). However, net value was highest for the non-nematicide treatments (untreated check and Cruiser seed treatment) and lowest for plots treated with Temik 15G or Telone II (Table 5). The individual variety/treatment

combinations are presented in Table 8.

Table 8. Measured variables at Seminole in 2012 for each combination of chemical treatment and variety (average of six replications).

Variety[1]	Chemical[4]	Plants /ft. row	Galls / root	RK[2]/ 500 cc soil	Lbs of Lint/acre	Net value[3] ($/acre)
FM	None	2.8	2.8	4,840	1,158	500
FM	Insecticide (I)	2.9	0.3	6,500	1,167	496
FM	NST	3.0	1.1	5,260	1,099	455
FM	I+Vydate (V)	2.8	0.7	12,720	977	397
FM	NST+Vydate	2.9	1.6	20,240	1,070	435
FM	Temik 15G	3.1	0.3	13,890	1,141	474
FM	I+Telone II	2.9	1.2	11,377	1,058	368
ST	None	2.9	0.4	3,717	1,094	470
ST	Insecticide (I)	2.9	0.4	1,363	1,108	469
ST	NST	3.2	1.1	2,597	1,103	458
ST	I+Vydate (V)	3.1	0.4	1,298	1,017	418
ST	NST+Vydate	3.0	0.5	2,360	1,170	486
ST	Temik 15G	3.1	0.2	2,177	1,015	413
ST	I+Telone II	2.8	0.4	2,527	1,140	410

[1]FM is Fibermax 9160B2F, ST is Stoneville 5458B2F.
[2]RK is root-knot nematode.
[3]Net value is the (yield (lbs of lint/acre) x loan value) – variety cost ($74.35/acre) – chemical cost. Chemical costs for Cruiser was $8.10/acre, Avicta Complete Cotton was $16.20/acre, Cruiser + Vydate CLV = $13.65/acre, Avicta Complete Cotton + Vydate CLV = $21.75/acre, Temik 15G = $17.50/acre, and Cruiser + Telone II = $82.80/acre.
[4]Insecticide was Cruiser, NST was Avicta Complete Cotton, which was a nematicide seed treatment (Avicta 500) that also included an insecticide (Cruiser) and fungicide combination (Dynasty). Vydate CLV (17 oz/acre) was included as an over-the-top banded nematicide at the 4-5 leaf stage. Temik 15G (aldicarb) was applied at 5 lbs/acre in the furrow at planting. Telone II (3 gal/a) was applied in the bed before planting (number of days varied with location) at a depth of 12 inches and then seed was treated with Cruiser to provide insect protection.

Brownfield (BF12): Root-knot nematode early season populations were not quite as low at Brownfield as at the other three sites in 2012, but they still were not as high as desirable to show response of nematicides treatments. Most variables measured were affected by variety (galls, root-knot nematode density, yield, and net value, Table 1). Chemical treatment did not affect galls (Table 2), root-knot nematode density (Table 3), or yield (Table 4). However, there was an interaction between variety and chemical treatment with respect to net value (Table 9). In all three varieties, net value was poorer for Telone II than most other treatments, due to the small

yield response to this product and high cost of the product. Other differences were inconsistent between varieties. For example the seed treatment Cruiser plus Vydate was among the best treatments with FM 9160B2F, but was one of the poorer treatments for PHY 367WRF (Table 9).

Table 9. Measured variables at Seminole in 2012 for each combination of chemical treatment and variety (average of six replications).

Variety[1]	Chemical[4]	Plants /ft. row	Galls / root	RK[2]/ 500 cc Soil	Lbs of Lint/acre	Net value[3] ($/acre)
FM	None	2.3	8.6	17,940	582	234 a[5]
FM	Insecticide (I)	2.2	7.8	23,700	486	181 bc
FM	NST	2.2	6.3	10,540	520	181 bc
FM	I+Vydate (V)	2.1	5.5	8,080	578	200 ab
FM	NST+Vydate	2.0	6.4	14,653	555	165 bc
FM	Temik 15G	2.3	8.2	8,590	572	197 ab
FM	I+Telone II	2.2	6.1	16,560	601	151 c
PHY	None	2.1	4.9	8,220	621	239 a
PHY	Insecticide (I)	2.3	4.1	4,500	568	222 a
PHY	NST	2.0	3.0	4,970	617	210 ab
PHY	I+Vydate (V)	1.8	2.6	3,167	549	177 b
PHY	NST+Vydate	2.0	2.7	4,783	644	228 a
PHY	Temik 15G	2.1	2.6	8,140	622	223 a
PHY	I+Telone II	2.0	3.3	14,180	624	158 c
ST	None	2.7	3.1	9,060	591	204 a
ST	Insecticide (I)	2.6	5.3	14,400	577	213 a
ST	NST	2.5	6.2	9,507	600	206 a
ST	I+Vydate (V)	1.9	3.2	7,800	548	176 a
ST	NST+Vydate	3.0	4.2	4,720	613	215 a
ST	Temik 15G	2.7	5.8	5,300	569	171 a
ST	I+Telone II	2.0	6.9	7,690	550	80 b

[1]FM is Fibermax 9160B2F, PHY is Phytogen 367WRF, ST is Stoneville 5458B2F.
[2]RK is root-knot nematode.
[3]Net value is the (yield (lbs of lint/acre) x loan value) – variety cost ($74.35/acre) – chemical cost. Chemical costs for Cruiser was $8.10/acre, Avicta Complete Cotton was $16.20/acre, Cruiser + Vydate CLV = $13.65/acre, Avicta Complete Cotton + Vydate CLV = $21.75/acre, Temik 15G = $17.50/acre, and Cruiser + Telone II = $82.80/acre.
[4]Insecticide was Cruiser, NST was Avicta Complete Cotton, which was a nematicide seed treatment (Avicta 500) that also included an insecticide (Cruiser) and fungicide combination

(Dynasty). Vydate CLV (17 oz/acre) was included as an over-the-top banded nematicide at the 4-5 leaf stage. Temik 15G (aldicarb) was applied at 5 lbs/acre in the furrow at planting. Telone II (3 gal/a) was applied in the bed before planting (number of days varied with location) at a depth of 12 inches and then seed was treated with Cruiser to provide insect protection.
[5]Different letters indicate significantly different net values, within a variety (P=0.05).

SUMMARY FOR 2012

Variety performance was weaker in 2012 than in 2011, which was probably due to much lower root-knot nematode populations early in the growing season. Partially resistant cultivars usually had higher yields in 2012 than the susceptible FM 9160B2F though not in every case. In 2011 the yield advantage of the partially resistant varieties to root-knot nematode was much higher than the susceptible variety. However, in 2012, the partially resistant variety had a higher yield in 3 of 4 sites, and similar yield in one site as the susceptible variety. In 2011, the partially resistant variety returned approximately $124/acre more than the susceptible variety (based yield x loan value). In a very weak nematode year (2012), the partially resistant variety returned approximately $4/acre more than the susceptible variety.

In general, chemical performance was poor to none in 2012, so the "best" treatment was to use no chemical control of nematodes or thrips. Fumigation with Telone II did not provide for much of a yield boost, and had a very high cost ($82.80/acre for fumigation plus Cruiser treated seed). This resulted in a lower net return than all other treatments, consistently. Probably with the low nematode pressure, fumigation would not have been cost effective, but also there have been problems in getting optimal application of fumigation. This product should go out in moist, but not wet soil, and the soil should not receive irrigation or rain for at least 48 hrs after application. We have made the applications either in dry soil (before prewatering), or in wet soil during the prewatering phase, so this treatment probably hasn't gotten a fair test. The other chemical treatments were applied adequately. Vydate CLV was a fairly consistent treatment in 2011, but did not look effective in 2012, though it may have been that early season nematode pressure was too low for Vydate CLV to act on anything. The only treatment that is "season-long" is resistant variety, and they were effective as seen with the significant reductions in galls/root and root-knot nematode density in August at all sites.

EVALUATION OF INSECTICIDE OVERSPRAYS FOR CONTROL OF BOLLWORMS IN TRANSGENIC BT COTTON

COORDINATORS

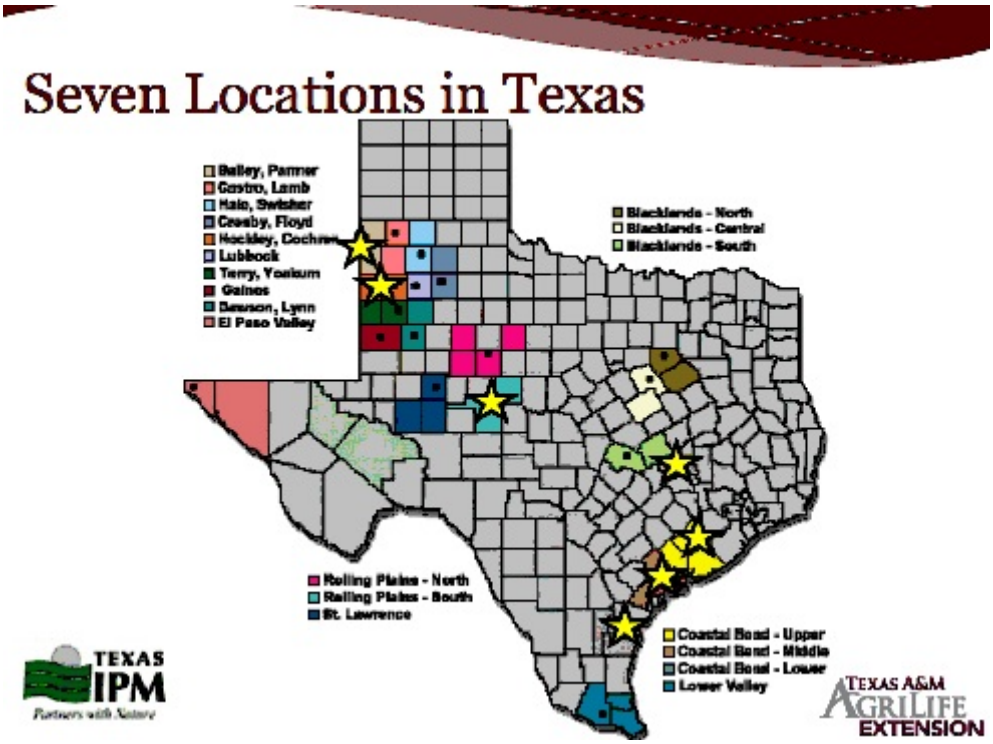
Stephen Biles, Clyde Crumley, Rick Minzenmayer, Dale Mott, Roy Parker, Kerry Siders, and Monti Vandiver

OBJECTIVES

Determine if any benefit is gained by treating Bt cotton for caterpillars. Secondly, determine if yield is enhanced by insecticide alone without pest present.

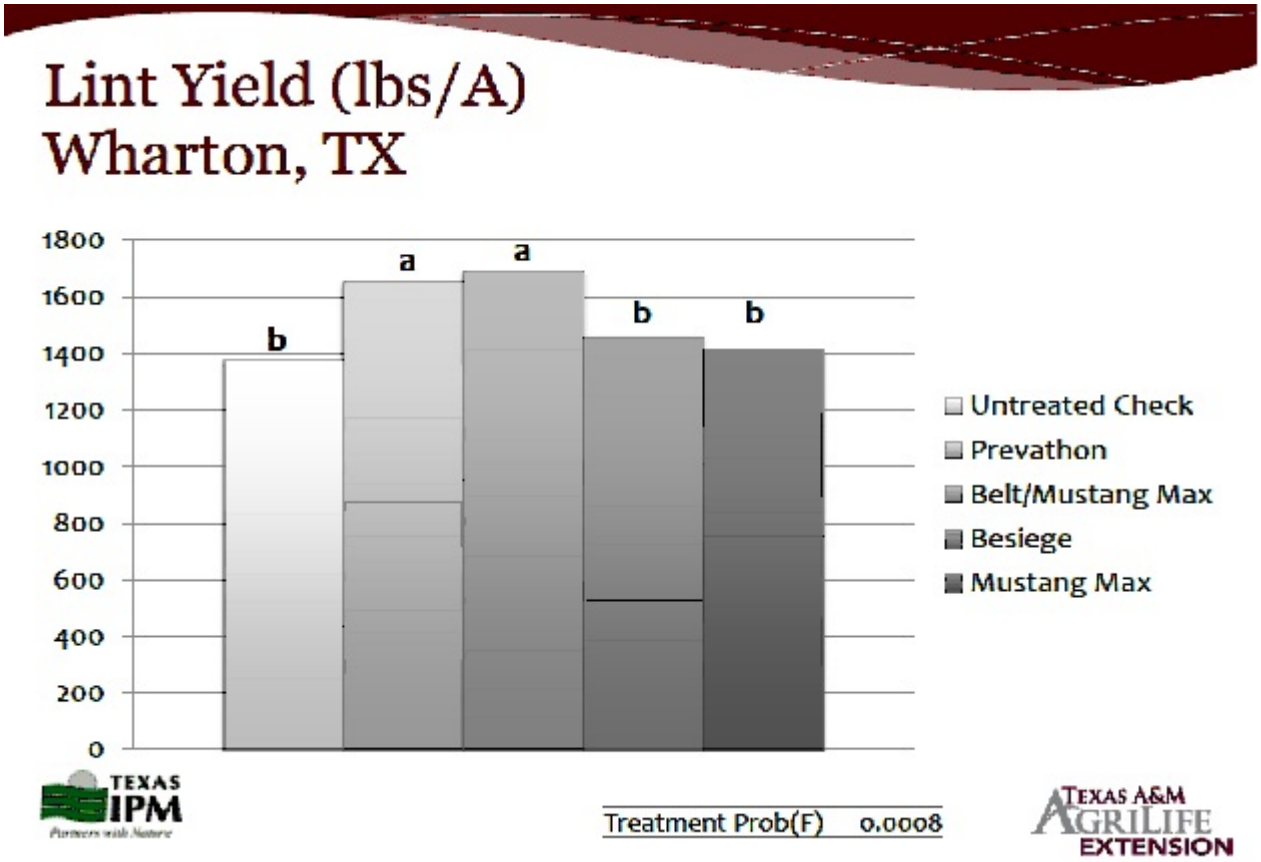
MATERIALS AND METHODS

Sprayed insecticides for bollworm control on Bollguard II or Widestrike cotton during the first two weeks of bloom. Count surviving bollworms and feeding injury. Measure yield.

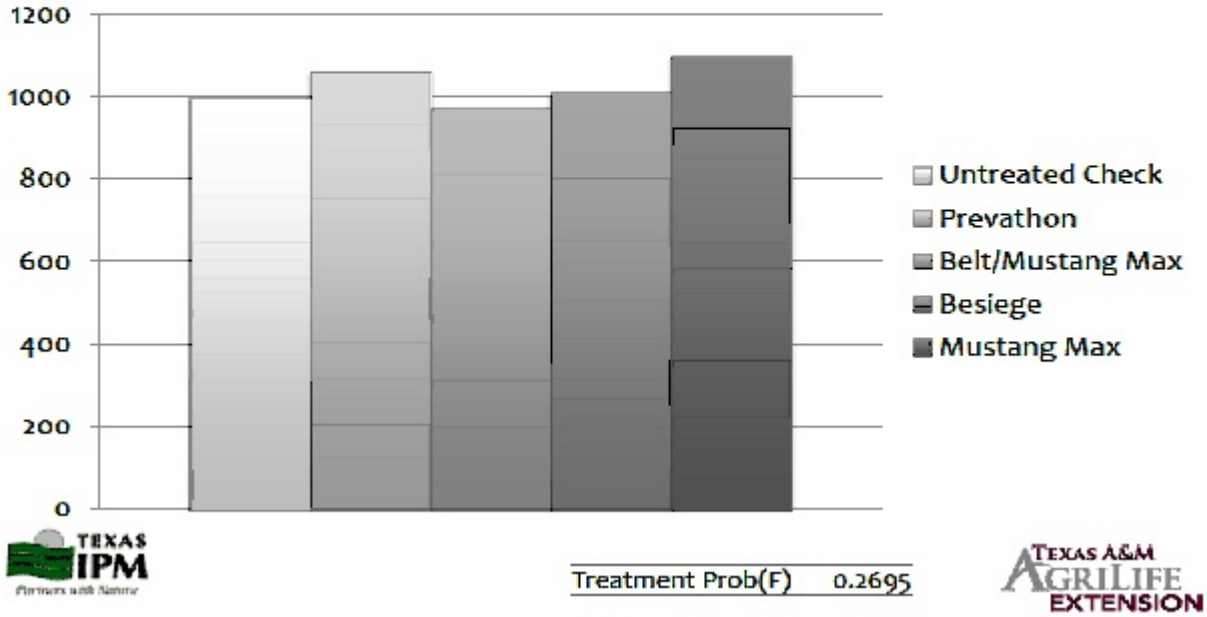


RESULTS

In terms of pest populations, few bollworms and minimal feeding injury was detected in the study fields. No worms in West Texas and less than 1/3 grown or small worms per 10 plants in East Texas and Coastal Bend. Cotton square borers were noted at one location at below 1.3 per 10 plants. The following tables are cotton lint yield from each of the nine study fields, followed by a composite of sites.

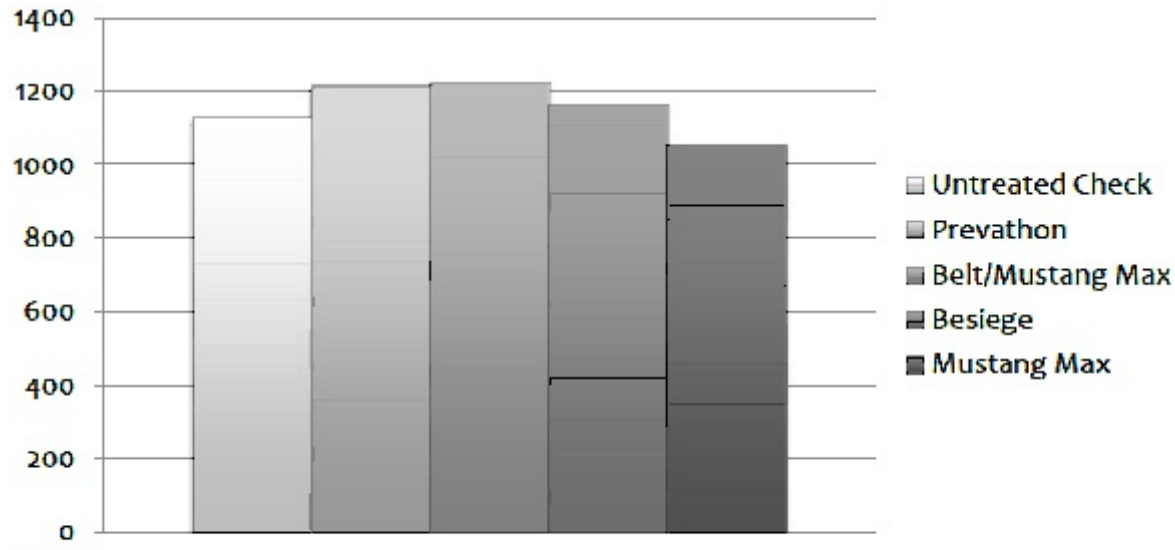


Lint Yield (lbs/A)
College Station, TX



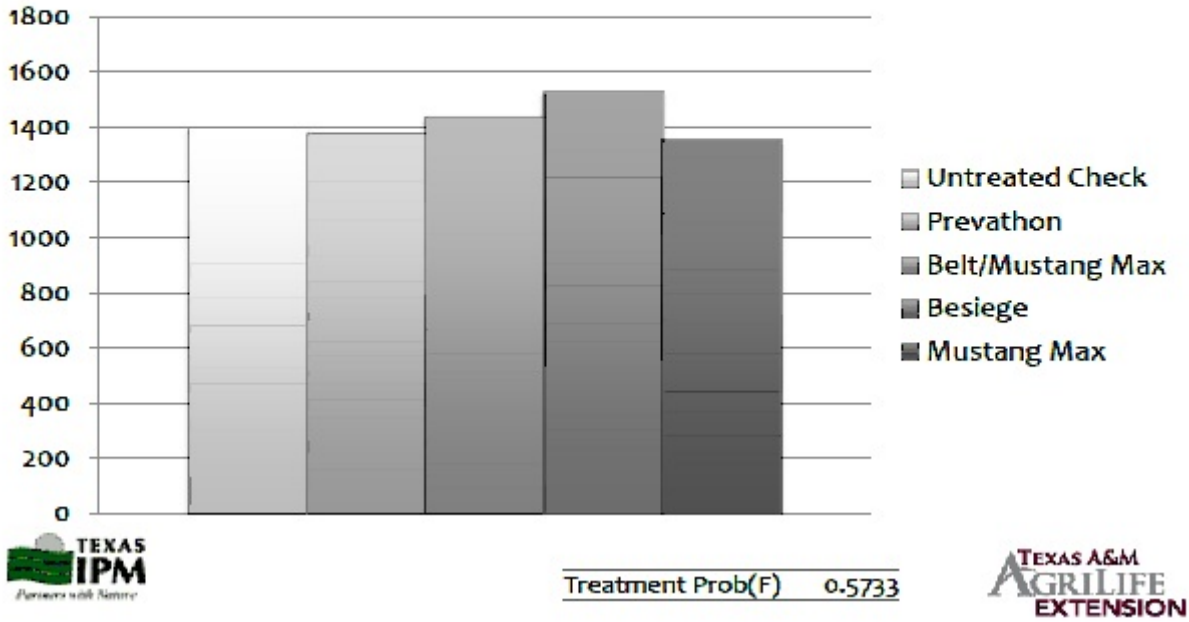
Treatment Prob(F) 0.2695

Lint Yield (lbs/A)
Port Lavaca, TX



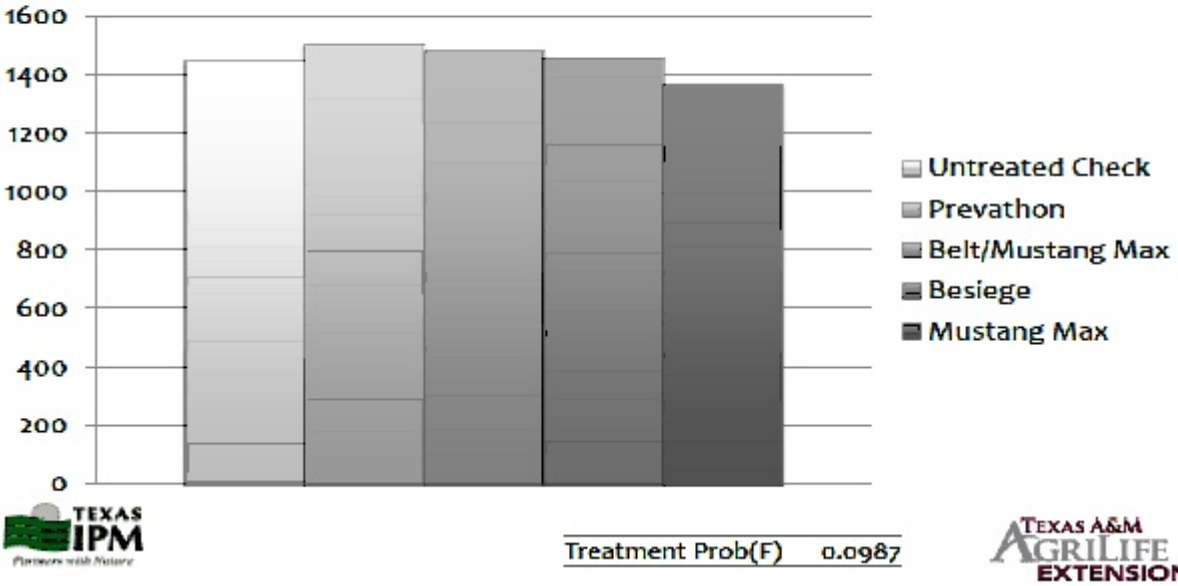
Treatment Prob(F) 0.4849

Lint Yield (lbs/A)
Port Lavaca, TX



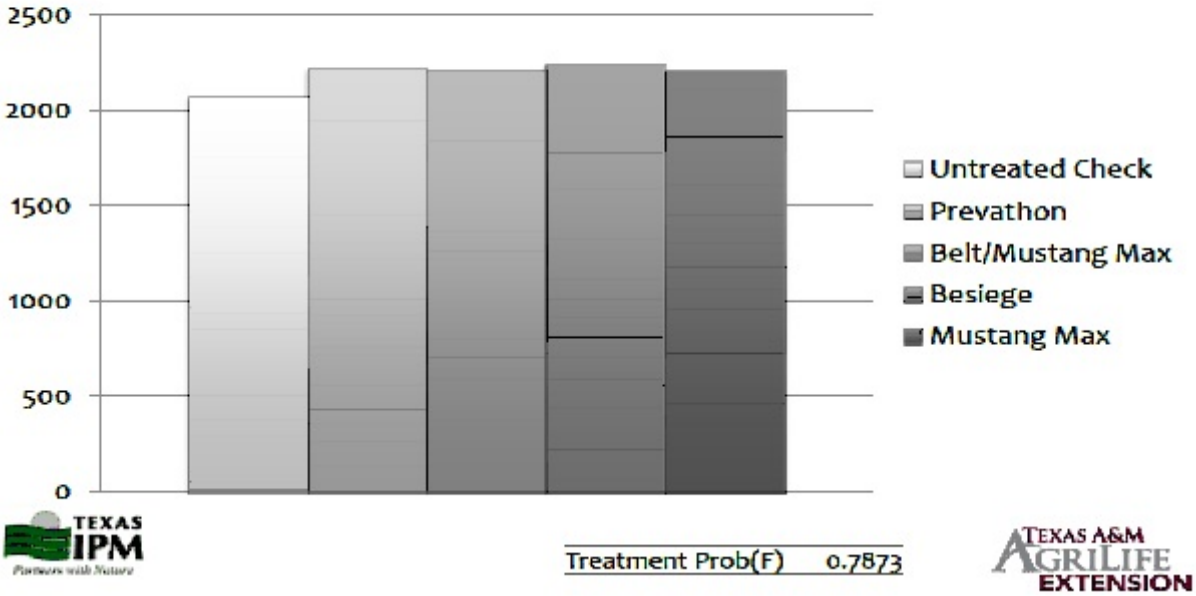
Treatment Prob(F) 0.5733

Lint Yield (lbs/A)
Port Lavaca, TX



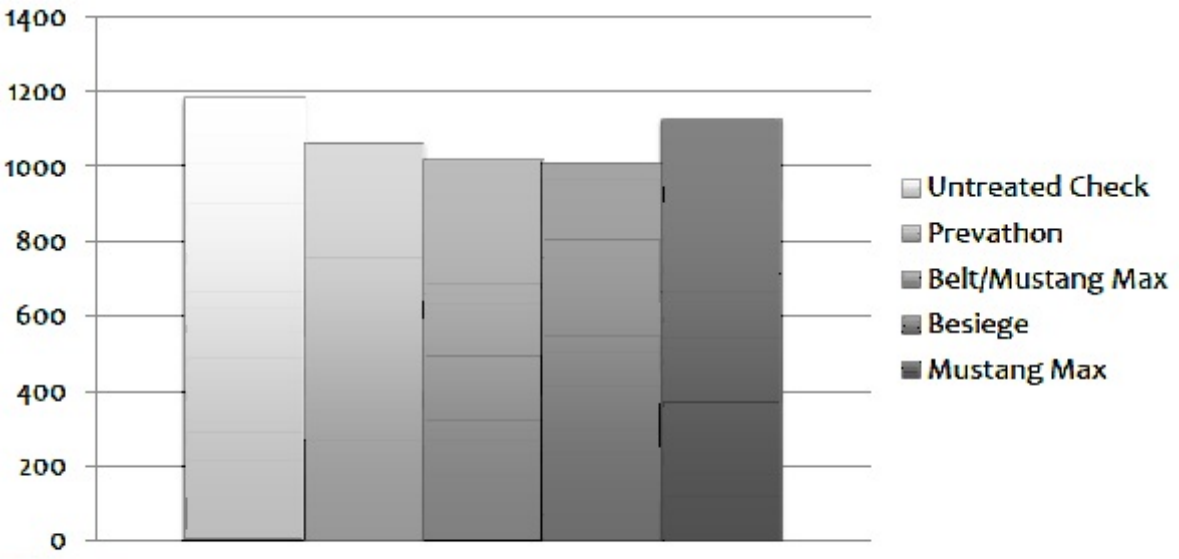
Treatment Prob(F) 0.0987

Lint Yield (lbs/A)
Corpus Christi, TX



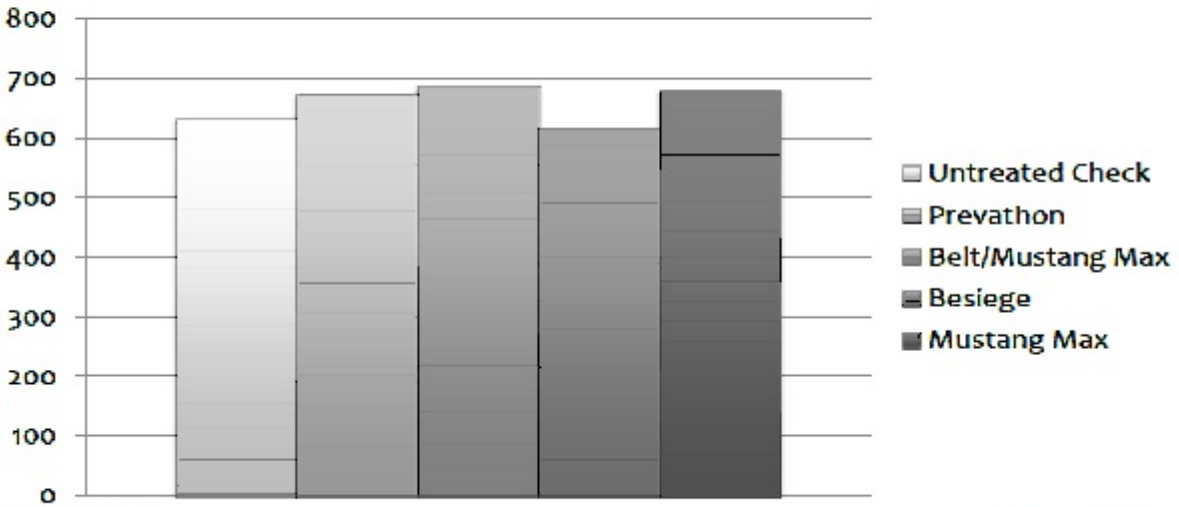
Treatment Prob(F) 0.7873

Lint Yield (lbs/A)
Ballinger, TX



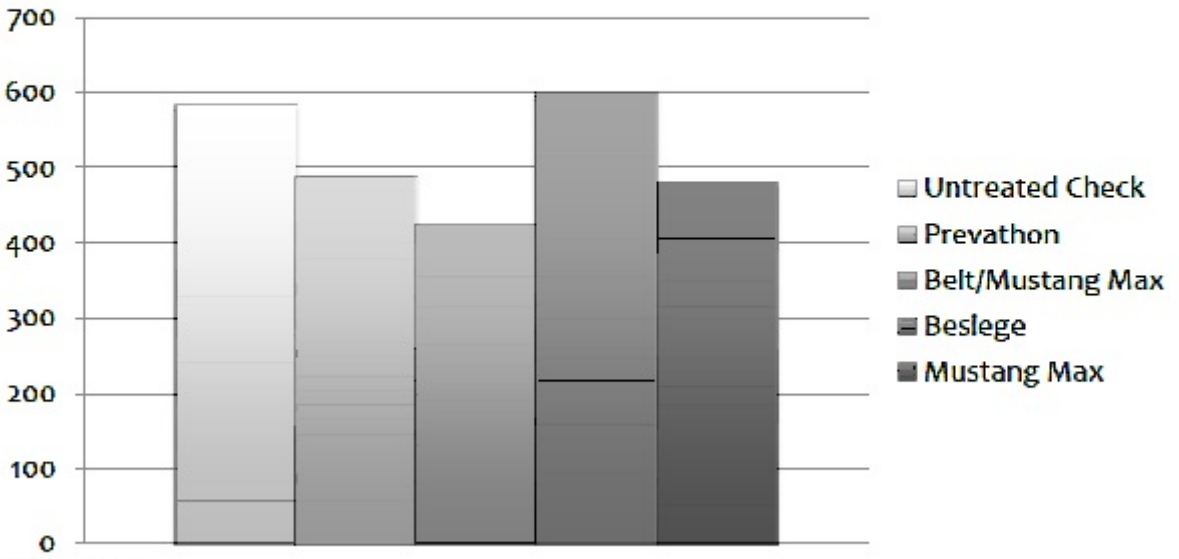
Treatment Prob(F) 0.2182

Lint Yield (lbs/A)
Levelland, TX



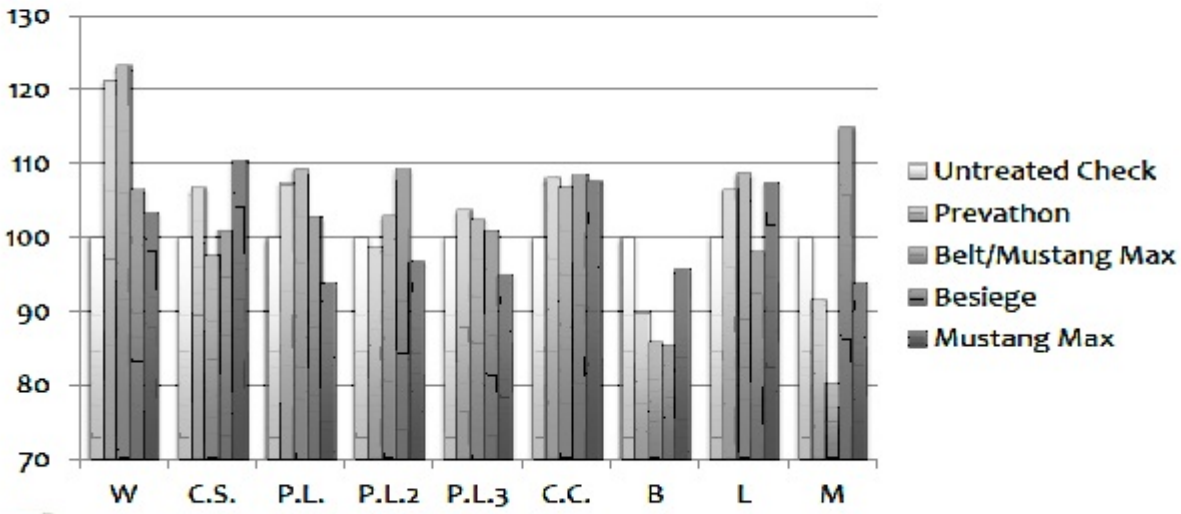
Treatment Prob(F) 0.6718

Lint Yield (lbs/A)
Muleshoe, TX



Treatment Prob(F) 0.4165

Normalized Yield (% of Untreated)

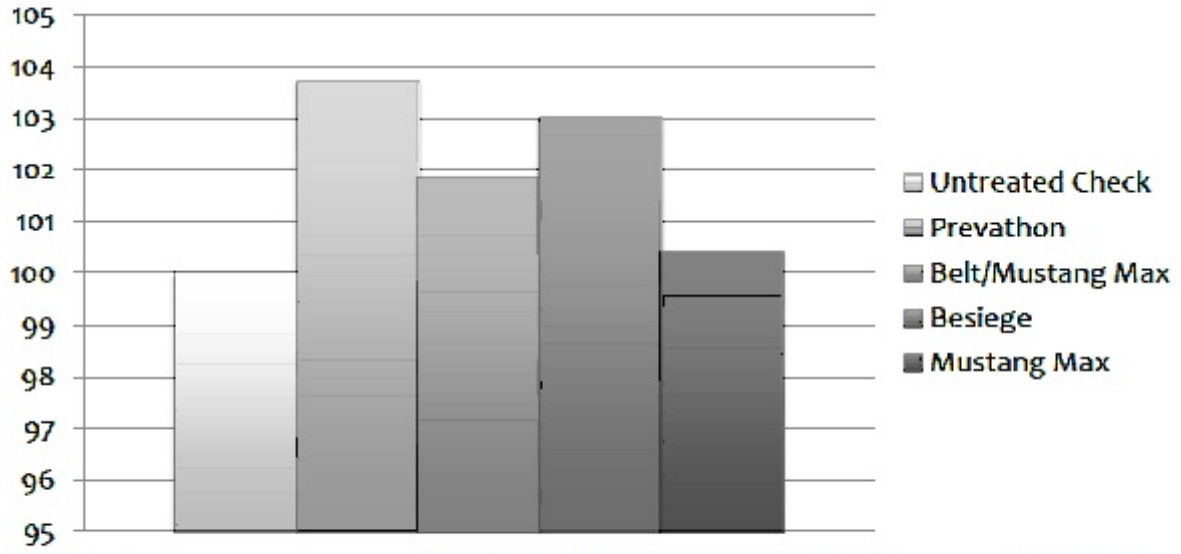


TEXAS IPM

TEXAS A&M AGRILIFE EXTENSION

Normalized Yield (% of Untreated)

Sites as Reps.



LSD (P=.05)	8.213
Treatment Prob(F)	0.869

TEXAS IPM

TEXAS A&M AGRILIFE EXTENSION

SUMMARY
Unable to determine if any benefit was gained by treating Bt cotton for caterpillars. Few caterpillars were found in the test areas. Insects were only counted for 7-10 days.
Yield was not enhanced by insecticide in absence of pest. Yield differences occurred at only one location. Combined data from nine locations did not show yield response to insecticide application.

ACKNOWLEDGEMENTS
Thanks to Cotton Incorporated for financial support of this project.

EVALUATION OF COTTON VARIETIES

COOPERATORS
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COORDINATORS
Kerry Siders, Extension Agent - IPM, Hockley and Cochran Counties
and Jeff Molloy, County Extension Agent - Agriculture, Cochran County

Hockley and Cochran Counties

OBJECTIVE

To evaluate the cotton varieties which are or could potentially be commercially available to producers.

MATERIALS AND METHODS

Cotton varieties are provided from the major seed companies to evaluate for yield in our production area. These projects are planted, monitored during growing season, and then harvested for yield data.

RESULTS & DISCUSSION

The following pages contain eight variety demonstrations. The first is a cotton variety trial evaluating commercial varieties for their ability to yield in a moderate level of cotton root-knot nematode infestation near Ropesville, a variety trial south of Morton on drip irrigation in a strip trial, an Extension standard variety trial known as a RACE Trial southeast of Levelland, a Monsanto FACT trail northwest of Ropesville, three Bayer CAPS trials and a Phytogen Innovation trial north of Whiteface.

ACKNOWLEDGMENTS

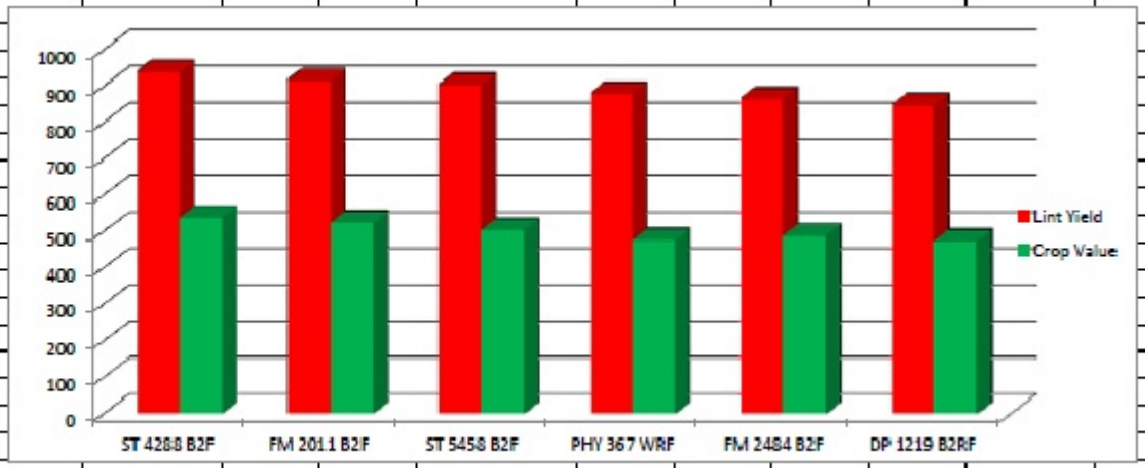
Thank you to all the cooperators and to the seed companies for providing the seed and financial support.

Texas A&M AgriLife Extension, Hockley/Cochran IPM Program, Kerry Siders

Lint Yields and Crop Values from the So. Root-knot Nematode Trial at Harris Farm, Ropesville, Texas. 2012.

Variety	Lint Yield	Turnout	MIC	LENGTH	UNIF.	STRENGTH	ELON.	Rd	+b	CGRD	LEAF	LOAN	Crop Value
ST 4288 B2F	943	0.319	3.8	1.17	82.1	32.3	7.7	83.9	7.8	11-1	3	0.5745	$542
FM 2011 B2F	920	0.327	3.7	1.12	79.4	31.2	8.4	82.0	8.5	11-2	2	0.5735	$528
ST 5458 B2F	907	0.332	4.2	1.08	80.3	28.6	9.6	79.0	9.3	21-1	3	0.5590	$507
PHY 367 WRF	882	0.344	4.1	1.07	80.1	30.2	8.9	77.4	9.5	21-4	3	0.5425	$478
FM 2484 B2F	869	0.306	4.6	1.08	80.7	29.1	9.4	80.5	9.1	21-1	1	0.5655	$491
DP 1219 B2RF	851	0.348	4.3	1.09	81.7	29.5	8.2	81.6	8.3	21-1	3	0.5600	$477

Variety	Lint Yield	Crop Value
ST 4288 B2F	943	$542
FM 2011 B2F	920	$528
ST 5458 B2F	907	$507
PHY 367 WRF	882	$478
FM 2484 B2F	869	$491
DP 1219 B2RF	851	$477

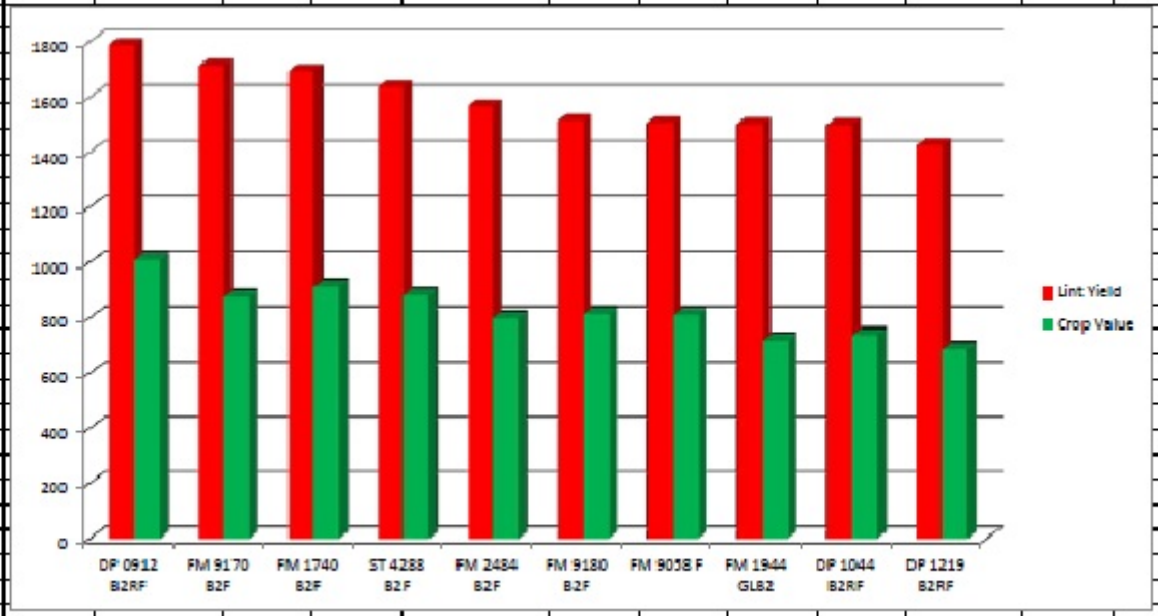


Texas A&M AgriLife Extension, Kerry Siders, EA-IPM & Jeff Molloy, CEA-Ag

Lint Yields and Crop Values from cotton variety trial at Bryan Bentley Farm, Cochran Co., Texas. 2012.

Variety	Lint Yield	Turnout	MIC	LENGTH	UNIF.	STRENGTH	ELON.	Rd	+b	CGRD	LEAF	LOAN	Crop Value
DP 0912 B2RF	1789	0.352	3.6	1.13	81.8	30.0	9.3	83.8	7.7	11-1	3	0.5690	$1,018
FM 9170 B2F	1713	0.348	2.9	1.20	80.9	31.3	7.9	86.2	6.9	21-1	2	0.5145	$881
FM 1740 B2F	1695	0.344	3.3	1.15	81.8	30.8	8.8	84.7	7.5	11-1	2	0.5425	$920
ST 4288 B2F	1636	0.318	3.1	1.16	80.4	30.5	9.2	84.2	7.6	11-2	2	0.5425	$888
FM 2484 B2F	1568	0.334	2.9	1.22	81.3	32.3	7.6	86.3	6.9	21-1	2	0.5145	$807
FM 9180 B2F	1513	0.322	3.1	1.17	81.1	32.6	8.3	85.8	7.0	11-2	2	0.5435	$822
FM 9058 F	1506	0.334	3.1	1.18	80.5	30.8	7.5	84.0	7.2	21-1	2	0.5430	$818
FM 1944 GLB2	1502	0.316	2.7	1.20	79.9	31.0	8.0	84.9	7.0	11-2	2	0.4825	$725
DP 1044 B2RF	1499	0.303	2.7	1.12	79.4	29.1	9.5	84.2	7.7	11-1	3	0.4975	$746
DP 1219 B2RF	1424	0.317	2.6	1.20	81.0	30.6	8.2	84.9	7.7	11-1	1	0.4865	$693

Variety	Lint Yield	Crop Value
DP 0912 B2RF	1789	$1,018
FM 9170 B2F	1713	$881
FM 1740 B2F	1695	$920
ST 4288 B2F	1636	$888
FM 2484 B2F	1568	$807
FM 9180 B2F	1513	$822
FM 9058 F	1506	$818
FM 1944 GLB2	1502	$725
DP 1044 B2RF	1499	$746
DP 1219 B2RF	1424	$693



TEXAS A&M AGRILIFE EXTENSION

Replicated Sub-Surface Drip Irrigated RACE Variety Demonstration, Ropesville, TX - 2012

Cooperator: Mike and Jacob Henson

Mark Kelley, Chris Ashbrook and Kerry Siders
Extension Agronomist – Cotton, Extension Assistant – Cotton and EA-IPM Hockley/Cochran

Hockley County

Objective: The objective of this project was to compare agronomic characteristics, yields, gin turnout, fiber quality, and economic returns of transgenic cotton varieties under Sub-Surface Drip irrigated production in the Texas High Plains.

Materials and Methods:

Varieties:	All-Tex Nitro-44 B2RF, Croplan Genetics 3787B2RF, Deltapine 0912B2RF, Dyna-Gro 2595B2RF, FiberMax 2484B2F, NexGen 1511B2RF, NexGen 4012B2RF, PhytoGen 499WRF, and Stoneville 5458B2RF
Experimental design:	Randomized complete block with three (3) replications.
Seeding rate:	3.4 seed/row-ft in 40 inch row spacings. (John Deere XP Vacuum planter)
Plot size:	8 rows by variable length (1285 feet)
Planting date:	12-May
Weed management:	Trifluralin was applied preplant incorporated at 1 qt/acre across all varieties. Roundup PowerMax was applied over-the-top with AMS twice during the growing season.
Irrigation:	A total of 26" of irrigation were applied via SDI beginning 15-March thru 10-September as per conversation with producer.

Rainfall:	Based on the nearest Texas Tech University- West Texas Mesonet station at Levelland, rainfall amounts were: April: 2.06" August: 2.42" May: 1.12" September: 1.28" June: 2.01" October: 0.60" July: 0.82" Total rainfall: 10.31"
Insecticides:	This location is in an active boll weevil eradication zone, but no applications were made by the Texas Boll Weevil Eradication Program.
Fertilizer management:	Soil test results prior to planting accounted for 154 lbs N available in the soil. The producer applied a total of 100 more lbs N for a total of 254 lbs N/acre.
Plant growth regulators:	None were applied at this location.
Harvest aids:	Harvest aids included an initial application of Boll'd at 1 qtt/acre with 2 oz/acre ET on 5-October and a sequential application of 32 oz/acre Gramoxone Inteon with 0.25% v/v non-ionic surfactant on 15-October.
Harvest:	Plots were harvested on 22-October using a commercial John Deere 7460 with field cleaner. Harvested material was transferred to a weigh wagon with integral electronic scales to record individual plot weights. Plot weights were subsequently converted to lb/acre basis.
Gin turnout:	Grab samples were taken by plot and ginned at the Texas A&M AgriLife Research and Extension Center at Lubbock to determine gin turnouts.
Fiber analysis:	Lint samples were submitted to the Texas Tech University – Fiber and Biopolymer Research Institute for HVI analysis, and USDA Commodity Credit Corporation (CCC) loan values were determined for each variety by plot.
Ginning cost and seed values:	Ginning cost were based on $3.00 per cwt. of bur cotton and seed value/acre was based on $250/ton. Ginning cost did not include check-off.
Seed and Technology fees:	Seed and technology costs were calculated using the appropriate seeding rate (3.4 seed/row-ft) for the 40-inch row spacing and entries using the online Plains Cotton Growers Seed Cost Comparison Worksheet available at: http://www.plainscotton.org/Seed/PCGseed12.xls .

Results and Discussion:

Agronomic data including plant population, nodes above white flower (NAWF), boll storm resistance, and final plant map data are included in Tables 1-3.

Significant differences were noted for all yield and economic parameters (Table 4). Lint turnout averaged 35.4% with a high of 37.7% and low of 32.9% for NexGen 1511B2RF and All-Tex Nitro-44 B2RF, respectively. Bur cotton yields averaged 3709 lb/acre across varieties and differences were significant at the 0.10 level. Lint yields varied from a low of 1167 lb/acre (All-Tex Nitro-44 B2RF) to a high of 1456 lb/acre (Dyna-Gro 2595B2RF). Lint loan values ranged from a low of $0.5223/lb to a high of $0.5715/lb for Stoneville 5458B2RF and FiberMax 2484 B2F, respectively. When adding lint and seed value, total value ranged from a high of $1102.72/acre for Dyna-Gro 2595B2RF to a low of $915.53 /acre for All-Tex Nitro-44 B2RF. After subtracting ginning, seed costs and technology fees, the net value/acre among varieties ranged from a high of $921.49/acre (Dyna-Gro 2595B2RF) to a low of $748.42/acre (All-Tex Nitro-44 B2RF), a difference of $173.07.

Significant differences were observed among varieties for all fiber quality parameters at this location (Table 5). Micronaire values ranged from a low of 4.3 for All-Tex Nitro-44 B2RF and Croplan Genetics 3787B2RF to a high of 4.9 for Deltapine 0912B2RF. Staple averaged 34.7 across all varieties with a high of 36.5 for All-Tex Nitro-44 B2RF and a low of 33.5 for NexGen 1511B2RF. Differences in uniformity were highly significant and values ranged from a high of 83.0% for All-Tex Nitro-44 B2RF to a low of 80.3% for Stoneville 5484B2RF with a test average of 81.8%. Strength ranged from a low of 29.0 g/tex for Stoneville 5484B2RF to a high of 32.9 g/tex for All-Tex Nitro-44 B2RF. Elongation averaged 10.5% across and leaf grades were mostly 1 and 2. Color grade components of Rd (reflectance) and +b (yellowness) averaged 77.0 and 9.2, respectively and resulted in color grades of mostly 21 and 31.

These data indicate that substantial differences can be obtained in terms of net value/acre due to variety selection. Additional multi-site and multi-year applied research is needed to evaluate varieties across a series of environments.

Acknowledgments:

Appreciation is expressed to Mike and Jacob Henson for the use of their land, equipment and labor for this demonstration. Further assistance with this project was provided by Dr. Jane Dever - Texas A&M AgriLife Research and Extension Center, Lubbock, and Dr. Eric Hequet - Associate Director, Fiber and Biopolymer Research Institute, Texas Tech University. Furthermore, we greatly appreciate the Texas Department of Agriculture - Food and Fiber Research for funding of HVI testing.

Disclaimer Clause:

Trade names of commercial products used in this report are included only for better understanding and clarity. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Texas A&M System is implied. Readers should realize that results from one experiment do not represent conclusive evidence that the same response would occur where conditions vary.

Table 1. Inseason plant measurement results from the Hockley County irrigated RACE variety demonstration, Mike and Jacob Henson Farm, Ropesville, TX, 2012.

Entry	Plant population		Nodes Above White Flower (NAWF) for week of	Storm resistance
	12-Jun		19-Jul	
	plants/row ft	plants/acre		rating (0-9)
NexGen 1511B2RF	2.9	38,478	8.9	7.0
All-Tex Nitro-44 B2RF	3.6	47,553	7.9	6.0
Croplan Genetics 3787B2RF	2.9	37,571	8.6	6.3
Dyna-Gro 2595B2RF	2.8	37,026	9.1	6.0
Deltapine 0912B2RF	3.1	40,656	8.9	5.0
FiberMax 2484B2F	3.2	41,201	7.7	6.8
NexGen 4012B2RF	3.3	42,471	8.9	8.0
PhytoGen 499WRF	3.4	44,468	8.5	5.7
Stoneville 5458B2RF	3.2	41,745	8.2	6.2
Test average	3.2	41,241	8.5	6.3
CV, %	8.8	8.8	6.1	7.5
OSL	0.0458	0.0483	0.0564†	<0.0001
LSD	0.5	6,258	0.7	0.8

For NAWF, numbers represent an average of 5 plants per variety per rep (15 plants per variety)
For Storm resistance, ratings based on a scale of 0-9 where 9 represents maximum storm resistance.
CV - coefficient of variation.
OSL - observed significance level, or probability of a greater F value.
LSD - least significant difference at the 0.05 level, †indicates signficance at the 0.10 level.

Table 2. Final plant map results from the Hockley County irrigated RACE variety demonstration, Mike and Jacob Henson Farm, Ropesville, TX, 2012.

Entry	Final plant map 25-Sept					
	plant height (inches)	node of first fruiting branch	total mainstem nodes	height to node ratio	total fruiting branches	open boll (%)
NexGen 1511B2RF	29.2	6.8	18.5	1.6	12.6	57.5
All-Tex Nitro-44 B2RF	25.1	7.7	17.4	1.5	10.7	58.1
Croplan Genetics 3787B2RF	32.4	6.6	18.3	1.8	12.7	30.3
Dyna-Gro 2595B2RF	28.5	6.6	18.1	1.6	12.6	50.5
Deltapine 0912B2RF	27.8	6.5	17.6	1.6	12.2	51.7
FiberMax 2484B2F	27.4	8.2	18.9	1.5	11.7	46.0
NexGen 4012B2RF	30.5	8.1	20.5	1.5	13.4	44.9
PhytoGen 499WRF	29.1	8.1	17.4	1.7	10.4	49.2
Stoneville 5458B2RF	26.2	7.1	17.6	1.5	11.4	50.1
Test average	28.5	7.3	18.3	1.6	12.0	48.7
CV, %	5.9	6.9	5.2	6.3	6.1	28.8
OSL	0.0026	0.0011	0.0214	0.0182	0.0019	0.4521
LSD	2.9	0.9	1.7	0.2	1.3	NS

For Final plant map, numbers represent and average of 6 plants per variety per rep (18 plants per variety)
CV - coefficient of variation.
OSL - observed significance level, or probability of a greater F value.
LSD - least significant difference at the 0.05 level,NS - not significant

Table 3. Final plant map results from the Hockley County irrigated RACE variety demonstration, Mike and Jacob Henson Farm, Ropesville, TX, 2012.

Entry	Fruiting and Retention 25-Sept					
	% of fruit from 1st position	% of fruit from 2nd position	total fruit	1st position retention (%)	2nd position retention (%)	total retention (%)
NexGen 1511B2RF	70.4	29.6	11.9	64.2	40.2	54.13
All-Tex Nitro-44 B2RF	65.9	34.1	9.1	54.1	43.5	49.23
Croplan Genetics 3787B2RF	57.6	42.4	16.5	74.1	69.6	72.07
Dyna-Gro 2595B2RF	67.6	32.4	12.7	65.7	49.1	58.70
Deltapine 0912B2RF	62.5	37.5	13.5	67.1	60.1	64.43
FiberMax 2484B2F	66.6	33.4	11.5	62.4	46.6	55.37
NexGen 4012B2RF	68.4	31.6	13.6	64.1	43.9	55.73
PhytoGen 499WRF	68.7	31.3	10.2	63.8	42.8	55.47
Stoneville 5458B2RF	70.3	29.7	10.3	60.6	43.9	54.13
Test average	66.5	33.5	12.1	64.0	48.8	57.70
CV, %	14.4	28.5	19.0	9.3	29.8	12.9
OSL	0.8009	0.8009	0.0377	0.0657†	0.2975	0.0592†
LSD	NS	NS	4.0	8.5	NS	10.6

For Final plant map, numbers represent and average of 6 plants per variety per rep (18 plants per variety)

CV - coefficient of variation.

OSL - observed significance level, or probability of a greater F value.

LSD - least significant difference at the 0.05 level, †indicates significance at the 0.10 level, NS - not significant

Table 4. Harvest results from the Hockley County irrigated RACE variety demonstration, Mike and Jacob Henson Farm, Ropesville, TX, 2012.

Entry	Lint turnout	Seed turnout	Bur cotton yield	Lint yield	Seed yield	Lint loan value	Lint value	Seed value	Total value	Ginning cost	Seed/technology cost	Net value
	%		lb/acre			$/lb	$/acre					
Dyna-Gro 2595B2RF	37.3	49.6	3906	1456	1937	0.5577	812.19	290.53	1102.72	117.18	64.05	921.49 a
Deltapine 0912B2RF	34.8	49.1	3937	1371	1932	0.5462	748.77	289.81	1038.57	118.10	64.65	855.83 ab
PhytoGen 499WRF	35.3	48.2	3890	1373	1874	0.5420	744.24	281.04	1025.28	116.70	64.43	844.15 b
Croplan Genetics 3787B2RF	36.3	48.4	3636	1321	1759	0.5663	748.37	263.88	1012.25	109.07	61.18	842.00 b
FiberMax 2484B2F	35.4	48.8	3662	1295	1788	0.5715	739.87	268.27	1008.14	109.86	63.98	834.31 bc
NexGen 1511B2RF	37.7	47.7	3547	1336	1692	0.5295	707.49	253.80	961.29	106.40	58.88	796.01 bcd
NexGen 4012B2RF	34.8	49.0	3508	1219	1719	0.5477	667.75	257.88	925.64	105.23	57.16	763.25 cd
Stoneville 5458B2RF	33.9	48.0	3749	1273	1801	0.5223	664.79	270.09	934.88	112.48	63.98	758.43 cd
All-Tex Nitro-44 B2RF	32.9	50.3	3544	1167	1783	0.5553	648.05	267.47	915.53	106.32	60.78	748.42 d
Test average	35.4	48.8	3709	1312	1809	0.5487	720.17	271.42	991.59	111.26	62.12	818.21
CV, %	2.9	1.4	4.9	5.0	5.0	1.8	5.0	5.0	5.0	4.9	--	5.4
OSL	0.0007	0.0048	0.0545†	0.0023	0.0363	0.0002	0.0008	0.0364	0.0041	0.0543†	--	0.0032
LSD	1.8	1.2	261	113	156	0.0168	62.33	23.34	85.57	7.83	--	76.08

For net value/acre, means within a column with the same letter are not significantly different at the 0.05 probability level.
CV - coefficient of variation.
OSL - observed significance level, or probability of a greater F value.
LSD - least significant difference at the 0.05 level, †indicates signficance at the 0.10 level.
Note: some columns may not add up due to rounding error.

Assumes:
$3.00/cwt ginning cost.
$250/ton for seed.
Value for lint based on CCC loan value from grab samples and FBRI HVI results.

Table 5. HVI fiber property results from the Hockley County irrigated RACE variety demonstration, Mike and Jacob Henson Farm, Ropesville, TX, 2012.

Entry	Micronaire	Staple	Uniformity	Strength	Elongation	Leaf	Rd	+b	Color grade	
	units	32nds inch	%	g/tex	%	grade	reflectance	yellowness	color 1	color 2
All-Tex Nitro-44 B2RF	4.3	36.5	83.0	32.9	10.6	3.7	76.6	8.8	3.0	1.0
Croplan Genetics 3787B2RF	4.3	35.0	82.1	29.5	11.3	1.0	78.6	9.1	2.0	1.0
Dyna-Gro 2595B2RF	4.6	34.8	81.5	29.4	10.5	1.3	77.7	9.3	2.0	1.0
Deltapine 0912B2RF	4.9	34.3	82.1	29.9	10.8	2.0	76.9	9.3	2.3	1.0
FiberMax 2484B2F	4.4	36.1	81.9	30.8	9.0	1.3	79.1	8.4	2.3	1.0
NexGen 1511B2RF	4.8	33.5	81.5	29.6	11.9	2.3	76.6	9.3	2.7	1.3
NexGen 4012B2RF	4.8	34.1	82.2	30.0	9.0	1.3	76.5	9.5	2.7	1.0
PhytoGen 499WRF	4.6	34.6	81.8	31.7	11.8	2.3	75.6	9.2	3.0	1.3
Stoneville 5458B2RF	4.8	33.7	80.3	29.0	10.1	2.0	75.7	9.5	2.7	1.7
Test average	4.6	34.7	81.8	30.3	10.5	1.9	77.0	9.2	2.5	1.1
CV, %	2.2	1.8	1.0	2.4	2.8	36.5	1.0	2.3	--	--
OSL	<0.0001	0.0002	0.0542†	0.0001	<0.0001	0.0088	0.0002	0.0002	--	--
LSD	0.2	1.1	1.1	1.3	0.5	1.2	1.3	0.4	--	--

CV - coefficient of variation.

OSL - observed significance level, or probability of a greater F value.

LSD - least significant difference at the 0.05 level, †indicates signficance at the 0.10 level.

2012 Cotton Individual Plot Yield Report

MONSANTO

Cooperator:
Lance Borland
Levelland, TX
Hockley County

Planted: 5/16/2012
Harvested: 10/23/2012
Row Width: 40 inch

Tillage: N/A
Soil Texture: Clay Loam
Irrigation: Yes

Product Data			Crop Values $/Crop Yield			Fiber Characteristics					
Entry	Brand	Product Name	Crop Value ($/Acre)	Lint Yield (Lbs/Acre)	Loan Price per Lb	Staple (32nds)	Length (inches)	Strength (g/tex)	Micronaire	% Lint	% Uniformity
1	Delta Pine	DP 1044 B2RF	$ 700.11	1255	55.80	34.6	1.08	31.0	4.9	35.0	80.2
2	Monsanto	12R251B2R2	$ 681.03	1205	56.50	36.2	1.13	32.3	4.3	36.0	81.3
3	Monsanto	12R242B2R2	$ 673.41	1268	53.10	34.9	1.09	28.3	5.2	38.0	81.1
4	Monsanto	11R154B2R2	$ 672.28	1189	56.55	35.8	1.12	33.1	4.6	37.0	80.8
5	Monsanto	12R244R2	$ 669.56	1259	53.20	34.9	1.09	29.7	5.1	38.0	81.9
6	Monsanto	11R159B2R2*	$ 648.13	1162	55.80	34.9	1.09	31.2	4.7	35.0	80.0
7	Monsanto	12R249B2R2	$ 641.18	1203	53.30	33.6	1.05	30.2	4.8	36.0	79.4
8	Monsanto	12R245B2R2	$ 636.77	1147	55.50	35.2	1.10	29.8	4.7	38.0	81.5
9	Delta Pine	DP 1032 B2RF	$ 636.06	1142	55.70	34.9	1.09	30.3	4.9	37.0	80.1
10	Monsanto	11R112B2R2**	$ 634.47	1186	53.50	35.2	1.10	31.3	5.1	37.0	81.0
11	Delta Pine	DP 0912 B2RF	$ 613.82	1192	51.50	34.2	1.07	30.4	5.2	36.0	80.9
12	Delta Pine	DP174RF	$ 610.23	1141	53.50	33.6	1.05	28.4	4.9	35.0	80.6
13	Fibermax	FM 1740B2RF	$ 608.23	1131	53.80	34.2	1.07	30.2	4.7	37.0	81.3
14	Monsanto	11R136B2R2	$ 585.03	1034	56.60	36.5	1.14	30.7	4.7	33.0	82.1
15	Fibermax	FM 9170 B2F	$ 550.50	973	56.55	35.8	1.12	34.5	4.8	33.0	80.6
16	Monsanto	12R215B2R2	$ 491.01	957	51.30	34.2	1.07	29.2	5.1	31.0	80.8
TEST AVERAGE			$ 628.24	1153	54.51	34.9	1.09	30.7	4.9	35.8	80.9

Value Calculation based on $0.52/Lb(+/-) discounts/premiums from the 2012 USDA Loan Chart (Ranked by Value $/A). All plots were assigned a base color (31) and leaf grade (3).

Entries listed as "Monsanto" brand are experimental varieties, and not for sale.

*DP 1359B2RF=11R159B2RF

**DP 1321B2RF=11R112B2RF

Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and year whenever possible.

2012 Drip Irr CAP Trial

Preston Turner Farm – Levelland, Texas

Conducted by Kerry Siders, Texas AgriLife EA-IPM

Planted – 05/18/2012
Harvested – 10/26/2012
Sales Rep – Keith Waters, 806-778-8339
Regional Agronomist – Kenny Melton, 806-786-5088

CAP TRIAL
COTTON AGRONOMIC PERFORMANCE TRIAL

Variety	Lint Yield	Turnout	Mic	Staple	Stren	Unif	Loan Value	Value/A
ST 4946GLB2*	2,032	0.388	3.91	36	31.80	81.20	57.15	$ 1,162
FM 9250GL	2,019	0.392	3.38	38	30.20	83.40	55.45	$ 1,120
FM 2011GT	2,011	0.369	3.49	37	29.60	81.90	55.05	$ 1,107
ST 5458B2RF	2,002	0.383	4.13	35	27.40	78.50	55.05	$ 1,102
FM 2484B2F-PV	1,936	0.379	2.93	37	28.20	78.70	49.50	$ 958
BX 1347GLB2	1,889	0.382	3.74	38	29.70	82.70	57.15	$ 1,079
ST 4288B2F	1,836	0.342	3.76	37	29.60	82.00	57.15	$ 1,049
FM 1740B2F	1,831	0.386	3.67	37	30.20	82.80	57.20	$ 1,047
FM 9180B2F	1,822	0.363	3.52	37	32.60	83.50	57.40	$ 1,046
FM 9058F	1,813	0.372	3.82	37	27.40	81.50	56.95	$ 1,032
FM 2989GLB2	1,786	0.362	3.16	37	29.90	81.80	53.40	$ 954
FM 2484B2F	1,764	0.351	2.87	39	27.40	80.90	50.35	$ 888
FM 1944GLB2	1,741	0.354	3.13	39	31.60	82.90	53.80	$ 936
FM 9170B2F	1,722	0.363	3.05	38	31.60	81.70	53.70	$ 924

Loan Value calculated from 2012 CCC Loan Schedule using uniform color grade of 21 and uniform leaf grade of 3.
*Tested as BX 1346GLB2

2012 Pivot Irr CAP Trial

Scott Fred Farm – Whiteface, Texas

Conducted by Kerry Siders, Texas AgriLife EA-IPM

Planted – 05/23/2012
Harvested – 11/05/2012
Sales Rep – Keith Waters, 806-778-8339
Regional Agronomist – Kenny Melton, 806-786-5088

CAP TRIAL
COTTON AGRONOMIC PERFORMANCE TRIAL

Variety	Lint Yield	Turnout	Mic	Staple	Stren	Unif	Loan Value	Value/A
ST 4946GLB2*	879	0.402	3.95	37	32.0	82.9	57.45	$ 505
ST 5458B2RF	842	0.385	4.20	34	27.3	80.5	53.95	$ 454
BX 1347GLB2	835	0.365	4.48	37	26.1	79.3	56.30	$ 470
ST 4288B2F	778	0.337	4.24	36	26.3	80.5	56.75	$ 442
FM 2989GLB2	775	0.368	4.38	36	27.9	79.5	56.10	$ 435
FM 2011GT	772	0.403	4.03	36	30.7	81.9	57.05	$ 441
FM 9250GL	763	0.372	3.72	38	30.4	80.7	57.25	$ 437
FM 2484B2F	763	0.384	4.23	37	29.8	81.4	57.05	$ 435
FM 9170B2F	744	0.372	3.68	38	33.4	83.2	57.45	$ 427
FM 1740B2F	742	0.359	3.98	35	27.7	80.8	55.90	$ 415
FM 1944GLB2	731	0.365	4.07	37	28.9	80.8	56.95	$ 416
FM 2484B2F-PV	726	0.360	4.10	36	28.0	80.1	56.75	$ 412
FM 9058F	679	0.352	3.69	38	32.8	82.2	57.30	$ 389
FM 9180B2F	666	0.347	3.98	38	30.8	82.8	57.35	$ 382

Loan Value calculated from 2012 CCC Loan Schedule using uniform color grade of 21 and uniform leaf grade of 3.
*Tested as BX 1346GLB2

2012 Dryland CAP Trial

David Albus Farm – Oklahoma Flat, Texas

Conducted by Kerry Siders, Texas AgriLife EA-IPM

Planted – 05/29/2012
Harvested – 10/26/2012
Sales Rep – Keith Waters, 806-778-8339
Regional Agronomist – Kenny Melton, 806-786-5088

CAP TRIAL
COTTON AGRONOMIC PERFORMANCE TRIAL

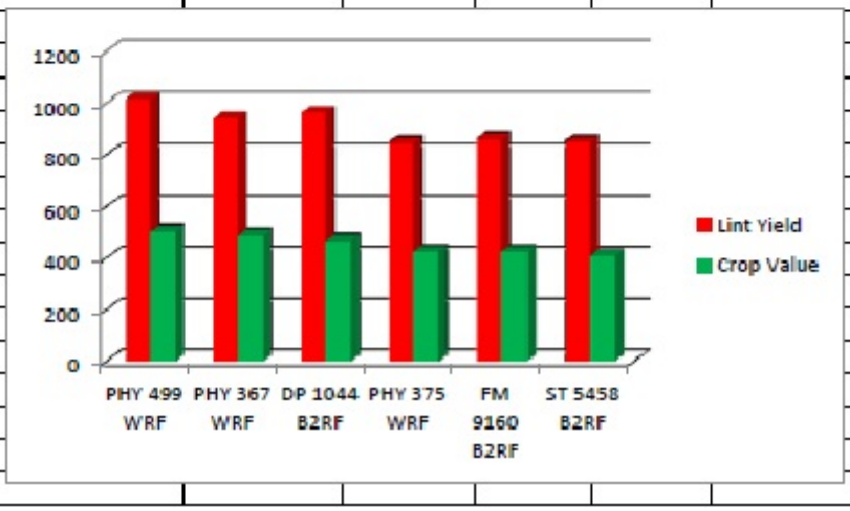
Variety	Lint Yield	Turnout	Mic	Staple	Stren	Unif	Loan Value	Value/A
FM 2484B2F	397	0.354	4.15	37	28.4	81.5	56.95	$226
FM 2484B2F-PV	396	0.341	3.73	37	28.6	81.4	56.95	$226
FM 2989GLB2	375	0.360	4.40	34	24.9	79.3	51.75	$194
FM 2011GT	373	0.376	4.22	34	27.1	80.5	53.95	$201
FM 9170B2F	361	0.350	3.38	37	29.3	80.9	55.05	$199
FM 1740B2F	328	0.348	4.00	33	27.1	80.2	52.10	$171
ST 5458B2RF	322	0.318	3.94	36	30.1	81.5	57.05	$183
FM 9250GL	316	0.328	4.07	37	30.2	81.1	57.25	$181
FM 9180B2F	311	0.323	3.62	33	27.0	77.8	51.00	$159
FM 1944GLB2	299	0.317	4.04	35	26.5	79.4	55.40	$166
FM 9058F	299	0.316	3.82	36	29.3	81.5	56.85	$170
ST 4288B2F	297	0.304	4.31	34	26.5	79.3	53.30	$158

Loan Value calculated from 2012 CCC Loan Schedule using uniform color grade of 21 and uniform leaf grade of 3.

Lint Yields and Crop Values from the PhytoGen Replicated On-Farm Innovation Trial Conducted in Hockley Co., Texas. 2012.

Variety	Lint Yield	Turnout	Length	Unif.	Strenght	Mic	Loan	Crop Value
PHY 499 WRF	1016	0.312	1.13	81.6	31.1	3.2	0.5015	$509
PHY 367 WRF	941	0.300	1.15	81.6	30.5	3.4	0.5242	$494
DP 1044 B2RF	963	0.310	1.13	81.2	30.6	3.0	0.4913	$473
PHY 375 WRF	851	0.300	1.14	80.6	28.9	3.3	0.5072	$432
FM 9160 B2RF	866	0.288	1.17	82.3	31.1	3.2	0.4972	$431
ST 5458 B2RF	855	0.284	1.14	80.3	30.3	3.0	0.4883	$417

Variety	Lint Yield	Crop Value
PHY 499 WRF	1016	$509
PHY 367 WRF	941	$494
DP 1044 B2RF	963	$473
PHY 375 WRF	851	$432
FM 9160 B2RF	866	$431
ST 5458 B2RF	855	$417



SURVEY OF SOUTHERN ROOT-KNOT NEMATODES IN HOCKLEY AND COCHRAN COUNTIES' IPM SCOUTING PROGRAM FIELDS

COOPERATORS
IPM Scouting Program Participants

COORDINATORS
Kerry Siders, Extension Agent-IPM, Hockley and Cochran Counties

Hockley and Cochran Counties

SUMMARY
Nematodes are soil-borne organisms which attack plant roots (in this case, cotton roots) and have a parasitic relationship with their hosts. The southern root-knot nematode enters the feeder roots, taps into the vascular system of the cotton roots, and feeds on the nutrients in the plant, hence acting as a sink for soil nutrients. This process also inhibits or 'clogs" the plant's vascular root tissues, preventing even excess flow. Nematodes are more important pests in irrigated fields and are more noticeable in dry years. Nematodes are also connected to increased incidence of seedling and plant vascular diseases. Treatment of nematodes can be costly if high populations exist. The alternative is rotation with non-host crops (ie. Peanuts), which may or may not be possible due to irrigation capabilities and economical reasons. A survey was initiated in September for detecting infestations of soil nematodes in cotton. Fifty-eight samples were taken from 29 fields enrolled in the IPM scouting program. Random soil samples were processed at the Texas A&M AgriLife Research Station in Lubbock, results indicated that 90% of the 29 samples contained some level of nematodes. The range of root-knot nematode counts per 500 cm3 of soil was 0 root-knot juveniles to a high of 28,920 eggs and 7,200 root-knot juveniles. A level of +200 root-knot nematodes per 500 cm3 is considered the treatment threshold. These nematode numbers are some of the highest since 2005.

OBJECTIVE
To demonstrate the presence or absence of root-knot nematodes in Hockley and Cochran Counties' IPM Program fields, as well as to demonstrate the process of sampling and making treatment recommendations for management.

MATERIALS AND METHODS
Twenty-nine of the IPM-program fields were selected. One to 3 composite samples (depending on field size) were made from 20 core samples collected from each field. The samples were protected from heat and light so as not to deteriorate the sample material. The samples were then processed at the Texas A&M AgriLife Research Station in Lubbock.

Nematodes were extracted from the samples by a rinse method and collected from a known volume. The nematode samples were then counted under a microscope, noting type of nematode (root-knot) and number. Management plans were then developed for each field, based on the

composite samples.

RESULTS AND DISCUSSION

Twenty-six of 29 fields had some level of cotton root-knot nematode population. Losses from root-knot nematodes in Hockley and Cochran Counties are difficult to estimate because of various factors which influence infestations. We can say that nematodes are widespread, require treatment with soil-applied nematicides, and can lead to other costly concerns, such as diseases and non-host rotation which may not provide the economic returns of cotton. In order to be sure what level of infestation is present in individual fields, and to make treatment recommendations, producers must take soil samples and submit them to a soil lab for analysis. See Table 1 for the incidence of root-knot nematode infestations over the last several years in Hockley and Cochran Counties.

ACKNOWLEDGMENTS

Thanks to Layton Hinson and Keaton Silhan for their assistance in soil collection. Thanks to the IPM Scouting Program participants for their cooperation. Most importantly, thank you to Dr. Wheeler for running the lab analysis of the soil samples.

Table 1. Results of cotton root-knot nematodes sampling in Hockley and Cochran Counties, Texas 1997-2012.

Year	Percent of fields sampled with cotton root-knot nematode
1997	82%
1998	82%
1999	74%
2000	88%
2001	63%
2002	83%
2003	92%
2004	64%
2005	82%
2006	77%
2007	88%
2008	72%
2009	89%
2010	91%
2011	100%
2012	90%
Average	82%

EVALUATION OF COTTON SEED TREATMENTS FOR EARLY SEASON INSECTS AND SOUTHERN ROOT-KNOT NEMATODE

COOPERATOR
Duane Cookston

COORDINATOR
Kerry Siders, Extension Agent - IPM, Hockley and Cochran Counties

Cochran County

OBJECTIVE
To evaluate and compare ten treatments against thrips and any other early season insects; and against southern root-knot nematode. Also, determine if the treatments are safe on cotton seed, and their impact on yield.

MATERIALS AND METHODS
Ten treatments including: (the first 9 treatments on FM 1740 B2F) Baytan 30, Gaucho 600FS + Baytan 30, Gaucho 600FS + Baytan + Poncho Votivo, Aeris + Poncho Votivo + Baytan 30, Baytan 30 + Avicta CP Cruiser, Baytan 30 + Temik 15G, Aeris + Baytan 30, Gaucho 600FS +Poncho Votivo + Baytan 30 + USFO738, Aeris + Baytan 30 + USFO738, or PHY 367 with Temik 15G. See Table 1 for more details on treatments. The plots were 16.7' by 66', replicated 4 times in a random complete block design, and were planted on May 10th at the Duane Cookston Farm southeast of Morton near Whiteface. Approximately 43,700 seed per acre were planted. The test was harvested on 19 October 2012.

RESULTS AND DISCUSSION
All treatment stands were in an acceptable range (26,000-47,000 plants per acre) for moderate irrigation level in study field. See Table 2 for yield response to treatments. The highest yields from the Phytogen 367 with Temik (926 lbs cotton lint per acre). Though it was not significantly different from treatments 2, 4 and 8. The lowest yielding treatment was 1, which is considered the check. It was not significantly different from treatments 3, 5, 6, 7 and 9.

Table 1. Cotton seed treatments for insect and nematode evaluation. Cookston Farm, Whiteface, Texas. 2012.

Entry No.	Entry/Trt. Description	Form. Type	AI Conc.	Dosage	Dosage Unit	Appl. Timing	Appl. Code
1	VORTEX FL	FS	448.2	.08555	OZ/CWT	SEETRE	A
	BAYTAN 30	FS	318	0.4823	OZ/CWT	SEETRE	A
	ALLEGIANCE FL	FS	318	0.7524	OZ/CWT	SEETRE	A
	PRO-IZED BLUE COLORANT	FS		1.04	OZ/CWT	SEETRE	A
	CALCIUM CARBONATE	WP		6	OZ/CWT	SEETRE	A
	COLOR COAT WHITE	FS		1	OZ/CWT	SEETRE	A
	SECURE PLUS SEED GLOSS 661	FS		10	OZ/CWT	SEETRE	A
	SUSPENDING AGENT	WP		0.4	OZ/CWT	SEETRE	A
2	GAUCHO 600 FS	FS	600	9.49	OZ/CWT	SEETRE	A
	VORTEX FL	FS	448.2	.08555	OZ/CWT	SEETRE	A
	BAYTAN 30	FS	318	0.4823	OZ/CWT	SEETRE	A
	ALLEGIANCE FL	FS	318	0.7524	OZ/CWT	SEETRE	A
	PRO-IZED BLUE COLORANT	FS		1.04	OZ/CWT	SEETRE	A
	CALCIUM CARBONATE	WP		6	OZ/CWT	SEETRE	A
	COLOR COAT WHITE	FS		1	OZ/CWT	SEETRE	A
	SECURE PLUS SEED GLOSS 661	FS		10	OZ/CWT	SEETRE	A
	SUSPENDING AGENT	WP		0.4	OZ/CWT	SEETRE	A
3	GAUCHO 600 FS	FS	600	9.49	OZ/CWT	SEETRE	A
	PONCHO VOTIVO	FS	600	10.76	OZ/CWT	SEETRE	A
	VORTEX FL	FS	448.2	.08555	OZ/CWT	SEETRE	A
	ALLEGIANCE FL	FS	318	0.7524	OZ/CWT	SEETRE	A
	PRO-IZED BLUE COLORANT	FS		1.04	OZ/CWT	SEETRE	A
	CALCIUM CARBONATE	WP		6	OZ/CWT	SEETRE	A
	COLOR COAT WHITE	FS		1	OZ/CWT	SEETRE	A
	SECURE PLUS SEED GLOSS 661	FS		10	OZ/CWT	SEETRE	A
	SUSPENDING AGENT	WP		0.4	OZ/CWT	SEETRE	A
	BAYTAN 30	FS	318	0.4823	OZ/CWT	SEETRE	A
4	AERIS SEED APPLIED SYSTEM	FS	600	18.98	OZ/CWT	SEETRE	A
	PONCHO VOTIVO	FS	600	10.76	OZ/CWT	SEETRE	A
	VORTEX FL	FS	448.2	.08555	OZ/CWT	SEETRE	A
	ALLEGIANCE FL	FS	318	0.7524	OZ/CWT	SEETRE	A
	BAYTAN 30	FS	318	0.4823	OZ/CWT	SEETRE	A
	PRO-IZED BLUE COLORANT	FS		1.04	OZ/CWT	SEETRE	A
	CALCIUM CARBONATE	WP		6	OZ/CWT	SEETRE	A
	COLOR COAT WHITE	FS		1	OZ/CWT	SEETRE	A
	SECURE PLUS SEED GLOSS 661	FS		10	OZ/CWT	SEETRE	A
	SUSPENDING AGENT	WP		0.4	OZ/CWT	SEETRE	A
5	VORTEX FL	FS	448.2	.08555	OZ/CWT	SEETRE	A
	BAYTAN 30	FS	318	0.4823	OZ/CWT	SEETRE	A
	ALLEGIANCE FL	FS	318	0.7524	OZ/CWT	SEETRE	A
	PRO-IZED BLUE COLORANT	FS		1.04	OZ/CWT	SEETRE	A
	CALCIUM CARBONATE	WP		6	OZ/CWT	SEETRE	A
	COLOR COAT WHITE	FS		1	OZ/CWT	SEETRE	A
	SECURE PLUS SEED GLOSS 661	FS		10	OZ/CWT	SEETRE	A
	SUSPENDING AGENT	WP		0.4	OZ/CWT	SEETRE	A
	AVICTA COMPLETE PAK - AVICTA	FS	500.4			SEETRE	A
	AVICTA COMPLETE PAK - CRUISER	FS	600			SEETRE	A

Table 1. Continued.

Entry No.	Entry/Trt. Description	Form. Type	AI Conc.	Dosage	Dosage Unit	Appl. Timing	Appl. Code
6	VORTEX FL	FS	448.2	.08555	OZ/CWT	SEETRE	A
	BAYTAN 30	FS	318	0.4823	OZ/CWT	SEETRE	A
	ALLEGIANCE FL	FS	318	0.7524	OZ/CWT	SEETRE	A
	PRO-IZED BLUE COLORANT	FS		1.04	OZ/CWT	SEETRE	A
	CALCIUM CARBONATE	WP		6	OZ/CWT	SEETRE	A
	COLOR COAT WHITE	FS		1	OZ/CWT	SEETRE	A
	SECURE PLUS SEED GLOSS 661	FS		10	OZ/CWT	SEETRE	A
	SUSPENDING AGENT	WP		0.4	OZ/CWT	SEETRE	A
	TEMIK 10G	GR	10	5	LB/A		B
7	AERIS SEED APPLIED SYSTEM	FS	600	18.98	OZ/CWT	SEETRE	A
	VORTEX FL	FS	448.2	.08555	OZ/CWT	SEETRE	A
	ALLEGIANCE FL	FS	318	0.7524	OZ/CWT	SEETRE	A
	BAYTAN 30	FS	318	0.4823	OZ/CWT	SEETRE	A
	PRO-IZED BLUE COLORANT	FS		1.04	OZ/CWT	SEETRE	A
	CALCIUM CARBONATE	WP		6	OZ/CWT	SEETRE	A
	COLOR COAT WHITE	FS		1	OZ/CWT	SEETRE	A
	SECURE PLUS SEED GLOSS 661	FS		10	OZ/CWT	SEETRE	A
	SUSPENDING AGENT	WP		0.4	OZ/CWT	SEETRE	A
8	GAUCHO 600 FS	FS	600	9.49	OZ/CWT	SEETRE	A
	PONCHO VOTIVO	FS	600	10.76	OZ/CWT	SEETRE	A
	VORTEX FL	FS	448.2	.08555	OZ/CWT	SEETRE	A
	ALLEGIANCE FL	FS	318	0.7524	OZ/CWT	SEETRE	A
	BAYTAN 30	FS	318	0.4823	OZ/CWT	SEETRE	A
	PRO-IZED BLUE COLORANT	FS		1.04	OZ/CWT	SEETRE	A
	CALCIUM CARBONATE	WP		6	OZ/CWT	SEETRE	A
	COLOR COAT WHITE	FS		1	OZ/CWT	SEETRE	A
	SECURE PLUS SEED GLOSS 661	FS		10	OZ/CWT	SEETRE	A
	SUSPENDING AGENT	WP		0.4	OZ/CWT	SEETRE	A
	USF0738	SC	500	6.074	OZ/CWT	SEETRE	A
9	AERIS SEED APPLIED SYSTEM	FS	600	18.98	OZ/CWT	SEETRE	A
	VORTEX FL	FS	448.2	.08555	OZ/CWT	SEETRE	A
	ALLEGIANCE FL	FS	318	0.7524	OZ/CWT	SEETRE	A
	BAYTAN 30	FS	318	0.4823	OZ/CWT	SEETRE	A
	PRO-IZED BLUE COLORANT	FS		1.04	OZ/CWT	SEETRE	A
	CALCIUM CARBONATE	WP		6	OZ/CWT	SEETRE	A
	COLOR COAT WHITE	FS		1	OZ/CWT	SEETRE	A
	SECURE PLUS SEED GLOSS 661	FS		10	OZ/CWT	SEETRE	A
	SUSPENDING AGENT	WP		0.4	OZ/CWT	SEETRE	A
	USF0738	SC	500	6.074	OZ/CWT	SEETRE	A
10	PHY 367 w/ Temik 15 G	G		4	lbs/acre	at-plant	

Table 2. Cotton response to seed treatments, Cookston Farm, Whiteface, Texas. 2012.

Entry No.	Entry/Trt. Description	Lint Yield Lbs/acre
1	VORTEX FL BAYTAN 30 ALLEGIANCE FL PRO-IZED BLUE COLORANT CALCIUM CARBONATE COLOR COAT WHITE SECURE PLUS SEED GLOSS 661 SUSPENDING AGENT	569 a
2	GAUCHO 600 FS VORTEX FL BAYTAN 30 ALLEGIANCE FL PRO-IZED BLUE COLORANT CALCIUM CARBONATE COLOR COAT WHITE SECURE PLUS SEED GLOSS 661 SUSPENDING AGENT	758 bcd
3	GAUCHO 600 FS PONCHO VOTIVO VORTEX FL ALLEGIANCE FL PRO-IZED BLUE COLORANT CALCIUM CARBONATE COLOR COAT WHITE SECURE PLUS SEED GLOSS 661 SUSPENDING AGENT BAYTAN 30	648 ab
4	AERIS SEED APPLIED SYSTEM PONCHO VOTIVO VORTEX FL ALLEGIANCE FL BAYTAN 30 PRO-IZED BLUE COLORANT CALCIUM CARBONATE COLOR COAT WHITE SECURE PLUS SEED GLOSS 661 SUSPENDING AGENT	844 cd
5	VORTEX FL BAYTAN 30 ALLEGIANCE FL PRO-IZED BLUE COLORANT CALCIUM CARBONATE COLOR COAT WHITE SECURE PLUS SEED GLOSS 661 SUSPENDING AGENT AVICTA COMPLETE PAK - AVICTA AVICTA COMPLETE PAK - CRUISER	626 ab

Means followed by the same letter do not significantly differ (P=0.05 LSD)

Table 2. Continued.

Entry No.	Entry/Trt. Description	Lint Yield Lbs/acre
6	VORTEX FL BAYTAN 30 ALLEGIANCE FL PRO-IZED BLUE COLORANT CALCIUM CARBONATE COLOR COAT WHITE SECURE PLUS SEED GLOSS 661 SUSPENDING AGENT TEMIK 10G	733 abc
7	AERIS SEED APPLIED SYSTEM VORTEX FL ALLEGIANCE FL BAYTAN 30 PRO-IZED BLUE COLORANT CALCIUM CARBONATE COLOR COAT WHITE SECURE PLUS SEED GLOSS 661 SUSPENDING AGENT	710 abc
8	GAUCHO 600 FS PONCHO VOTIVO VORTEX FL ALLEGIANCE FL BAYTAN 30 PRO-IZED BLUE COLORANT CALCIUM CARBONATE COLOR COAT WHITE SECURE PLUS SEED GLOSS 661 SUSPENDING AGENT USF0738	786 bcd
9	AERIS SEED APPLIED SYSTEM VORTEX FL ALLEGIANCE FL BAYTAN 30 PRO-IZED BLUE COLORANT CALCIUM CARBONATE COLOR COAT WHITE SECURE PLUS SEED GLOSS 661 SUSPENDING AGENT USF0738	724 abc
10	PHY 367 w/ Temik 15 G	926 d

Means followed by the same letter do not significantly differ (P=0.05 LSD)

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