

# ALFALFA: ALFALFA INSECT CONTROL

David Buntin, Research/Extension Entomologist

PEST	INSECTICIDE	MOA	AMOUNT PER ACRE	LBS ACTIVE PER ACRE	REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS								
At-Planting Pests Cutworms, grubs, wireworms	<i>chlorpyrifos</i> Lorsban 15G	1B	6.6 lb	1	24 H/ 21 D	Apply in-furrow at planting for suppression of target pests. Do not cut or graze within 21 days after application. Make only 1 application per year.								
Alfalfa weevil (Hay production)	<i>alpha-cypermethrin</i> Fastac 0.83	3A	2.2-3.8 fl oz	0.012-0.025	12 H/ 3 D	<p>Alfalfa weevil infestations can normally be found from mid-February until after the 1st cutting. Scout 1-2 times/week during this period by randomly pulling 30 whole stems from throughout the field. Place stems in a plastic bucket and dislodge larvae by vigorously flailing the stems against the sides of the bucket. Count the number of larvae. Use plant height to determine your treatment level where:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"><u>Stem Height (inches)</u></td> <td style="text-align: center;"><u>Larvae per stem</u></td> </tr> <tr> <td style="text-align: center;">3-8</td> <td style="text-align: center;">0.5</td> </tr> <tr> <td style="text-align: center;">9-14</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">15 or more</td> <td style="text-align: center;">1.5</td> </tr> </table> <p>Do not treat solely on weevil numbers. Wait until you have damage on about 30% of the terminals before you consider spraying. For sweep net sampling, treat if 20 or more larvae/sweep are present. All weevil sprays should be made with ground equipment with a minimum of 10 gal/A</p> <p><u>Grazing Alfalfa Pastures:</u> Products and rates listed in the table for grazing alfalfa have grazing restrictions of 0-days. Several products listed in the hay section have 7 day grazing restriction. The reduced rate of permethrin may be less effective in controlling larvae than rates recommended for hay production.</p> <p><b>NOTE:</b> Chlorpyrifos products may cause injury to young, rapid growing foliage but normally does not affect yield.</p>	<u>Stem Height (inches)</u>	<u>Larvae per stem</u>	3-8	0.5	9-14	1	15 or more	1.5
	<u>Stem Height (inches)</u>	<u>Larvae per stem</u>												
	3-8	0.5												
	9-14	1												
	15 or more	1.5												
	<i>beta-cyfluthrin</i> Baythroid XL 1.0EC	3A	1.6-2.8 fl oz	0.0125-0.022	12 H/ 7 D									
	<i>cyfluthrin</i> Tombstone 2	3A	1.6-2.8 fl oz	0.025-0.044	12 H/ 7 D									
	<i>chlorpyrifos</i> Lorsban 4E, Chlorfos, Chlorpyrifos, others 4E	1B	1-2 pt	0.5-1	24 H/ 14 D at 1 pt 21 D at 2 pt									
	<i>indoxacarb</i> steward 1.25SC	22	6.7-11.3 fl oz	0.045-0.11	12 H/ 7 D									
	<i>gamma-cyhalothrin</i> Declare 1.25 EC Proaxis 0.5 EC	3A	1.02-.54 fl oz 2.56-3.28 fl oz	0.01-0.015 0.01-0.015	12 H/ 7 D									
<i>lambda cyhalothrin</i> Karate Zeon 2.08 Warrior, Silencer, Lambda & generic 1 ECs	3A	1.28-1.92 fl oz 2.56-3.84 fl oz	0.02-0.03 0.02-0.03	12 H/ 7 D										
<i>methomyl</i> Lannate 2.4 LV Lannate 90 SP	1A	3 pt 1 lb	0.90 0.90	48 H/ 7 D										
<i>permethrin</i> Ambush, generic 3.2EC	3A	8 fl oz	0.2	12 H/ 14 D										
<i>zeta-cypermethrin</i> Mustang Maxx, Respect 0.8EC	3A	2.24-4 fl oz	0.014-0.025	12 H/ 3 D										
Alfalfa weevil (Grazing alfalfa) Products and rates listed have grazing restrictions of 0 to 3 days, see table of pesticide restrictions.	<i>alpha-cypermethrin</i> Fastac 0.83 EC	3A	2.2-3.8 fl oz	0.012-0.025	12 H/ 3 D									
	<i>gamma-cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.02-1.54 fl oz 2.56-3.84 fl oz	0.01-0.015 0.01-0.015	12 H/ 1 D forage									
	<i>lambda cyhalothrin</i> Karate & Zeon 2.08 Warrior, Silencer, Lambda, generic 1 EC	3A	1.28-1.92 fl oz 2.56-3.84 fl oz	0.02-0.03 0.02-0.03	12 H/ 1 D forage									
	<i>permethrin</i> Ambush & generic 3.2EC	3A	4 fl oz	0.1	12 H/ 0 D									
	<i>zeta-cypermethrin</i> Mustang Maxx, Respect 0.8EC	3A	2.24-4 fl oz	0.14-0.025	12 H/ 3 D									

**ALFALFA INSECT CONTROL**

PEST	INSECTICIDE	MOA	AMOUNT PER ACRE	LBS ACTIVE PER ACRE	REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS								
Seed Treatment	<i>thiamethoxam</i> Cruiser 5FS alfalfa	4A	0.001 mg (ai)/ seed		12 H/ --									
Aphids	<i>chlorpyrifos</i> Lorsban, Chlorfos, Chlorpyrifos & generic 4E	1B	1-2 pt	0.5-1	24 H/ 14 D at 1 pt 21 D at 2 pt	In Georgia, especially in the Coastal Plain area, aphids can be extremely abundant without causing economic damage. Some varieties are resistant to aphids. Treat aphids as listed below based on average number per stem at a given stem height. If alfalfa is near the time of cutting consider cutting earlier and treating the stubble if aphids remain after cutting.  <table border="0"> <tr> <td><u>Stem Height (inches)</u></td> <td><u>Aphids per Stem</u></td> </tr> <tr> <td>10-15</td> <td>40-50</td> </tr> <tr> <td>16-20</td> <td>60-80</td> </tr> <tr> <td>21+</td> <td>100-120</td> </tr> </table> <p><b>NOTE:</b> Chlorpyrifos products may cause injury to young rapid growing foliage but normally does not affect yield.</p>	<u>Stem Height (inches)</u>	<u>Aphids per Stem</u>	10-15	40-50	16-20	60-80	21+	100-120
	<u>Stem Height (inches)</u>	<u>Aphids per Stem</u>												
	10-15	40-50												
	16-20	60-80												
	21+	100-120												
	<i>dimethoate</i> Dimethoate 4EC, 400 Dimethoate 2.67EC	1B	0.5-1 pt 0.75-1.5 pt	0.25-0.5 0.25-0.5	12 H/ 10 D									
<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.02-1.54 fl oz 2.56-3.84 fl oz	0.01-0.015 0.01-0.015	12 H/ 7 D										
<i>lambda cyhalothrin</i> Karate Zeon 2.08 Warrior, Silencer, Lambda, others 1	3A	1.28-1.92 fl oz 2.56-3.84 fl oz	0.02-0.03 0.02-0.03	12 H/ 7 D										
<i>malathion</i> Malathion 5EC, 57EC, Malathion 8EC	1B	1.5-2 pt 1-1.25 pt	0.94-1.25 0.94-1.25	12 H/ 0 D										
<i>permethrin</i> Ambush, generic 3.2EC	3A	8 fl oz	0.2	12 H/ 14 D										
Cutworms & Armyworms  (True armyworm, Fall armyworm, Beet armyworm, Yellowstriped armyworm)	<i>alpha-cypermethrin</i> Fastac 0.83	3A	2.2-3.8 fl oz	0.012-0.025	12 H/ 3 D	ARMYWORMS ON SOIL SURFACE: Treat when any of these armyworm pests or combination of pests are found at an average of 2-3/sq ft.  CUTWORMS: Several species. Treat if 3 or more cutworms/sq ft. In standing alfalfa use enough pressure and water for spray penetration to the ground. If near cutting, consider cutting early and treating stubble if infestation remains. Cutworms often will congregate under windrowed hay.  NOTE: Carbaryl: Do not apply when crop is wet. Carbaryl may bleach tender foliage. Do not apply if bees are active.  NOTE: Baythroid and Tombstone for small armyworm larvae only.								
	<i>beta-cyfluthrin</i> Baythroid XL 1.0EC	3A	1.6-2.8 fl oz	0.0125-0.022	12 H/ 7 D									
	<i>carbaryl</i> Sevin XLR Plus, 4F	1A	1-1.5 qt	1-1.5	12 H/ 7 D									
	<i>chlorantraniliprole</i> Coragen 1.67SC Prevathon 0.43 (armyworms only)	28	3.5-5 fl oz 14-20 fl oz	0.047-0.09 0.047-0.09	4 H/ 0 D									
	<i>cyfluthrin</i> Tombstone 2	3A	1.6-2.8 fl oz	0.025-0.044	12 H/ 7 D									
	<i>flubendiamide</i> Belt 4SC (armyworms only)	28	2-3 fl oz	0.0625-0.094	12 H/ 0 D									
	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.02-1.54 fl oz 2.56-3.84 fl oz	0.01-0.015 0.01-0.015	12 H/ 7 D									
	<i>lambda cyhalothrin</i> Karate Zeon 2.08 Warrior, Silencer, Lambda, others 1	3A	1.28-1.92 fl oz 2.56-3.84 fl oz	0.02-0.03 0.02-0.03	12 H/ 7 D									
	<i>methomyl</i> Lannate 2.4 LV Lannate 90 SP	1A	3 pt 1 lb	0.90 0.90	48 H/ 7 D									

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Cutworms & Armyworms (continued)	<i>zeta-cypermethrin</i> Mustang Maxx, Respect 0.8EC	3A	2.24-4 fl oz	0.14-0.025	12 H/ 3 D	
Blister beetles	<i>carbaryl</i> Sevin XLR Plus, 4F	1A	0.5-1 qt	0.5-1	12 H/ 7 D	Treat when 2 beetles/sq ft are found. Beetles tend to aggregate on the weedy margins of fields. Blister beetles bailed up in hay are toxic to livestock, especially horses.  <b>NOTE:</b> Carbaryl: Do not apply when crop is wet. Carbaryl may bleach tender foliage. Do not apply if bees are active.
	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.02-1.54 fl oz 2.56-3.84 fl oz	0.01-0.015 0.01-0.015	12 H/ 7 D	
	<i>lambda cyhalothrin</i> Karate Zeon 2.08 Warrior, Silencer, Lambda, others 1	3A	1.28-1.92 fl oz 2.56-3.84 fl oz	0.02-0.03 0.02-0.03	12 H/ 7 D	
Clover root curculio, Lesser clover leaf weevil, Sweet clover weevil (Adults only)	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.02-1.54 fl oz 2.56-3.84 fl oz	0.01-0.015 0.01-0.015	12 H/ 7 D	CLOVER ROOT CURCULIO, SWEET CLOVER WEEVIL: Damage is caused by larvae in soil feeding on roots and root nodules. No effective control for larvae in soil. Adults feed on foliage causing notches in leaves. Products listed may reduce adult populations.
	<i>lambda cyhalothrin</i> Karate Zeon 2.08 Warrior, Silencer, Lambda, others 1	3A	1.28-1.92 fl oz 2.56-3.84 fl oz	0.02-0.03 0.02-0.03	12 H/ 7 D	
Foliage feeding caterpillars: Green cloverworm and/or Velvetbean caterpillar and/or Alfalfa Webworm and/or Alfalfa caterpillar and/or alfalfa looper	<i>alpha-cypermethrin</i> Fastac 0.83	3A	2.2-3.8 fl oz	0.012-0.025	12 H/ 3 D	FOLIAGE FEEDING CATERPILLARS: For alfalfa caterpillar, green cloverworm, velvetbean caterpillar, alfalfa webworm, and foliage inhabiting armyworms, treat when any of these pests or combinations of pests are found at an average of 2 or more 1/2" long larvae per plant OR defoliation exceeds 10%.  <b>NOTE:</b> Carbaryl: Do not apply when crop is wet. Carbaryl may bleach tender foliage. Do not apply if bees are active.
	<i>beta-cyfluthrin</i> Baythroid XL 1.0EC	3A	1.6-2.8 fl oz	0.0125-0.022	12 H/ 7 D	
	<i>carbaryl</i> Sevin XLR Plus, 4F	1A	0.5-1 qt	0.5-1	12 H/ 7 D	
	<i>chlorantraniliprole</i> Coragen 1.67SC Prevathon 0.43	28	3.5-5 fl oz 14-20 fl oz	0.047-0.09 0.047-0.09	4 H/ 0 D	
	<i>cyfluthrin</i> Tombstone 2	3A	1.6-2.8 fl oz	0.025-0.044	12 H/ 7 D	
	<i>flubendiamide</i> Belt 4SC	28	2-3 fl oz	0.0625-0.094	12 H/ 0 D	
	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.02-1.54 fl oz 2.56-3.84 fl oz	0.01-0.015 0.01-0.015	12 H/ 7 D	
	<i>lambda cyhalothrin</i> Karate Zeon 2.08 Warrior, Silencer, Lambda, others 1	3A	1.28-1.92 fl oz 2.56-3.84 fl oz	0.02-0.03 0.02-0.03	12 H/ 7 D	
	<i>methomyl</i> Lannate 2.4 LV Lannate 90 SP	1A	3 pt 1 lb	0.90 0.90	48 H/ 7 D	

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Foliage feeding caterpillars: Green cloverworm and/or Velvetbean caterpillar and/or Alfalfa Webworm and/or Alfalfa caterpillar and/or alfalfa looper (continued)	<i>permethrin</i> Ambush, generic 3.2EC	3A	8 fl oz	0.2	12 H/ 14 D											
	<i>zeta-cypermethrin</i> Mustang Maxx, Respect 0.8EC	3A	2.24-4 fl oz	0.14-0.025	12 H/ 3 D											
Grasshoppers	<i>alpha-cypermethrin</i> Fastac 0.83	3A	2.2-3.8 fl oz	0.012-0.025	12 H/ 3 D	Treat when heavy grasshopper infestations are causing excess defoliation. Grasshoppers often invade fields from adjacent weedy areas; border treatments are sometimes appropriate.  <b>NOTE:</b> Chlorpyrifos products may cause injury to young rapid growing foliage but normally does not affect yield.										
	<i>beta-cyfluthrin</i> Baythroid XL 1EC	3A	2-2.8 fl oz	0.0155-0.022	12 H/ 7 D											
	<i>chlorpyrifos</i> Lorsban, Chlorfos, Chlorpyrifos & generic 4E	1B	1 pt	0.5	24 H/ 14 D at 1 pt											
	<i>cyfluthrin</i> Tombstone 2	3A	2-2.8 fl oz	0.031-0.044	12 H/ 7 D											
	<i>dimethoate</i> Dimethoate 4EC, 400 Dimethoate 2.67EC	1B	0.5-1 pt 0.75-1.5 pt	0.25-0.5 0.25-0.5	12 H/ 10 D											
	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.02-1.54 fl oz 2.56-3.84 fl oz	0.01-0.015 0.01-0.015	12 H/ 7 D											
	<i>lambda cyhalothrin</i> Karate Zeon 2.08 Warrior, Silencer, Lambda, others 1	3A	1.28-1.92 fl oz 2.56-3.84 fl oz	0.02-0.03 0.02-0.03	12 H/ 7 D											
	<i>malathion</i> Malathion 5EC, 57EC, Malathion 8EC	1B	1.5-2 pt 1-1.25 pt	0.94-1.25 0.94-1.25	12 H/ 0 D											
	<i>zeta-cypermethrin</i> Mustang Maxx, Respect 0.8EC	3A	2.8-4 fl oz	0.0175-0.025	12 H/ 3 D											
Leafhoppers (potato leafhopper, aster leafhopper)	<i>alpha-cypermethrin</i> Fastac 0.83	3A	2.2-3.8 fl oz	0.012-0.025	12 H/ 3 D	Potato leafhopper feeding generally causes V-shaped yellow leaf discoloration that reduces yield. Treat when sweep net samples show leafhopper numbers for a given stem height exceed the following levels:  <table border="0"> <tr> <td><u>Stem Height (inches)</u></td> <td><u>Hoppers per sweep</u></td> </tr> <tr> <td>3-7</td> <td>0.5</td> </tr> <tr> <td>8-10</td> <td>1</td> </tr> <tr> <td>11-14</td> <td>2</td> </tr> <tr> <td>14+</td> <td>4 or cut hay early</td> </tr> </table> <b>NOTE:</b> Chlorpyrifos products may cause injury to young rapid growing foliage but normally does not affect yield.	<u>Stem Height (inches)</u>	<u>Hoppers per sweep</u>	3-7	0.5	8-10	1	11-14	2	14+	4 or cut hay early
	<u>Stem Height (inches)</u>	<u>Hoppers per sweep</u>														
	3-7	0.5														
	8-10	1														
	11-14	2														
14+	4 or cut hay early															
<i>beta-cyfluthrin</i> Baythroid XL 1EC	3A	1.6-2.8 fl oz	0.0125-0.022	12 H/ 7 D												
<i>cyfluthrin</i> Tombstone 2	3A	1.6 fl oz	0.013	12 H/ 7 D												
<i>dimethoate</i> Dimethoate 4EC, 400 Dimethoate 2.67EC	1B	0.5-1 pt 0.75-1.5 pt	0.25-0.5 0.25-0.5	12 H/ 10 D												
<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.02-1.54 fl oz 2.56-3.84 fl oz	0.01-0.015 0.01-0.015	12 H/ 7 D												

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Leafhoppers (potato leafhopper, aster leafhopper) (continued)	<i>lambda cyhalothrin</i> Karate Zeon 2.08 Warrior, Silencer, Lambda, others 1	3A	1.28-1.92 fl oz 2.56-3.84 fl oz	0.02-0.03 0.02-0.03	12 H/ 7 D	
	<i>permethrin</i> Ambush, generic 3.2EC	3A	8 fl oz	0.2	12 H/ 14 D	
	<i>zeta-cypermethrin</i> Mustang Maxx, Respect 0.8EC	3A	2.24-4 fl oz	0.14-0.025	12 H/ 3 D	
Mites	<i>dimethoate</i> Dimethoate 4EC, 400 Dimethoate 2.67EC	1B	1 pt 1.5 pt	0.5 0.5	12 H/ 10 D	<b>Mite control may be difficult.</b> Treat if mites are causing leaf discoloration over large areas of the field. If near cutting, consider cutting early and treating stubble if infestation remains. Apply by ground with 25 or more gal/A. Karate and Declare are for suppression only.
	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.54 fl oz 3.84 fl oz	0.015 0.015	12 H/ 7 D	
	<i>lambda cyhalothrin</i> Karate Zeon 2.08 Warrior, Silencer, Lambda, others 1	3A	1.92 fl oz 3.84 fl oz	0.03 0.03	12 H/ 7 D	
Threecornered alfalfa hopper	<i>alpha-cypermethrin</i> Fastac 0.83	3A	2.2-3.8 fl oz	0.012-0.025	12 H/ 3 D	Treat when adults and/or nymphs are found on 10% of seedling alfalfa plants or if adults or nymphs are girdling and killing 10% of the lateral stems in a field.  <b>NOTE:</b> Carbaryl: Do not apply when crop is wet. Carbaryl may bleach tender foliage. Do not apply if bees are active.
	<i>beta-cyfluthrin</i> Baythroid XL 1.0EC	3A	1.6-2.8 fl oz	0.0125-0.022	12 H/ 7 D	
	<i>carbaryl</i> Sevin XLR Plus, 4F	1A	1 qt	1	12 H/ 7 D	
	<i>cyfluthrin</i> Tombstone 2	3A	1.6-2.8 fl oz	0.025-0.044	12 H/ 7 D	
	<i>gamma cyhalothrin</i> Declare 1.25 Proaxis 0.5	3A	1.02-1.54 fl oz 2.56-3.84 fl oz	0.01-0.015 0.01-0.015	12 H/ 7 D	
	<i>lambda cyhalothrin</i> Karate Zeon 2.08 Warrior, Silencer, Lambda, others 1	3A	1.28-1.92 fl oz 2.56-3.84 fl oz	0.02-0.03 0.02-0.03	12 H/ 7 D	
	<i>zeta-cypermethrin</i> Mustang Maxx, Respect 0.8EC	3A	2.24-4 fl oz	0.014-0.025	12 H/ 3 D	
<b>Premixed or Co-Packed Insecticides:</b> Products listed are available as premixes or co-packages of two insecticide active ingredients. User should check mixture labels for active ingredient, specific use rates, target pests, and precautions.						
<b>Brand name (active ingredients)</b>				<b>Range of formulation rates</b>		
Besiege <i>lambda-cyhalothrin, clorantraniliprole</i>				5-9 fl oz/A		
Cobalt Advanced <i>chlorpyrifos, gamma-cyhalothrin</i>				13-42 fl oz/A		
Stallion <i>chlorpyrifos, zeta-cypermethrin</i>				5-11.75 fl oz/A		