

**SMALL GRAIN INSECT CONTROL**  
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Pest	Product	Rate /acre	Comments	
aphids	<b><u>Seed Treatments</u></b>		Seed treatments provide early season control of aphids and barley yellow dwarf. Seed treatments also suppress Hessian fly, but may not control heavy infestations. For Hessian fly suppression 1.6 fl oz / 100lb Gaucho 600 or 1.33 fl oz / 100lb Cruiser is recommended.	
	Gaucho 600	0.8 fl oz / 100 lb		
	Gaucho XT	3.4 fl oz / 100 lb		
	Cruiser 5FS	1.0 fl oz / 100 lb		
	<b><u>Foliar</u></b>	Karate Z	1.3 – 1.9 oz	Aphid treatments are most likely to be profitable on early-planted high-yield-potential wheat (60+ bu/ac). The key pest is the <b>oat-bird cherry aphid</b> which is the major vector or carrier of barley yellow dwarf virus. This aphid typically has a dark green body with reddish area on the “rear end”.
	Warrior II	(1 gal / 100-66 ac)		
Warrior 1EC		2.6 – 3.8 oz	(1gal /50-33 ac)	
Baythroid XL 1EC		2.4 fl oz	<b>Treatment is recommended on high yield wheat if you find 8 oat-bird cherry aphids per row foot prior to jointing.</b>	
		(1 gal / 53 ac)		
Proaxis 0.5		2.6 – 3.8 fl oz	Karate and Warrior are superior to other foliar aphid treatments for suppression of barley yellow dwarf virus under SC conditions. Applying these products with top-dress N to wheat in early February will prevent most virus transmission under SC conditions.	
		(1 gal / 49-33 ac)		
			<b>Oats are more susceptible to barley yellow dwarf than wheat but none of the effective foliar aphid treatments are labeled on oats. Gaucho seed treatment can be used on oats.</b>	
			<b>English grain aphids</b> (light green bodies with long black “exhaust pipes” protruding upward from rear end) increase during jointing and move to heads as they emerge in April.	
			<b>The treatment guideline for English grain aphid is 2-3/stem during jointing; 5/stem at head emergence to blooming; 10/stem at milk; dough stage is too late to spray.</b>	

<b>Armyworm</b>	Baythroid XL 1 EC	1.8 – 2.4 fl oz	<b>Treat when armyworm populations reach 2 per drill ft.</b> True armyworm infestations usually occur after flag leaf emergence.  Karate or Warrior treatment also provides season-long aphid control.
	Sevin 80S	1.75 lb	
	Sevin XLR	1.5 qt	
	Sevin 4F	1.5 qt	
	Karate	1.9 oz	
	Warrior II	1.9 oz	
	Warrior 1EC	3.8 oz	
Lannate LV			
Lannate 90 SP	1.5 pt		
		0.5 lb	
Mustang MAX 0.8 EC	3.2 oz		
Proaxis 0.5	3.2 fl oz		
<b>Fall Armyworm</b>	Sevin 80S	1.75 lb	<b>Treat if the stand is threatened before frost.</b> Fall armyworm infestations may occur on early planted seedling stage small grain.
	Sevin XLR	1.5 qt	
	Sevin 4F	1.5 qt	
	Karate	1.9 oz	
	Warrior II	1.9 oz	
	Warrior 1EC	3.8 oz	
	Lannate LV	1.5 pt	
Lannate 90 SP	0.5 lb		
Proaxis 0.5	3.2 fl oz		
<b>Cereal Leaf Beetle</b>	Baythroid XL	1.0 – 1.8 fl oz	Cereal leaf beetles first hatch out in March and peak feeding occurs in April. <b>Treat if you have 1 larva on every other stem (average of 0.5 larvae / stem).</b>  Karate or Warrior also provide season-long aphid control.
	Malathion 57 EC	1.5 pt	
	Malathion 5EC	1.5 pt	
	Malathion 8EC	1 pt	
	Karate	1.3 - 1.9 oz	
	Warrior II	1.3 - 1.9 oz	
	Warrior 1EC	2.6 - 3.8 oz	
Mustang MAX 0.8 EC	2.6 - 3.2 oz		
Proaxis 0.5	2.6 – 3.8 fl oz		
<b>Grasshoppers</b>	Baythroid XL	2.4 fl oz	Grasshoppers typically attack wheat after flag leaf emergence. There are no well established thresholds for grasshopper treatment. Prevent flag leaf defoliation.
	Sevin 80S	1.25-1.75 lb	
	Sevin XLR	1.0-1.5 qt	
	Sevin 4F	1.0-1.5 qt	
	Karate	1.9 oz	
	Warrior II	1.9 oz	
	Warrior T 1EC	3.8 oz	
Malathion 8 EC	1.25 pt		

	Malathion 57 EC	2.0 pt	
	Methyl Parathion 4 EC	1 pt	
	Pennacap-M	2-3 pt 3.2 – 4.0 oz	
	Mustang MAX 0.8 EC		
	Proaxis 0.5	3.8 fl oz	
<b>Hessian Fly</b>	<b>Varietal resistance is the most economical way to manage Hessian fly.</b> HF resistance declines over time and varies by location depending on the predominant races of Hessian fly present. See table below. Treat susceptible varieties on farms with a history of economic damage. Proximity to wheat stubble from previous crop increases HF risk. Wheat planted in the coastal plain before 15 Nov is most susceptible to HF. Oats are immune to Hessian fly.		
<b>Hessian Fly</b>	<u>Seed Treatment</u> Gaucho 600 Gaucho XT Cruiser 5FS	1.6 fl oz/100 lb 3.4 fl oz/100 lb 1.33 fl oz/100 lb	Seed treatments will suppress but not control Hessian fly. Seed treatments also provide early season control of aphids and barley yellow dwarf. Gaucho XT also controls smut and certain seedling diseases, but only has one-half the insecticide active ingredient of the 1.6 oz rate of Gaucho 600. Adding 0.8 oz Gaucho 600 to Gaucho XT gives the same level of a.i. as 1.6 oz Gaucho 600.
	Gaucho XT + Gaucho 600	3.4 fl oz + 0.8 fl oz / 100 lb	
	<u>Foliar</u> Karate Warrior II Warrior 1EC	1.9 oz 1.9 oz 3.8 oz	Foliar treatment at early post emergence (2-4 leaf stage) may reduce fall infestation on susceptible varieties. March treatment (jointing) may reduce spring infestations. Control with either timing is erratic.

<b>Small Grain Insecticide Use Precautions</b>				
<b>Active Ingredient</b>	<b>Brand Name</b>	<b>Pre-Harvest (Days)</b>	<b>Pre-Grazing (Days)</b>	<b>Small Grains Labeled</b>
beta-cyfluthrin	Baythroid XL 1 EC	30	7	wheat
carbaryl	Sevin	21	7	wheat, triticale
imidacloprid	Gaucho	45	45	wheat, oats, barley, rye
lambda-cyhalothrin	Karate Z 2.08 Warrior	30	7	wheat, oats, barley, rye, triticale
gamma cyhalothrin	Proaxis 0.5	30	7	wheat, triticale
malathion	Malathion	7	7	wheat, oats, barley, rye
methomyl	Lannate	7	10	wheat, oats, barley, rye
methyl parathion	Methyl 4EC Pennacap-M	15	15	wheat, oats, barley, rye
spinosad	Tracer	21	14	wheat, rye, triticale, barley, oats
thiamethoxam	Cruiser 5FS	seed treat.	no grazing restriction	wheat, barley
zeta-cypermethrin	Mustang MAX 0.8 EC	14	14	wheat

### Hessian Fly Resistance of Wheat Varieties\*

<b>Poor**</b>	<b>Fair**</b>	<b>Good**</b>	<b>Good + L**</b>
<b>AGS 2031</b> <b>AgriPro Panola</b> <b>Coker 9436, 9511,</b> <b>9553, 9663, 9700</b> <b>Pioneer 26R15,</b> <b>26R22, 26R24,</b> <b>26R87</b> <b>Southern States</b> <b>520, 8404</b> <b>USG 3295</b> <b>Vigoro Dominion,</b> <b>McIntosh, Tribute</b>	<b>AGS 2020</b> <b>AgriPro Crawford</b> <b>Pioneer 26R12,</b> <b>26R31</b> <b>Southern States</b> <b>8308</b> <b>USG 3209, 3592</b>	<b>AGS 2000, 2485,</b> <b>2060</b> <b>AgriPro Magnolia</b> <b>Pioneer 2580,</b> <b>26R38</b> <b>Roane</b> <b>Southern States</b> <b>8641</b> <b>USG 3209,</b>	<b>AGS 2010, 2026</b> <b>Pioneer 26R61</b> <b>Vigoro Oglethorpe</b>

\* Based primarily on data provided by Dr. David Buntin (Univ. of Georgia Extension Entomologist).

\*\* Poor = no resistance; Fair = some resistance, but damaged by severe infestations; Good = resistant to the predominant HF races in the southern coastal plain of S. C. (roughly below Lake Marion); Good + L = resistant in southern coastal plain, and some resistance to the race L biotype predominant in the northern coastal plain of S. C. (roughly above Lake Marion); Note: In 2008, HF caused economic injury even in some fields of Pioneer 26R61 in areas of Sumter and Lee Counties.