

**COTTON INSECTICIDE PERFORMANCE RATING, 2012**

<b>Rating Scale</b> 0 = No control 10 = Excellent	<b>Restricted Use (R)</b>	<b>Fall Armyworm</b>	<b>Beet Armyworm</b>	<b>Aphid**</b>	<b>Thrip</b>	<b>Western Flower Thrip</b>	<b>Cutworm</b>	<b>Grasshopper</b>	<b>Bollworm</b>	<b>Tobacco Budworm</b>	<b>Cabbage Looper</b>	<b>Soybean Looper</b>	<b>Salt Marsh Caterpillar</b>	<b>Plant Bug (ES/LS)</b>	<b>Spider Mite**</b>	<b>Green and Southern Green Stink Bug</b>	<b>Brown Stink Bug</b>	<b>Whitefly</b>
Admire/Alias/Imidacloprid		0	0	3	3	1	0	2	0	0	0	0	0	7	0	2	2	0
Aeris	X				8	6	5											
Ammo	X	5	1	0	6	3	8	6	7	1	6	1	5	5/3	0	8	4	1
Asana XL/Adjourn	X	5	2	0	6	3	8	6	7	2	7	2	5	5/3	0	8	4	2
<i>Bacillus thuringiensis</i>		1	1	0	0	0	0	0	4	5	6	6	2	0	0	0	0	0
Baythroid XL	X	5	2		6	2	8	7	7	2	7	2	5	5/3	0	8	4	4
Belt		8							8	9	9	9	7	3				
Bidrin	X	0	0	5	6	5	0	7	0	0	0	0	1	8	3	9	9	3
Bidrin XP II	X	5	2	6	6	5	8	7	7	2	7	2	5	8	7	9	9	3
Brigadier	X	5	2	6	6	5	8	7	7	2	7	2	5	7	7	8	7	6
Brigade/Discipline/Fanfare	X	5	2		6	2	6	8	7	2	7	2	5	5/3	7	8	7	6
Carbine		0	0	8	5	1	0	2	0	0	0	0	0	7	0	2	2	0
Centric		0	0	5	4	4	0	2	0	0	0	0	0	8	0	7	6	8
Comite		0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0
Confirm		8	8	0	0	0	2	0	4	4	7	7	8	0	0	0	0	0
Cruiser		0	0	0	8	4	0	0	0	0	0	0	0	0	0	0	0	0
Curacron	X	6	4	3	2	2	7	2	7	7	3	3	5	4	3	1	1	2
Denim		8	9	0	1	1	7	2	8	9	9	9	3	0	5	0	0	0
Diamond		8			1	1	1		4	4				6*		4*	4*	
Dicofol		0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0
Dimethoate/Dimate		0	0	5	6	2	0	6	0	0	0	0	1	5	3	5	4*	3
Endigo	X	5	2	8	6	4	8	7	7	2	7	2	5	8	0	8	7	8
Gaucho					8	4	0	0										
Intrepid		8	9	0	0	0	5	0	6	6	9	9	9	0	0	0	0	0
Intruder		0	0	9	6		0	0	0	0	0	0	0	6	0	1	1	9
Karate/Silencer/Lambda-Cy	X	5	2	0	6	2	8	7	7	2	7	2	5	5/3	0	8	4	2
Lannate	X	7	4	5	1	0	5	6	4	4	7	7	4	3	0	5	3	0
Larvin	X	7	5	0	0	0	5	5	6	6	8	8	4	0	0	2	2	0
Leverage 360	X	5	2	5	6	2	8	7	7	2	7	2	5	7	0	8	6	5
Methyl Parathion	X	2	2	3	3	1	3	8	1	1	1	1	3	3	0	9	9	0
Mustang Max/Respect	X	5	3	0	6	3	8	7	7	2	7	2	5	5/3	0	8	7	2
Oberon															9			
Orthene/Acephate		4	3	4	6	5	6	8	5	5	7	4	3	8	0	5	7	5
Portal															8			
Prevathon		9							9	9	9	9		2				
Prolex/Declare	X	5	2	0	6	2	8	7	7	2	7	2	5	5/3	0	8	4	2
Steward		8	9	0	0	0	5	0	7	9	9	9	5	6	0	3	3	
Temik	X				9	6	0	0										
Tracer		7	9	0	1	1	7	2	7	9	9	9	3	0	0	0	0	0
Vydate C-LV	X	0	0	1	3	1	0	6	0	0	0	0	0	7	0	8	7	0
Zeal															9			
Zoro/Abba/Agri-Mek/Epi-Mek	X	0	0	0	0	0	0	0	0	8	0	0	0	0	9	0	0	0

\*Effective on nymphs only.

\*\*Cotton aphids and spider mites can be flared by use of broad spectrum insecticides such as synthetic pyrethroids.

Shaded boxes indicate products recommended for specific pests in this guide.

ES - early season; LS - late season

The performance ratings in the chart are for comparison purposes only and are not necessarily a measure of percent control.

### QUICK-VIEW THRESHOLD GUIDE

Insect	Threshold	Scouting Procedure
Tarnished plant bug (TPB)	3 TPB per 5 row feet or 1 TPB per 3 row feet (problem fields) or 8 to 12 per 100 sweeps	At least 2 drop cloth samples per area.
Bollworm (BW) and Tobacco budworm (TBW)	Non-Bt cotton: 1 BW or 1 TBW (< 0.25 inch) per 2 row feet	At least 3.5 row feet whole-plant samples per area.
Thrips	2-5 thrips per plant and damage present	At least 5 plants per area sampled with a cup or box.
Aphids	50% of plants infested with actively growing colonies present, if no predators are present	General visual observation, noting predator populations. See comments in aphid section.
Fall armyworm (FAW)	10-20 FAW per 100 plants	Examine as with BW and TBW, supplementing with drop cloth observations and counts in blooms.
Spider mites	50% of plants infested with actively growing colonies present	General visual observation, noting symptoms of feeding injury to leaves.
Stink bugs	1 stink bug per 6 row feet or 20% boll damage	At least 2 drop cloth samples per area or sample at least 25 quarter-sized bolls per area.

### INSECTICIDE TERMINATION GUIDE

Determine Date of Cutout using the earlier of Date of NAWF=5 or Weather-restricted date (North AR: 8 Aug, Central AR: 14 Aug, South AR: 21 Aug)  
Record daily heat units (DD60s) from Date of Cutout. (DD60s are calculated by subtracting 60 from the average daily temperature.)

INSECT	TERMINATION RULES
Tarnished Plant bug	Cutout + 250 DD60s
Bollworm and Tobacco Budworm	Cutout + 350 DD60s
Stink Bugs	Cutout + 450 DD60s
Fall Armyworm	Cutout + 500 DD60s

Crop termination recommendations are based on long-standing and ongoing COTMAN research conducted by University of Arkansas Division of Agriculture scientists. Date of Cutout is the flowering date of the last economically significant boll population. If a field reaches physiological cutout [average number of nodes above white flower=5 (NAWF=5)] in late July or early August in Arkansas, then heat units are accumulated from the NAWF=5 date. Otherwise, heat units are accumulated from a seasonal cutout date based on historical weather for that production region. Typically, a boll needs 850 DD60s to mature with acceptable size and quality.

The weather-restricted, seasonal cutout date is the calendar date on which there is a 50% probability that the crop will have the benefit of late season temperatures sufficient to develop a mature boll. Seasonal cutout dates range across the state from August 8 in northernmost parts of Arkansas (Clay County) out to August 21 in the most southern portions of the state (Ashley County). The latest version of COTMAN will supply yearly updates for seasonal cutout dates for each production region. It is now available from Texas A&M University (<http://cotman.tamu.edu/index.htm>).

### COTTON INSECT CONTROL

Insect	Insecticide	Formulation/Acre	Lb ai/Acre	Acres/Gallon	Application/Comments	Minimum Days From Last Application to Harvest
Fall Armyworm	chlorantraniliprole Prevathon 0.43 SC	14-27 oz	0.045-0.09	4.7-9.1	Do not use an adjuvant with Prevathon.	21
	emamectin benzoate Denim 0.16 EC	8-12 oz	0.01-0.015	10.7-16	The best control is achieved when applications are timed to coincide with egg hatch or small larvae. Check blooms for the presence of fall armyworms. Treat for 10-20 fall armyworms per 100 plants. DO NOT treat for presence of eggs alone in dual-protein Bt cotton (e.g., Bollgard II, WideStrike). <b>Terminate sprays for fall armyworm control after NAWF = 5 + 500 heat units past the last effective boll date for your area.</b>	21

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<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/Acre</b>	<b>Lb ai/Acre</b>	<b>Acres/Gallon</b>	<b>Application/Comments</b>	<b>Minimum Days From Last Application to Harvest</b>
<b>Fall Armyworm</b>	flubendiamide Belt 4 SC	2-3 oz	0.063-0.094	42.7-64	DO NOT apply Belt more than 3 times per season.	28
	indoxacarb Steward 1.25 SC	9.2-11.3 fl oz	0.09-0.11	11.5-14		14
	methomyl (R) Lannate 2.4 LV Lannate 90 SP	1 1/2-2 1/4 pt 0.50-0.75 lb	0.45-0.675	3.6-5.3	Lannate may redden cotton. If excessive, stop use or alternate with other insecticides.	15
	methoxyfenozide Intrepid 2 F	4-10 oz	0.06-0.16	12.8-32		14
	novaluron Diamond 0.83 EC	6-12 oz	0.039-0.078	10.7-21.3		30
	profenofos (R) Curacron 8 E	3/4-1 pt	0.75-1.0	8.0-10.67	Continuous agitation during mixing, filling and application is required.	14
	spinosad Tracer 4 SC	2.144-2.88 oz	0.067-0.09	45-60	Pyrethroids at maximum labeled rates will provide control if timed to egg lay and small larvae.	28
	thiodicarb (R) Larvin 3.2 F	1 1/2-2 1/4 pt	0.6-0.9	3.5-5.3		28
	<b>Beet Armyworm</b>	chlorantraniliprole Prevathon 0.43 SC	14-27 oz	0.045-0.09	4.7-9.1	Do not use an adjuvant with Prevathon.
emamectin benzoate Denim 0.16 EC		6-8 oz	0.0075-0.01	16-21	Apply treatment when field scouting reveals 3-5 or more "hits" or egg clusters per 100 ft of row and eggs are hatching or larval feeding is observed. The best control is achieved when applications are timed to coincide with egg hatch or small larvae. Mixtures may increase activity against beet armyworms. Adding 1 qt of crop oil may aid in control. Beet armyworm infestations are difficult to control, and the listed insecticides may only give suppression.	21
flubendiamide Belt 4 SC		2-3 oz	0.063-0.094	42.7-64	DO NOT apply Belt more than 3 times per season.	28
indoxacarb Steward 1.25 SC		9.2-11.3 fl oz	0.09-0.11	11.5-14		14
methoxyfenozide Intrepid 2 F		4-10 oz	0.06-0.16	12.8-32		14
spinosad Tracer 4 SC		2.144-2.88 oz	0.067-0.09	45-60	DO NOT apply more than 6 oz of Tracer per year.	28

**COTTON INSECT CONTROL**

<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/Acre</b>	<b>Lb ai/Acre</b>	<b>Acres/Gallon</b>	<b>Application/Comments</b>	<b>Minimum Days From Last Application to Harvest</b>	
<b>Aphid</b>	<b>Aphid Management and Control</b>						
	Treatment for aphids alone seldom results in a yield increase.						
	1. Resistance to neonicotinoid insecticides (Admire, Intruder, Centric) is developing. Avoid unnecessary/automatic applications of these insecticides when aphids are present.						
	2. Threshold: When populations are building and aphid colonies are present on approximately 50% of the plants: a. If there are less than 0.3 lady beetle adults AND less than 0.2 lady beetle larvae (per row-ft), <u>treat</u> . b. If there are at least 0.3 lady beetle adults OR 0.2 lady beetle larvae (per row-ft), <u>do not treat, but resample within 7 days</u> . i. If aphid population is still increasing after 7 days, <u>treat</u> , otherwise continue normal sampling interval.						
3. The aphid fungus is very effective in reducing aphid populations in early to mid-July. Fields should be checked for fungus before treatments are applied. If confident the fungus is present in 15% of the aphid population, do not treat.							
	acetamiprid Intruder 70 WP	0.8-1.1 oz	0.035-0.05			28	
	flonicamid Carbine 50 WG	1.41-2.02 oz	0.044-0.063		DO NOT apply more than 3 applications of Carbine per season, allowing at least 7 days between applications.	30	
<b>Thrip</b>	<b>In Furrow</b>						
	acephate						
		Acephate 90S IFS	0.83-1.1 lb	0.75-1.0		Orthene-treated seed may require one or more foliar treatments for thrips control.	21
		Orthene 97 IFS	0.77-1.03 lb				
		Orthene 90S IFS	0.83-1.1 lb				
		Orthene-treated seed	Commercially available				
		aldicarb (R) Temik 15 G	3.5 lb	0.5		DO NOT use pyrethroids for thrips control. Apply Temik in furrow with a recommended in-furrow fungicide.	90
		imidacloprid Gaucho 600	per 100 lb seed 12.8 oz			Seed treatment.	
		imidacloprid + thiodicarb (R) Aeris	0.75 mg ai/seed			Commercially available seed treatment.	
		thiamethoxam Cruiser	7.65 oz/100 lb seed			Seed treatment.	
		Avicta Complete Cotton	see label			Seed treatment.	
	<b>Foliar Sprays</b>						
		acephate					
		Acephate 90 S (See generics, p. 26)	0.22 lb	0.2		Treat with foliar sprays when first or second true leaf emerges with noticeable damage from thrips. On larger seedlings, treat for an average of 5 thrips per plant and damage that may cause delayed growth or stunting of plants.	21
	Orthene 97	0.21 lb					
	dicrotophos (R) Bidrin 8 EC	3.2 oz	0.2	40	Bidrin is limited to one application of 3.2 oz pre-square.	30	
	dimethoate Dimethoate 4 EC	6.4 oz	0.2	20		14	

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Insect	Insecticide	Formulation/Acre	Lb ai/Acre	Acres/Gallon	Application/Comments	Minimum Days From Last Application to Harvest
Western Flower Thrip	acephate Acephate 90 S (See generics, p. 26)	0.56 lb	0.5		Treatment should be made when at least 100 thrips are found per bloom plus some damage. Treatment is seldom warranted. Populations may resurge to treatment levels 10 days after treatment.	21
	Orthene 97	0.52 lb				
	aldicarb (R) Temik 15 G	3.5 lb	0.5		Treat with foliar sprays when first or second leaf emerges with noticeable damage from thrips. On larger seedlings, treat for an average of 5 thrips per plant and damage that may cause delayed growth or stunting of plants. Temik is effective for early-season control on seedling cotton.	90
Cutworm	acephate Acephate 90 S (See generics, p. 26)	1.0 lb	0.9		Maintain 2-3 plants per row ft. Cutworm control is most effective when ground applications are made and sprays are directed (banded) to the base and lower portion of the plant.	21
	Orthene 97	0.93 lb				
	$\beta$ -cyfluthrin (R) Baythroid XL 1 EC	0.8-1.6 oz	0.007-0.013	80-160	Stale seedbed/no-till fields, fields with cover crops and/or heavy spring weed pressure or fields with a history of cutworm problems should be considered high-risk fields. Consider preventative pyrethroid applications for cutworm in these situations utilizing a 1/3 band applicator behind the planter.	0
	bifenthrin (R) Brigade 2 EC (See generics, p. 26)	2.4-6.4 oz	0.04-0.1	20-49.2		14
	cyfluthrin (R) Tombstone 2 EC (See generics, p. 26)	0.8-1.6 oz	0.013-0.025	80-160		0
	cypermethrin (R) Ammo 2.5 EC	1.3-5.0 oz	0.025-0.1	25-100		14
	esfenvalerate (R) Asana XL 0.66 EC (See generics, p. 26)	3.2-9.6 oz	0.016-0.05	13.2-40		21
	$\gamma$ -cyhalothrin 1.25 (R) Prolex/Declare	1.02-1.54 oz	0.01-0.015	83-125		21
	$\lambda$ -cyhalothrin (R) Karate Z 2.08 CS (See generics, p. 26)	1.28-1.92 oz	0.02-0.03	66.7-100		21
	thiodicarb (R) Larvin 3.2 F	24 oz	0.6	5.3		28
	$\zeta$ -cypermethrin 0.8 EC (R) Mustang Max/Respect	1.28-1.92 oz	0.008-0.012	67-100		14

**COTTON INSECT CONTROL**

<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/Acre</b>	<b>Lb ai/Acre</b>	<b>Acres/Gallon</b>	<b>Application/Comments</b>	<b>Minimum Days From Last Application to Harvest</b>	
<b>Bollworm</b>	<b>Pyrethroids</b>				Treat for 7,000 (1 per 2 row feet) small larvae (< 0.25 inch) per acre (non- <i>Bt</i> cotton). If larger larvae (≥ 0.25 inch) begin to develop in fields, treat for 3,500 (1 per 4 row feet) larvae (non- <i>Bt</i> cotton and <i>Bt</i> cotton). When damage to squares occurs, treat for 14,000 damaged squares (1 per row foot) plus eggs and small larvae, time insecticide applications to egg hatch (non- <i>Bt</i> cotton).  DO NOT apply Belt more than 3 times per season.  <b>Terminate sprays for bollworm control after NAWF = 5 + 350 heat units or 350 heat units past the last effective boll date for your area.</b>		
	β-cyfluthrin (R) Baythroid XL 1 EC	1.6-2.6 oz	0.012-0.013	49-80		0	
	bifenthrin (R) Brigade 2 EC (See generics, p. 26)	2.56-6.4 oz	0.04-0.1	20-50		14	
	cyfluthrin (R) Tombstone 2 EC (See generics, p. 26)	1.6-2.6 oz	0.025-0.041	49-80		0	
	cypermethrin (R) Ammo 2.5 EC	2-5 fl oz	0.04-0.1	25-62.5		14	
	esfenvalerate (R) Asana XL 0.66 EC (See generics, p. 26)	5.8-9.6 oz	0.03-0.05	13-22		21	
	flubendiamide Belt 4 SC	2-3 oz	0.062-0.094	42.7-64		28	
	γ-cyhalothrin 1.25 (R) Prolex/Declare	1.28-2.05 oz	0.0125-0.02	62.5-100		21	
	λ-cyhalothrin (R) Karate Z 2.08 CS (See generics, p. 26)	1.6-2.56 oz	0.025-0.04	50-80		21	
	ζ-cypermethrin 0.8 EC (R) Mustang Max/Respect	2.64-4.0 oz	0.0165-0.025	32-48		14	
	<b>Organophosphates</b>					14	
	profenofos (R) Curacron 8 E	3/4-1 pt	0.75-1.0	8-10.6			
	<b>Carbamates</b>						
	methomyl (R) Lannate 90 SP Lannate 2.4 LV	0.5-0.75 lb 1 1/2-2 1/4 pt	0.45-0.675	3.6-5.3		Lannate may redden cotton. If excessive, stop use or alternate with other insecticides. Use Lannate as an occasional spray in regular schedule but not more than every 10 days.	15
	thiodicarb (R) Larvin 3.2 F	1 3/4-2 1/4 pt	0.7-0.9	3.5-4.6		28	
	<b>Other Classes of Insecticides</b>						
	chlorantraniliprole Prevathon 0.43 SC	14-27 oz	0.045-0.088	4.1-9.7		Do not use an adjuvant with Prevathon.	21
	emamectin benzoate Denim 0.16 EC	8-12 oz	0.01-0.015	10.7-16		21	
indoxacarb Steward 1.25 SC	9.2-11.3 fl oz	0.09-0.11	11.5-14	14			
spinosad Tracer 4 SC	2.144-2.88 fl oz	0.067-0.09	44-66	28			

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Insect	Insecticide	Formulation/Acre	Lb ai/Acre	Acres/Gallon	Application/Comments	Minimum Days From Last Application to Harvest
Tobacco Budworm	<u><i>Bt Cotton</i></u>				Cotton varieties expressing the <i>Bt (Bacillus thuringiensis)</i> protein are very effective against the tobacco budworm.	
	<u>Organophosphates</u>					
	profenofos (R) Curacron 8 E	1 pt	1.0	8	<b>Time insecticide application to egg hatch. Under heavy pressure, do not reduce rates.</b> Treat for 7,000 (1 per 2 row feet) small larvae (less than 1/4 inch) per acre. If larger larvae begin to develop in fields, treat for 3,500 (1 per 4 row feet) larvae.	14
					When damage to squares occurs, treat for 14,000 damaged squares (1 per row foot) plus eggs and small larvae.	
	<u>Carbamates</u>					
	methomyl (R) Lannate 90 SP Lannate 2.4 LV	0.5-0.75 lb 1 1/2-2 1/4 pt	0.45-0.675	3.6-5.3	Lannate may redden cotton. If excessive, stop use or alternate with other insecticides. Use Lannate as an occasional spray in regular schedule but not more than every 10 days.	15
	thiodicarb (R) Larvin 3.2 F	1 3/4-2 1/4 pt	0.7-0.9	3.5-4.6		28
	<u>Other Classes of Insecticides</u>					
	chlorantraniliprole Prevathon 0.43 SC	14-27 oz	0.045-0.088	4.7-9.1	Do not use an adjuvant with Prevathon.	21
	emamectin benzoate Denim 0.16 EC	8-12 oz	0.01-0.015	10.7-16		21
	flubendiamide Belt 4 SC	2-3 oz	0.062-0.094	42.7-64	DO NOT apply Belt more than 3 times per season.	28
	indoxacarb Steward 1.25 SC	11.3 fl oz	0.11	11.5	<b>Terminate sprays for tobacco budworm control after NAWF = 5 + 350 heat units or 350 heat units past the last effective boll date for your area.</b>	14
	spinosad Tracer 4 SC	2.144-2.88 oz	0.067-0.09	44-60		28
	Cabbage Looper Soybean Looper	<i>Bacillus thuringiensis</i>	Check label.			Economic damage seldom occurs; treat when 25% defoliation occurs and bolls are still being developed.
chlorantraniliprole Prevathon 0.43 SC		20-29 oz	0.067-0.097	4.4-6.4	Do not use an adjuvant with Prevathon.	21
emamectin benzoate Denim 0.16 EC		8-12 oz	0.01-0.015	10.7-16		21
flubendiamide Belt 4 SC		2-3 oz	0.062-0.094	42.7-64	DO NOT apply Belt more than 3 times per season.	28
indoxacarb Steward 1.25 SC		6.7-9.2 fl oz	0.065-0.09	14-19		14



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<b>Spider Mites</b>	<b>Early Season</b> abamectin (R) Agri-Mek 0.15 EC (See generics, p. 26)	4-6 fl oz	0.0046-0.006975	21.3-32	Early season for Agri-Mek is before cotton is 10" tall.	20
	dicofol Dicofol 4 E	1 1/2-3 pt	0.75-1.5	2.66-5.3	Dicofol should not be applied more than two times per season. Treat when 50% of plants are infested. Spot treatments may be beneficial in preventing spread of mites across the field.	30
	fenpyroximate Portal 0.4EC	0.75-1 pt	0.0375-0.05	8-10.7	DO NOT apply more than 2 pints per season.	14
	<b>Late Season</b> abamectin (R) Agri-Mek 0.15 EC (See generics, p. 26)	8-16 fl oz	0.0093-0.0188	8-16	Treat infestations when 50% of plants are infested. Early-season spot treatments may be beneficial in preventing spread of mites across the field. DO NOT apply more than 32 fl oz or more than 2 applications per acre of Agri-Mek in any growing season. DO NOT graze or feed cotton foliage.	20
	bifenthrin (R) Brigade 2 EC (See generics, p. 26)	3.8-6.4 oz	0.06-0.1	20-33	Avoid unnecessary use of pyrethroid insecticides as they can flare spider mite populations.	14
	<b>Season Long</b> etoxazole Zeal	0.66-1.0 oz	0.03-0.045			28
	fenpyroximate Portal 0.4EC	1-2 pt	0.05-0.1	4-8	DO NOT apply more than 2 pints/season.	14
	propargite Comite 6.55	1 1/2-2 pt	1.23-1.64	4.0-5.3	DO NOT apply Comite until cotton is 12 inches tall. When spider mite populations are high, 2 applications at a 5- to 7-day interval are required using 25-40 gals water by ground and 5-15 gals by air.	50
	spiromesifan Oberon 2 SC	8-16 oz	0.125-0.25	8-16		30
	<b>Whitefly</b>	acephate Orthene 90 S (See generics, p. 26) Orthene 97	0.56-1.1 lb 0.52-1.1 lb	0.5-1.0	8-16	
acetamiprid Intruder 70 WP		1.7-2.3 oz	0.75-0.1			28
bifenthrin (R) Brigade 2 EC (See generics, p. 26)		3.8-6.4 oz	0.06-0.1	20-33	Treat infested areas when 50% of the plants are infested.	14
thiamethoxam Centric 40 WG		2 oz	0.05		DO NOT exceed a total of 5 oz of Centric/acre during each growing season. Allow at least 5 days between applications. DO NOT apply Centric within 45 days of neonicotinoid seed treatment (Cruiser, Gaucho, Aerie, Avicta).	21

**COTTON INSECT CONTROL**

<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/Acre</b>	<b>Lb ai/Acre</b>	<b>Acres/Gallon</b>	<b>Application/Comments</b>	<b>Minimum Days From Last Application to Harvest</b>
<b>Brown Stink Bug</b>	acephate Orthene 90 S <i>(See generics, p. 26)</i> Orthene 97	0.83 lb 0.77 lb	0.75		Treat when stink bugs exceed 1 bug per 60 row feet or when 20% of medium bolls display internal signs of feeding and stink bugs are observed. Check at least 25-50 bolls per 40 acres. <b>Terminate sprays for stink bugs after NAWF = 5 + 450 heat units.</b>	21
	bifenthrin (R) Brigade 2 EC <i>(See generics, p. 26)</i>	3.8-6.4 oz	0.06-0.1	20-33		14
	dicrotophos (R) Bidrin 8 EC	8 oz	0.5	16		30
	methyl parathion (R) Methyl 4 EC Penncap-M 2	1 pt 2 pt	0.5	8 4		1
<b>Stink Bugs (Green and Southern Green)</b>	acephate Acephate 90 <i>(See generics, p. 26)</i> Orthene 97	0.83 lb 0.77 lb	0.75		Treat when stink bugs exceed 1 bug per 6 row feet or when 20% of medium bolls display internal signs of feeding and stink bugs are observed. Check at least 25-50 bolls per 40 acres. Many pyrethroids, at bollworm rates, will provide good control of "green" species, but "brown" species are less susceptible to insecticides, specifically pyrethroids. <b>Terminate sprays for stink bugs after NAWF = 5 + 450 heat units.</b>  DO NOT graze after applying Baythroid, Karate, Respect, Mustang Max, Asana XL or Adjourn.	21
	β-cyfluthrin (R) Baythroid XL 1 EC	1.6-2.6 oz	0.013-0.021	48-80		0
	bifenthrin (R) Brigade 2 EC <i>(See generics, p. 26)</i>	3.8-6.4 oz	0.06-0.1	20-33		14
	cyfluthrin (R) Tombstone 2 EC <i>(See generics, p. 26)</i>	1.6-2.6 oz	0.025-0.041	49-80		0
	dicrotophos (R) Bidrin 8 EC	4.8-8.0 oz	0.3-0.5	16-26.7		30
	esfenvalerate (R) Asana XL 0.66 EC <i>(See generics, p. 26)</i>	5.8-9.6 oz	0.03-0.05	13-22		21
	λ-cyhalothrin (R) Karate Z 2.08 CS <i>(See generics, p. 26)</i>	1.6-2.56 oz	0.025-0.04	50-80		21
	ζ-cypemethrin 0.8 EC (R) Mustang Max/Respect	2.64-3.6 oz	0.016-0.022	35.6-48.5		14

**COTTON INSECT CONTROL**

<b>Insect</b>	<b>Insecticide</b>	<b>Formulation/Acre</b>	<b>Lb ai/Acre</b>	<b>Acres/Gallon</b>	<b>Application/Comments</b>	<b>Minimum Days From Last Application to Harvest</b>
<b>Stink Bugs (Green and Southern Green)</b>	methyl parathion (R)		0.5			1
	Methyl 4 EC	1 pt		8		
	Penncap-M 2	2 pt		4		
	oxamyl (R)		0.4			14
	Vydate 3.77 CLV	13.6 oz		9.4		
<b>Multiple Pests</b>	chloryrifos + $\gamma$ -cyhalothrin (R)		0.33-0.76		For control of multiple pests exceeding thresholds, including but not limited to the following: bollworm, aphids, plant bugs and stink bugs.	21
	Cobalt Advanced 2.63 EC	16-38 oz		3.4-8.0		
	dicrotophos/bifenthrin (R)		0.31-0.5			30
	Bidrin XP II	8-12.8 oz		10-16		
	imidacloprid/ $\beta$ -cyfluthrin (R)		0.067-0.075			14
	Leverage 360 SC	2.8-3.2 oz		40-45.7		
	imidacloprid/bifenthrin (R)		0.06-0.12			14
	Brigadier 2 SC	3.8-7.7 oz		16.6-33.7		
	Swagger 1 SC	7.6-15.4 oz		8.3-16.8		
$\gamma$ -cyhalothrin + spinosad (R)					28	
Consero 5.25 SC			32-45			
$\lambda$ -cyhalothrin + chlorantraniliprole (R)		0.417-0.835			21	
Besiege 1.25 SC	6.5-12.5 oz		10.24-19.7			
$\lambda$ -cyhalothrin + thiamethoxam (R)		0.072-0.09			21	
Endigo 2.06 ZC	4.5-5.5 oz		28.4-36.6			