

IRWIN COUNTY EXTENSION AGRICULTURE NEWS - Vol. 28 Fri. June 25, 2021

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In this issue: Peanut and Corn Fungicide Decisions, Peanut Rx Survey, Nozzle Selection for PWM Sprayers, Peanut Tank-mix, Looking Private or Commercial Pesticide Credits? Peanut Fungicide Info, Cotton PGR Considerations



Taking stand counts on single and twin row planting



Note the color change based on single and twin rows



Tobacco budworm – note chevron design on wings



Evaluating tobacco budworm control



UGA SMART Farm Sign at Irwin Co. Ext. trials

Recent

Walking and looking at crops this week. I appreciate the information shared from our scouts, consultants and ag representatives. We found rust in corn thanks to the efforts of Kevin Phillips with Pioneer/Corteva. Waiting for confirmation – and we are still having to search diligently for it – but conditions are right. The information below will help you in your decision-making process. Keep checking for tobacco budworm in peanuts – the rains have our peanuts growing well with good foliage. Aphids pressure I am sure is beginning to build – Dr. Roberts is checking a field on the Tyler farm weekly and we will keep you posted.

Peanut and Corn Fungicide Decisions

Kemerait

Weather continues to be “the story” for much of Georgia. With favorable wet weather, delays in applications, corn, peanuts, and soybeans in vulnerable growth stages, and a zoo of pathogens, that Disease Triangle is glowing red-hot now.

The BIG question now is “what to spray”?

- Corn
1. Be looking.
 2. Corn growers with a pre-tassel crop or one already denting? Don't spray.
 3. Corn growers with a scout in the field and no southern corn rust- you can wait, but you might need to pull that fungicide trigger all of a sudden.
 4. Sprayed within the past 2 weeks? Don't spray today, but given the threat, you might need to spray again...
 5. Sprayed 3 weeks ago? I'm glad you did; now check corn growth stage before you spray again.

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Peanuts

1. Be looking – with all the moisture we have seen white mold is showing up as is false white mold (not an issue but looks similar – see photos below).
2. Peanuts: leaf spot and white mold are active. These first hits of white mold on young plants are near impossible to stop, but you CAN stop the spread.
3. “Bob, we’re 42 days out now without a fungicide, and it may be a week before we can get in the field. What’s do you recommend.
 - A. Did you use Velum at planting? If so, it has helped you with leaf spot as well. Spray as soon as you can; wouldn’t hurt to include some fungicide with systemic activity. And something for early-season white mold as well.
 - B. If you didn’t use Velum, Thimet gave you a little help if you used it.
 - C. Bottom line: starting a spray program between 45 and 50 days after planting is tricky. My two top choices are use of Priaxor or Lucento. Second place would be Provysol + chlorothalonil, Alto + chlorothalonil, Domark + chlorothalonil, Mazinga, and even Aproach Prima. I’d also add 7.2 teb with them for good measure.
 - D. Can you mix Cadre with them? Yes. Can you mix clethodim with them? According to Dr. Prostko doing so will compromise your grass control so I wouldn’t do it.

Is it White Mold?

Cale Cloud Grady County Agent



This is white mold



This is false white mold

Peanut Rx Survey

Bell

Kaleb Bell, our summer intern, has created the QR Code on the right to open a confidential survey that lets us assess the Peanut Rx disease/risk index for Irwin County. The survey is a simplified form of the survey on page 3. Please take a moment to complete the survey. If your phone allows, turn on the camera and hover over the icon to open the the survey. Otherwise, [click here](#) to access the survey. If you have not completed the survey, we may ask that you do so when we visit in person. You may also print and complete the survey on page 2, then return it to the Irwin County Extension Office. Again, *all information gathered is confidential. We kindly ask that you only complete the survey once.*

Please take a moment and fill out this brief survey - Thank you in advance



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Peanut RX Survey: ALL RESULTS ARE CONFIDENTIAL

Peanut Variety or Varieties:

Plant Date: (Circle One)

Before May 1 May 1-10 May 10-25 May 26- June 10

After June 10

Peanuts Acres Grown

Final Stand Count Average (Circle One)

Less than 3 plants/ft 3-4plants/ft. More than 4 plants/ft.

At Plant Insecticide Use (Circle One)

Velum Thimet 20G Other None

Twin or Single Row? (Circle One)

Twin Row Single Row

Tillage Type: (Circle One)

Conventional Tillage Reduced Tillage

Did you use Classic Herbicide? (Circle One)

Yes No

Rotation Between Peanut (Circle One)

0 years 1 year 2 years 3 or more years

Issues with disease? (Circle all that Apply)

Spotted wilt leaf spot white mold limb rot

Is the field irrigated? (Circle One)

Yes No

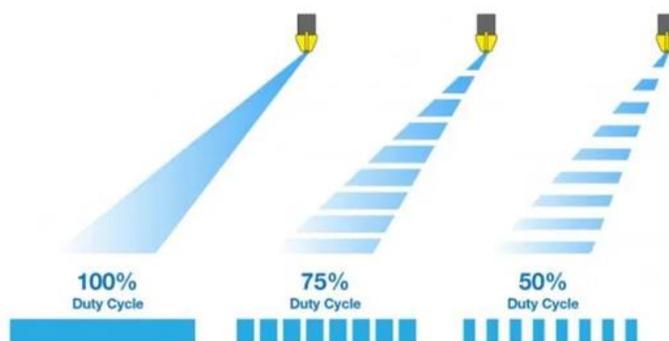
Nozzle Selection for PWM Sprayers

Virk

PWM systems are becoming more common on boom sprayers recently and there are increasing number of growers who are first-time users of these systems and need to make nozzle selection decisions for their systems. While nozzle selection for a PWM system is somewhat similar to the nozzle selection process for a sprayer without PWM, there are few additional things that the growers need to consider because of how a PWM system works and regulates flow rate as compared to the sprayer using a standard rate controller.

Important Note: Since few growers now have asked about using Dicamba Tips with their new PWM sprayers, I want to emphasize that not all Dicamba tips (air-induction nozzles) are compatible with PWM systems and may not produce the required larger droplets for adequate drift management so please make sure your growers are aware about this and not using the same nozzles (that they used in the past with their sprayer without PWM) without checking with the nozzle manufacturer if their nozzle is PWM compatible or not. Every nozzle manufacturer has a list of nozzles that are PWM compatible and can be easily accessed on their website. Also, every PWM sprayer can also be used as a conventional sprayer by turning the pulsing off so if a grower is unsure about the nozzle compatibility or having application issues, the best bet is to use the sprayer in conventional mode, especially when spraying chemicals where drift control is a priority.

PWM sprayer: Travel speed fluctuations are common during pesticide applications. On a boom sprayer equipped with a rate controller, target application rate – with changes in travel speed – is maintained by regulating flow rate – which is primarily accomplished by changing spray pressure. This becomes a problem when spray pressure reaches outside the (narrow) operating range and deteriorates the spray pattern and uniformity. To overcome this issue, Pulse Width Modulation (PWM) systems control flow rate by varying the duty cycle (proportion of the time that nozzle is on; see pictures below) whereas the spray pressure stays constant throughout the boom. In short, a PWM sprayer provides a better control over spray pressure while still maintaining target application rate with ground speed changes, thus enabling consistent and accurate spray application.



Example of a nozzle body equipped with a TeeJet PWM system (solenoid) and illustration of how duty cycle works on PWM systems to regulate flow rate during application.

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Sizing a nozzle for PWM system: The first step in sizing a spray nozzle for PWM system is to understand duty cycle of a pulsing solenoid – a key parameter used to regulate flow rate. The duty cycle is the proportion of the time that the solenoid is open/on, means the nozzle is spraying. Typical duty cycle ranges are between 20 and 100%. A 100% duty cycle means a spray nozzle delivering maximum flow whereas a nozzle operating at a 20% duty cycle will deliver about one-fifth of the max. flow (100% duty cycle). During application, the PWM system automatically adjusts duty cycle to maintain target application rate with changes in ground speed. While lower duty cycles (<20%) are possible, they are not recommended due to inconsistent spray quality and pattern.

Since duty cycle is directly related to ground speed, it is important to understand during nozzle selection that you want to aim for an average travel speed that keeps the duty cycle of the system between 60% and 80%. This means that the nozzle is open roughly about 2/3 of the time and it also provides plenty of flexibility for the system to adjust duty cycle if the travel speed increases or decreases considerably below the average speed.

Besides application rate and droplet size, one of the important parameters for nozzle selection for PWM systems is average ground speed as it determines the minimum and maximum speed that you can spray without exceeding the selected nozzle’s pressure rating. Once you have selected an average speed, you can calculate the minimum (20% duty cycle) and maximum speeds (100% duty cycle), and then use the nozzle selection/tabulation charts in the same way as we normally do for selecting nozzles for sprayers without PWM.

Let’s work through an example to illustrate this process. A grower wants to select a nozzle for his PWM sprayer to apply 10 GPA (20” nozzle spacing) at 10 mph and the droplet size requirement for this application is Medium droplets. Assuming 10 mph as an average speed around 75% duty cycle, the minimum speed will be 2.7 mph and the maximum speed will be 13.3 mph. Now using the GreenLeaf Technologies nozzle selection chart below, we will first select the application rate (10 GPA), then move down the 75% column to find the speeds that are closest to the selected average speed of 10 mph. Now moving left on the chart, the selected speeds fall within the 40 to 60 PSI range for the 04 nozzle, and within the 30 to 40 PSI range for the 05 nozzle. Since we need medium droplets for this application, we can see there are only two nozzles (BPDF, 04 at both 40 and 50 PSI, and BP, 04 at 60 PSI) that will provide the desired droplet size. Given the options here, the best solution for 10 GPA at 10 mph is BPDF, 04 nozzle at 50 PSI. Remember there can be two to three different nozzles that fits the desired application so try to select the one that is more closer to your target application parameters and/or provides more application flexibility.

PWM Valve Speed Range (MPH) - 20” Spacing

Tip Size	Gauge (PSI)	Nozzle (PSI)	BPDF	BP	SD	DF	TCP	5 GPA				7.5 GPA				10 GPA			
								Min		Max		Min		Max		Min		Max	
								25%	50%	75%	100%	25%	50%	75%	100%	25%	50%	75%	100%
0.3 GPM #3	20	19		VC		F	F	3	6	9	13	2	4	6	8	2	3	5	6
	30	29		VC		F	F	4	8	11	15	3	5	8	10	2	4	6	8
	40	39		C		F	F	4	9	13	18	3	6	9	12	2	4	7	9
	50	48		C		F	F	5	10	15	20	3	7	10	13	2	5	7	10
	60	58		M		F	F	5	11	16	22	4	7	11	14	3	5	8	11
	70	67		M		F	F	6	12	18	23	4	8	12	16	3	6	9	12
0.4 GPM #4	20	19	C	VC	UC	F	F	4	8	12	17	3	6	8	11	2	4	6	8
	30	28	C	VC	UC	F	F	5	10	15	20	3	7	10	14	3	5	8	10
	40	38	M	C	XC	F	F	6	12	18	23	4	8	12	16	3	6	9	12
	50	47	M	C	XC	F	F	7	13	20	26	4	9	13	17	3	7	10	13
	60	56	F	M	XC	F	F	7	14	22	29	5	10	14	19	4	7	11	14
	70	66	F	M	XC	F	F	8	16	23	31	5	10	16	21	4	8	12	16
0.5 GPM #5	20	18	VC	VC	UC	F	M	5	10	15	21	3	7	10	14	3	5	8	10
	30	27	VC	VC	UC	F	F	6	13	19	25	4	8	13	17	3	6	9	13
	40	36	C	C	XC	F	F	7	15	22	29	5	10	15	19	4	7	11	15
	50	45	C	C	XC	F	F	8	16	24	33	5	11	16	22	4	8	12	16
	60	54	M	C	XC	F	F	9	18	27	36	6	12	18	24	4	9	13	18
	70	63	M	M	XC	F	F	10	19	29	38	6	13	19	26	5	10	14	19

GreenLeaf Technologies 20” Spacing Tabulation Chart.

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TeeJet has a similar chart for sizing PWM nozzles but instead of listing travel speeds at all 25, 50, 75 and 100% duty cycles, it displays minimum and maximum speeds under each application rate. In this case, you will again use your average speed at a selected duty cycle (remember to keep this between 60 and 80%) to calculate the minimum and maximum speeds, and select the nozzle that best fits the speed range and droplet size requirement. Using the same example above, we can see that there are two nozzles (TT and TTJ60, 04 at 50 PSI) that can provide 10 GPA and the desired droplet size in the selected speed range.

TIP SIZE	Gauge Pressure PSI	Tip Pressure PSI	30% Minimum Duty Cycle							SPEED RANGE (MPH)							
			TJ60	XR/ XRC	TT	TTJ60	AITTJ60	TTJ60	TTI	5 GPA		7.5 GPA		10 GPA		12 GPA	
										Min	Max	Min	Max	Min	Max	Min	Max
11002	20	19	-	F	VC	-	-	-	UC	2.5	8.3	1.7	5.5	1.2	4.2	1.0	3.5
	30	29	-	F	C	C	VC	UC	UC	3.0	10.1	2.0	6.7	1.5	5.0	1.3	4.2
	40	39	VF	F	C	C	VC	XC	UC	3.6	11.9	2.4	7.9	1.8	5.9	1.5	5.0
	50	49	VF	F	M	M	C	XC	UC	3.9	13.1	2.6	8.7	2.0	6.5	1.6	5.4
	60	59	VF	F	M	M	C	VC	UC	4.3	14.3	2.9	9.5	2.1	7.1	1.8	5.9
	70	69	-	-	M	M	M	VC	XC	4.6	15.4	3.1	10.3	2.3	7.7	1.9	6.4
	80	79	-	-	F	M	M	VC	XC	5.0	16.6	3.3	11.1	2.5	8.3	2.1	6.9
90	88	-	-	F	M	M	VC	XC	5.3	17.8	3.6	11.9	2.7	8.9	2.2	7.4	
110025	20	19	-	M	VC	-	-	-	UC	3.2	10.7	2.1	7.1	1.6	5.3	1.3	4.5
	30	29	-	F	C	C	VC	UC	UC	3.9	13.1	2.6	8.7	2.0	6.5	1.6	5.4
	40	39	-	F	M	C	VC	XC	UC	4.5	14.9	3.0	9.9	2.2	7.4	1.9	6.2
	50	49	-	F	M	M	C	XC	UC	5.0	16.6	3.3	11.1	2.5	8.3	2.1	6.9
	60	58	-	F	M	M	C	VC	UC	5.5	18.4	3.7	12.3	2.8	9.2	2.3	7.7
	70	68	-	-	M	M	M	VC	XC	5.9	19.6	3.9	13.1	2.9	9.8	2.5	8.2
	80	78	-	-	F	M	M	VC	XC	6.2	21	4.2	13.9	3.1	10.4	2.6	8.7
90	88	-	-	F	M	M	VC	XC	6.8	23	4.5	15.0	3.4	11.3	2.8	9.4	
11003	20	19	-	M	VC	-	-	-	UC	3.7	12.5	2.5	8.3	1.9	6.2	1.6	5.2
	30	29	-	F	VC	C	XC	UC	UC	4.5	14.9	3.0	9.9	2.2	7.4	1.9	6.2
	40	38	F	F	C	C	VC	UC	UC	5.2	17.2	3.4	11.5	2.6	8.6	2.2	7.2
	50	48	F	F	M	M	VC	UC	UC	5.9	19.6	3.9	13.1	2.9	9.8	2.5	8.2
	60	58	F	F	M	M	C	XC	UC	6.4	21	4.3	14.3	3.2	10.7	2.7	8.9
	70	67	-	-	M	M	C	XC	UC	6.9	23	4.6	15.4	3.5	11.6	2.9	9.7
	80	77	-	-	M	M	C	VC	XC	7.3	24	4.9	16.2	3.7	12.2	3.0	10.1
90	87	-	-	F	M	M	VC	XC	7.8	26	5.2	17.4	3.9	13.1	3.3	10.9	
11004	20	19	-	M	VC	-	-	-	UC	4.8	16.0	3.2	10.7	2.4	8.0	2.0	6.7
	30	28	-	M	C	C	XC	UC	UC	6.1	20	4.0	13.5	3.0	10.1	2.5	8.4
	40	37	F	M	C	C	XC	UC	UC	6.9	23	4.6	15.4	3.5	11.6	2.9	9.7
	50	47	F	F	M	M	VC	UC	UC	7.8	26	5.2	17.4	3.9	13.1	3.3	10.9
	60	56	F	F	M	M	C	XC	UC	8.6	29	5.7	19.0	4.3	14.3	3.6	11.9
	70	66	-	-	M	M	C	XC	UC	9.1	30	6.1	20	4.5	15.1	3.8	12.6
	80	75	-	-	M	M	M	VC	XC	9.8	33	6.5	22	4.9	16.3	4.1	13.6
90	85	-	-	F	M	M	VC	XC	10.3	34	6.9	23	5.2	17.2	4.3	14.4	
11005	20	18	-	M	VC	-	-	-	UC	5.9	19.6	3.9	13.1	2.9	9.8	2.5	8.2
	30	27	-	M	VC	C	XC	UC	UC	7.3	24	4.9	16.2	3.7	12.2	3.0	10.1
	40	36	M	M	C	C	XC	UC	UC	8.6	29	5.7	19.0	4.3	14.3	3.6	11.9
	50	46	F	F	M	C	VC	UC	UC	9.4	31	6.3	21	4.7	15.7	3.9	13.1
	60	55	F	F	M	M	VC	XC	UC	10.3	34	6.9	23	5.2	17.2	4.3	14.4
	70	64	-	-	M	M	VC	XC	UC	11.2	37	7.5	25	5.6	18.7	4.7	15.6
	80	73	-	-	F	M	C	XC	UC	12.1	40	8.1	27	6.1	20	5.0	16.8
90	82	-	-	F	M	C	VC	XC	12.8	43	8.6	29	6.4	21	5.3	17.8	

TeeJet Technologies PWM Nozzle Selection Chart (20" spacing).

Wilger also has a tool "Tip Wizard" (available as both online and a smartphone app) for selecting the right nozzle for both conventional and PWM sprayers. The application asks for the target rate, sprayer speed, PWM system, nozzle spacing and droplet size, and provide nozzle choices best suited for that application. This application can be used for sizing nozzles for any brand as it asks the user about the type of PWM system (most PWM system options offered today are listed) available on the sprayer as they have different pressure drops across the solenoid.

To use TIP WIZARD, select the application unit, spray system, and search function you would like to use.

Select Search Type

1. Select Application Unit: * <input checked="" type="radio"/> US Gal/Acre <input type="radio"/> US Gal/1000 sq ft. <input type="radio"/> Imp Gal/Acre <input type="radio"/> Litres/Hectare	2. Select Spray System: * <input type="radio"/> Rate-Controlled Spray System <input checked="" type="radio"/> Pulse Width Modulation	3. Select Search Function: * <input checked="" type="radio"/> Search For Spray Tips <input type="radio"/> Specific Tip Look-Up <input type="radio"/> Favorited Nozzles
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Search for Pulsed Width Modulated (PWM) Spray Tips

- Target Application Rate (US Gal/Acre) *
- Max Sprayer Speed (mph) *
- Select PWM System *
- Nozzle Spacing (in) *
- Spray Tip Angle
 80°
 110°
- Target Spray Classification or Droplet Size (μ)

Wilger's Tip Wizard application for nozzle selection.

Lastly, remember that though PWM systems have some flexibility in terms of maintaining the target application rate within a wider speed range, make sure to avoid using nozzles and/or making applications that require the system to operate at a duty cycle lower than 50% or more than 90% for prolonged periods. In that case, we would reconsider a different nozzle using the new average ground speed so the system can operate within the preferred duty cycle and to utilize the full capabilities of the PWM system.

Tank-Mixing Cobra or Ultra Blazer with Cadre in Peanuts Prostko

Over the last few days, I have had a few questions about tank-mixing Cobra or Ultra Blazer with Cadre + Dual Magnum + 2,4-DB. Most are concerned about potential crop injury but this tank-mix has not been overly caustic in my research (Figures 1 and 2). But, keep in mind that crop injury with tank-mixes can vary greatly depending upon many factors including time of application, GPA, air temperature, leaf wetness, and humidity. Thus, I can provide no guarantees when 4-6 products are dumped in 1 spray tank.

Peanut growers who suspect (or are not sure) that they have ALS-resistant Palmer amaranth and/or other weeds that Cadre is less effective on (*i.e. tropic croton*) would greatly benefit from this tank-mix. In this scenario, Dual Magnum could be replaced by Outlook, Warrant, or Zidua (*grower preference not mine*). Also, I would probably avoid Anthem Flex in this particular situation because of the Aim (carfentrazone) in the Anthem Flex. When using Warrant or Zidua, a NIS should be included (0.25% v/v or 1 qt/100 gals).



Figure 1. Cadre + Dual Magnum + 2,4-DB + Cobra.



Figure 2. Cadre + Dual Magnum + 2,4-DB + Ultra Blazer.

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Looking for Private or Commercial Pesticide Credits?

The next webinar training is Thur. July 15th from 3-5 pm. Registration closes at 2 pm on July 15th. Announcements begin at 2:45 pm with the session starting at 3 sharp. Register here: <https://www.eventbrite.com/e/green-gtbp-webinar-series-july-15-2021-registration-158019686135>

Speakers and Topics:

Managing environmental stresses in the landscape - Dr. Mengmeng Gu, Texas A & M University

Disease management in ornamentals - Dr. Jean Williams-Woodward, University of Georgia

CEUs Awarded for this webinar:

- GA - 2 hours Cats 21, 23, 24, 27, 31, 32, 36, and 1 hour in 10 (Private)

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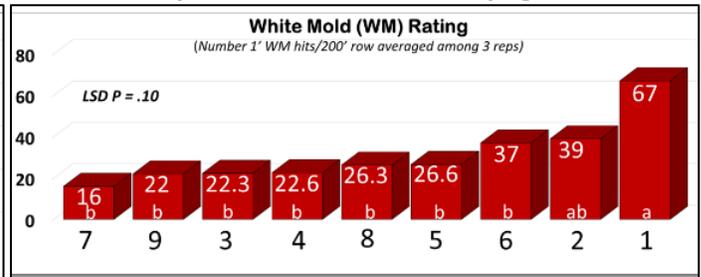
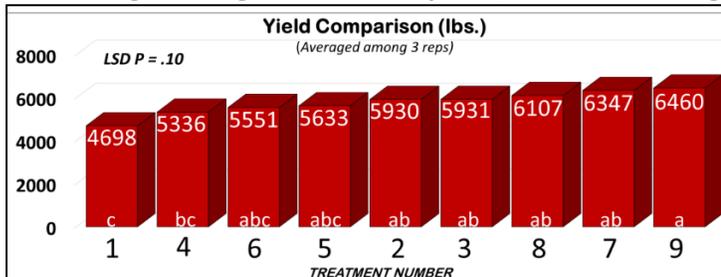
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The DAY OF the webinar:

- Log into the webinar using the **unique** link that appears in the zoom.us confirmation email or the Join or View Webinar button.
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- Please make sure that when signing in to view the webinar, enter your **first and last name**.
- If you must use your **phone for audio**, make sure your sign-in sheet reflects the phone number that was used.
- Keep a copy** of the sign-in sheet(s) for your records.

Future meetings September 16 and November 18. Also, opportunities to view archives for pesticide credit at our office – just call our office for more information.

Peanut Fungicide Program Cook County Yield, White Mold Ratings and Profitability Tucker Price Cook County Agent



Protocol - 2020 Cook County Peanut Fungicide Trial							
TRT #	30 DAP	45 DAP	60 DAP	75 DAP	90 DAP	105 DAP	120 DAP
1	Echo 1.5 pt	Echo 1.5 pt	Muscle ADV 2 pt	Muscle ADV 2 pt	Muscle ADV 2 pt	Muscle ADV 2 pt	Echo 1.5 pt
2	Chlorothalonil 1.5 pt/A	Absolute MAX 3.5 oz	Elatus 7.3 oz	Provost Silver 13 oz	Elatus 7.3 oz	Provost Silver 13 oz	Echo 1.5 pt
3		Priaxor 6 oz	Umbra 36 oz Echo 1 pt	Muscle ADV 2 pt	Umbra 36 oz Echo 1 pt	Muscle ADV 2 pt	Echo 1.5 pt
4		Lucento 5.5 oz	Convoy 32 oz Echo 1.5	Lucento 5.5 oz	Elatus 9.5 oz	Muscle ADV 2 pt	Echo 1.5 pt
5		Priaxor 6 oz	Convoy 32 oz Provisol 5 oz	Priaxor 8 oz	Convoy 32 oz Provisol 5 oz	Muscle ADV 2 pt	Echo 1.5 pt
6	Approach Prima 6.8 oz	Muscle ADV 2 pt	Fontelis 16 oz	Fontelis 16 oz	Fontelis 16 oz	Muscle ADV 2 pt	Echo 1.5 pt
7	Echo 1.5 pt	Elatus 7.3 oz	Elatus 7.3 oz Miravus 3.4 oz		Elatus 7.3 oz Miravus 3.4 oz		Echo 1.5 pt
8	Echo 1.5 pt	Excalia 3 oz Echo 1.5 pt	Excalia 3 oz Miravus 3.4 oz		Excalia 2 oz Miravus 3.4 oz		Echo 1.5 pt
9	Echo 1.5 pt	Excalia 2 oz Echo 1.5 pt	Excalia 2 oz Miravus 3.4 oz		Excalia 2 oz Miravus 3.4 oz		Echo 1.5 pt

Protocol - 2020 Cook County Peanut Fungicide Trial							
TRT #	30 DAP	45 DAP	60 DAP	75 DAP	90 DAP	105 DAP	120 DAP
1	Echo 1.5 pt	Echo 1.5 pt	Muscle ADV 2 pt	Muscle ADV 2 pt	Muscle ADV 2 pt	Muscle ADV 2 pt	Echo 1.5 pt
2	Chlorothalonil 1.5 pt/A	Absolute MAX 3.5 oz	Elatus 7.3 oz	Provost Silver 13 oz	Elatus 7.3 oz	Provost Silver 13 oz	Echo 1.5 pt
3		Priaxor 6 oz	Umbra 36 oz Echo 1 pt	Muscle ADV 2 pt	Umbra 36 oz Echo 1 pt	Muscle ADV 2 pt	Echo 1.5 pt
4		Lucento 5.5 oz	Convoy 32 oz Echo 1.5	Lucento 5.5 oz	Elatus 9.5 oz	Muscle ADV 2 pt	Echo 1.5 pt
5		Priaxor 6 oz	Convoy 32 oz Provisol 5 oz	Priaxor 8 oz	Convoy 32 oz Provisol 5 oz	Muscle ADV 2 pt	Echo 1.5 pt
6	Approach Prima 6.8 oz	Muscle ADV 2 pt	Fontelis 16 oz	Fontelis 16 oz	Fontelis 16 oz	Muscle ADV 2 pt	Echo 1.5 pt
7	Echo 1.5 pt	Elatus 7.3 oz	Elatus 7.3 oz Miravus 3.4 oz		Elatus 7.3 oz Miravus 3.4 oz		Echo 1.5 pt
8	Echo 1.5 pt	Excalia 3 oz Echo 1.5 pt	Excalia 3 oz Miravus 3.4 oz		Excalia 2 oz Miravus 3.4 oz		Echo 1.5 pt
9	Echo 1.5 pt	Excalia 2 oz Echo 1.5 pt	Excalia 2 oz Miravus 3.4 oz		Excalia 2 oz Miravus 3.4 oz		Echo 1.5 pt

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SUMMARY 2020 Cook Peanut Fungicide Trial									
TRT #	WM Fungicides	Avg WM	Rank	Avg Yield/A	tons	Rank	Total Fungicide		
							Cost/A	Profit/A	Rank
1	Muscle ADV 4X	67	9	4698	2.34	9	55.28	775.42	9
2	Elatus 2X; Provost Silver 2X	39	8	5930	2.96	5	87.74	963.06	4
3	Priaxor 1X; Umbra 2X; Muscle ADV 2X	22.3	3	5931	2.96	4	109.36	941.44	5
4	Lucento 2X; Convoy 1X; Elatus 1X; Muscle ADV 1X	22.6	4	5336	2.66	8	98.61	845.69	7
5	Priaxor 2X; Convoy 2X; Muscle ADV 1X	26.6	6	5633	2.81	6	153.42	844.13	8
6	Muscle ADV 2X; Fontelis 3X	37	7	5551	2.77	7	104.26	879.09	6
7	Elatus 3X; Miravus 2X	16	1	6347	3.17	2	102.21	1023.14	2
8	Excalia 3X (3oz, 3oz, 2oz); Miravus 2X	26.3	5	6107	3.05	3	115.22	967.53	3
9	Excalia 3X (2oz, 2oz, 2oz); Miravus 2X	22	2	6460	3.23	1	101.22	1045.43	1

Avg WM = number white mold hits/200' row. Average of 3 replications.
 Total Fungicide Cost - Average among local suppliers.
 Profit = USDA loan rate (35%) X tons - fung cost

2020 Irwin County Fungicide Trial

Assessment of Peanut Fungicide Programs and Sulfur in Irwin County, GA, 2020

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INTRODUCTION

- Disease management is essential for profitable peanut production
- Fungicide cost is among the greatest expenses for farmers
- Selection of fungicide program is an important consideration
- Farmers seek to reduce the incidence of white mold and leaf spot to maximize per acre yield, grade and profitability

SITUATION/CONCERNS

- The objective evaluated three soil-borne and leaf spot fungicide programs and the grower program
- Conduct formal ratings on white mold and leaf spot
- Determine the yield differences based on the incidence of white mold and leaf spot

Treatment	2020 IRWIN COUNTY EXTENSION PEANUT SOIL-BORNE AND LEAF SPOT FUNGICIDE TRIAL						Leaf Spot Florida Scale	White Mold Hits per 200 foot	Grade	Yield Per Acre
	7/11	7/27	8/11	8/26	9/10	9/25				
1	Umbra 36 fl oz Echo 1 pt Alto 5.5 oz	Muscle ADV 2 pt	Umbra 36 fl oz Echo 1 pt	Muscle ADV 2 pt	Chlorothalonil 1.5 pt	Chlorothalonil 1.5 pt	4.4	7.5	75	6200
2	Umbra 36 fl oz Echo 1 pt Microthiol Dispers Micronized 5 lb Alto 5.5 oz	Muscle ADV 2 pt	Umbra 36 fl oz Echo 1 pt Microthiol Dispers Micronized 5 lb	Muscle ADV 2 pt	Chlorothalonil 1.5 pt	Chlorothalonil 1.5 pt	3.8	6.5	75	6161
3	Convoy 32 oz Echo 1.5 pt Alto 5.5 oz	Muscle ADV 2 pt	Convoy 32 oz Echo 1.5 pt	Muscle ADV 2 pt	Chlorothalonil 1.5 pt	Chlorothalonil 1.5 pt	4.4	8.0	76	6013
4	Lucento 5.5 fl oz Alto 5.5 oz	Elatus 9 oz	Lucento 5.5 fl oz	Convoy 21 fl oz	Chlorothalonil 1.5 pt	Chlorothalonil 1.5 pt	4.9	4.5	75	5989

METHODS

- Selected field site was turned and bedded then planted on May 18th in 4 row configuration
- Rotation was peanut in 2017, rye/cotton in 2018 – 2019, peanut 2020
- Peanuts were inverted on Oct. 22 and harvested on Nov. 3
- Each replication contained 12 rows; yield was taken from the outside 8 rows not the spray middle
- Trial was rated for leaf spot on October 22 and for white mold on October 23
- Plots were individually measured, harvested, weighed and recorded and grade samples submitted for each treatment



IMPACT/RESULTS

- Farmers can compare the effectiveness of four unique fungicide programs
- Growers have multiple program of similar efficacy from which to choose for management for leaf spot and stem rot disease
- Information gained will assist farmers in their decision making program as it relates to soil borne and leaf spot control
- Interestingly growers could substitute sulfur for Echo at 1 pint per acre slightly improving leaf spot control while maintaining yield

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Cotton PGR Requirements Check with Your Seed Salesmen for Vegetative Growth Potential

Cotton varieties vary in their vegetative growth potential. Some varieties are very aggressive while others are not.

	Classification	PGR Recommendations
1	Varieties with the most vegetative growth potential, require intensive PGR management	Applications - MULTIPLE Initiation - PRIOR TO BLOOM Product - MC (all applications, rates vary)
2	Varieties with similar growth potential of 1st class, yet more responsive to PGRs or earlier in maturity	Applications - MULTIPLE, MOST CASES Initiation - Squaring to 1st Bloom Product - 1st application - Stance or MC - Sequential app. - MC only
3	Varieties may require PGRs, but pre-bloom initiation not typically necessary, could result in premature cutout, esp. in dryland conditions	Applications - ONE to MULTIPLE Initiation - Bloom initiation likely sufficient Product- 1st app (Stance or MC, low rates) - seq. applications - Stance or MC
4	Varieties that may need no PGR applications, or almost always not applied prior to bloom	Application - NONE to ONE Initiation - Bloom initiation almost always Product - Stance or MC (↓rates)

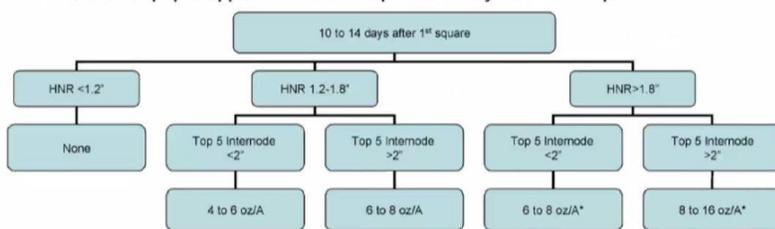
Information to Help Make PGR Decisions

- Crop Information
 - Height
 - 4th / 5th internode length
 - Height to Node Ratio
 - Fruit Retention
 - Variety
 - Nodes above white flower
 - Stress
- Environment
 - Irrigation
 - Weather Forecast
 - Fertility
 - Field History



PGR Strategies – Application Prior to Bloom

Figure 9. Flow chart for mepiquat applications for a crop 10 to 14 days after first square.



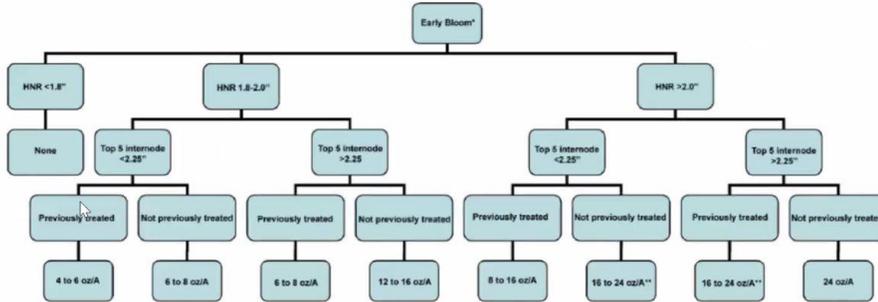
* Use higher rate if history of rank growth in field

Prior to bloom – only if particular variety and rates typically below 12 oz / A with PIX. Would be hesitant to apply to drought stressed pre-bloom cotton. Wait until squares are visible. Stance is a product that could be considered in early applications (2-3 oz/A).

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PGR Strategies – Applications in Early Bloom

Figure 10. Flow chart for mepiquat applications for a crop in the early-bloom stage.

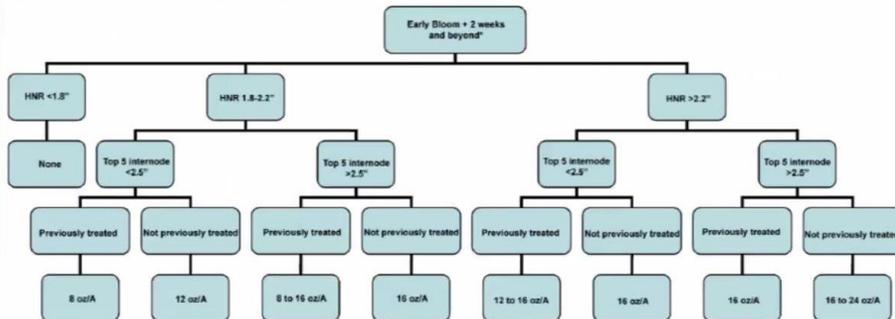


* Early bloom = 50% of plants have 1 bloom.
 ** Use higher rate if history of rank growth in field.

Typically, PGRs should be initiated in irrigated situations by early bloom. Early bloom initiation often fine with most varieties (still some OK). Rates can vary up to 16 oz/A, typically less than 16 oz/A. Stance could be used on less aggressive varieties (2-4 oz/A).

PGR Strategies – Applications after Early Bloom

Figure 11. Flow chart for mepiquat applications for a crop 2 weeks or later past the early-bloom stage.



* Do not apply if NAWF is 5 or less.
 ** Use higher rate if history of rank growth in field.

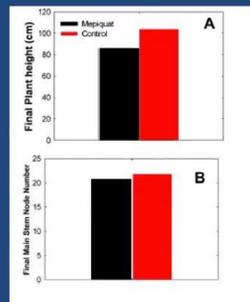
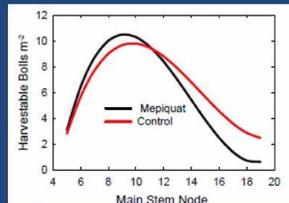
When making applications after early bloom, higher rates are needed (16 oz/A) Stance not likely best option. The key with these applications is what was applied before and being sure that applications were made within 14-17 days after initial. Be sure to know where the crop is regarding Bloom.

Plant Growth Regulators (Products)

- Commercial plant growth regulators
 - Mepiquat Chloride (0.35 lbs a.i. / gal) (PIX, etc.)
 - Mepiquat Pentaborate (0.82 lbs a.i. / gal) PENTIA
 - Mepiquat Chloride (0.736 lbs a.i. / gal) + cyclanilide (0.184 lbs a.i. / gal) STANCE
- ALL MEPIQUAT PRODUCTS ARE THE SAME
 - They give same effect on growth at same rates
 - Except for Stance (twice the Mep + Cyc.)
- Rain-fastness
 - Pentia – 2 hours (alone) & 1 hour (with high quality adjuvant)
 - Mepiquat Chloride – 8 hours (alone) & 4 hours (with surfactant)
 - Stance – 4-8 hours (alone) | 2 hours (with surfactant)

Effects of PGRs on Cotton

- Direct
 - Reduced plant height
 - Shortened internodes
 - Slowed terminal growth
 - Smaller leaves
 - Improved boll retention on lower nodes
- Indirect
 - Improved harvest efficiency
 - Earlier maturity
 - Reduced chance of boll rot & lodging
 - Improved canopy penetration (spray efficacy)
 - Improved drying of lint and boll (improved harvest)



Effect on Yield?

Thank You, God Bless You,
Phillip Edwards - Irwin County Agent



The mention of trade names in this newsletter does not imply endorsement by the Georgia Extension Service, nor criticism of similar ones not mentioned.

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