



COOPERATIVE EXTENSION SERVICE

UNIVERSITY OF KENTUCKY • COLLEGE OF AGRICULTURE

ENT -47

INSECTICIDE RECOMMENDATIONS FOR SMALL GRAINS - 1999 (Barley, Oats, Wheat)

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Small grains are multi-purpose crops that occupy an important place in production systems. Small grains are attacked by a wide variety of insect pests, but good cultural practices can greatly reduce the potential for economic losses:

- ! Plant at the proper time (see AGR-18). Planting too early can result in problems with fall armyworms, Hessian flies, aphids, and diseases carried by insects. Review ENT-20, Insect Pests of Small Grains and Grain Sorghum.
- ! Use recommended seeding rates. Stands that are too thick provide good overwintering sites for pests and are prone to armyworm infestations in the spring.
- ! Do not apply excess nitrogen- luxuriant growth promotes aphid problems.
- ! Monitor fields regularly and know the difference between insect pests and beneficial species.
- ! Check with your County Extension Agent for Agriculture about training in pest identification, damage thresholds, and control measures (Integrated Pest Management and Pesticide Applicator training).

Use Insecticides Properly

This publication is a guide, it is not a substitute for a product label. Before using an insecticide, read the entire label. Note sections containing directions for use and the warning and precautionary statements. Be thoroughly familiar with the proper safety equipment available (i.e., goggles, protective suits, respirators, etc.) and necessary. Those involved in control operations should always know the name of the chemical being used and the particular concentration being applied.

Chemicals listed in bold italics are **Restricted Use** pesticides. Persons buying, using, or supervising the use of these pesticides must be certified as competent to do so. Certification training is available from your county extension agent for agriculture.

Small Grains Grown for Grain

Preplant insecticides are rarely needed. Use only on very early plantings in fields with a history of barley yellow dwarf virus problems.

Preplant Soil Treatment for Aphids

Insecticide	Application Rate	Days to Harvest
<i>Di-Syston 15% G</i> (disulfoton)	6.7 lbs	75 wheat
<i>Di-Syston 8E</i>	0.25 fl oz/1000ft-up to 1 pt/A	60 barley
<i>Thimet 20% G</i> (phorate)	1.2 oz/1,000' row	70 forage

Di-Syston: Wheat and Barley only. Make only one application by drilling or broadcasting granules at planting time in the fall. Highly toxic. ***Thimet***: Wheat only. Apply granules in the seed furrow at planting.

Di-Syston 8E: Do not graze or cut wheat.

Foliar Treatments for Aphids

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Insecticide	Rate per Acre	Days to Harvest
<i>Di-Syston 8E</i>	½ to 1 pt (Barley) 4 to 12 fl oz (Wheat)	30 30
<i>Lannate 90 WSP</i> (methomyl)	1/4 to ½ lb	7
Malathion 57% EC (malathion)	1-½ to 2 pts	7
<i>Penncap-M</i> (methyl parathion)	2 to 3 pts	15
<i>Warrior 1 EC</i>	2.56 to 3.84 fl oz	30

Treat only if large numbers of aphids are present and plants are exhibiting stress symptoms, or if there are an average of 50 or more aphids per head during the grain filling stage. Delayed planting to October 15 will reduce aphid pressure in the fall. Use ***Warrior*** on wheat only. Use ***Di-Syston*** on wheat and barley only. Do not graze after ***Di-Syston*** application.

Foliar Treatments for Armyworms

Insecticide	Rate per Acre	Days to Harvest
Dipel ES	2 to 4 pts	0
Javelin WG	1 to 1-1/2 lbs	0
<i>Lannate WSP</i>	1/4 to ½ lbs	7
Malathion 57 EL	2 pts	7
<i>Penncap M</i>	2 to 3 pts	15
Sevin 80 WSP (carbaryl) Sevin XLR Plus	1-1/4 to 1-7/8 lbs 1 to 1-1/2 qts	21
<i>Warrior 1 EC</i>	2.56 to 3.84 fl oz	30

Treatment is recommended if there are 4 worms ½" - 3/4" long per square foot, or if there is head clipping. Check field edges and lodged grain first. If worms are present, sample the whole field. Use Sevin and ***Warrior 1 EC*** on wheat only.

Foliar Treatment for Cereal Leaf Beetle

Insecticide	Rate per Acre	Days to Harvest
Lannate WSP	1/4 to ½ lbs	7
Sevin 80 WSP Sevin XLR Plus	1-1/4 lbs 1 qts	21
Warrior	2.56 to 3.84 fl oz	30

Treatment is justified if population size reaches one cereal leaf beetle (adult or larvae) per stem. Use Sevin and **Warrior 1 EC** and malathion in wheat only. Use Sevin on wheat only.

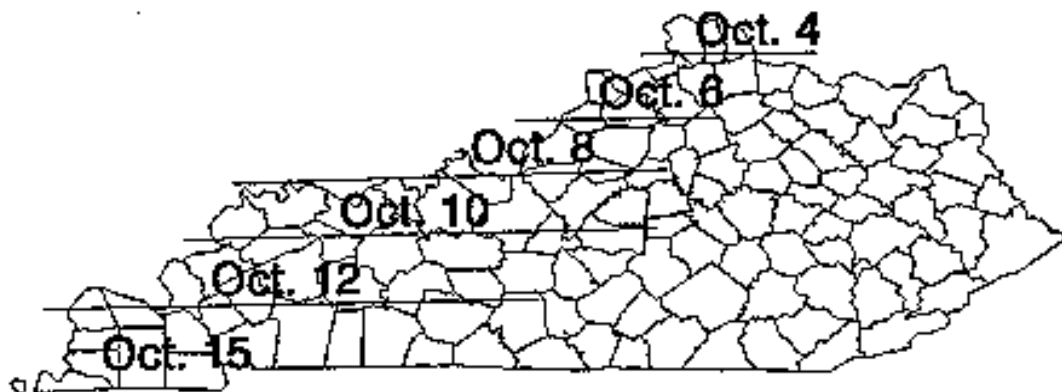
Foliar Treatments for Grasshoppers

Furadan 4F	1/4 to ½ pt	Spray before heads emerge
PennCap M	2 to 3 pts	15
Malathion 57% EC	1-1/2 to 2 pts	7
Sevin 80 WSP Sevin XLR Plus	2/3 to 1-7/8 lbs ½ to 1-1/2 qts	21
Warrior 1 EC	2.56 to 3.84 fl oz	30

Do not feed forages treated with **Furadan** to livestock. Use Sevin and **Warrior** on wheat only. Avoid using a wheat cover crop before October 15.

For **HESSIAN FLY** problems; a delay in planting until October 10 (north) or October 15 (south) will control this fly. No chemical treatments are recommended.

Map showing normal safe dates for sowing wheat to escape injury by the Hessian fly. These are approximate and will vary some from year to year.



Products for Control of Insect Pests in Stored Small Grains

Information in these tables is subject to change at any time. Always check the label of the product to insure that you use it correctly. There are other brand names and formulations of the products listed below. These are only the most common forms. If you wish to use a similar product check the label to insure it is registered for the intended use.

NOTE: The "stored grain" label for Liquid formulations of malathion is being withdrawn. Current stocks, with the correct label may be used until the stock is exhausted. Unlabeled product may not be used on stored grain.

Bin Surface Applications -- dilute with water to make enough spray to treat 1,000 sq ft of bin surface. Use only in empty bins.

Malathion 57EC	½ pt in 2 gal water
Methoxychlor 2EC	1 gal in 10 gal water
Reldan 4E	½ pt in 3 gal water
Tempo 2	0.27 fl oz - 8 milliliters

Grain Protectants -- applied to stored small grains. Amount per 1,000 bu

Malathion 57E	1 pt	Oats, Wheat
Reldan 3D	10 lbs	Barley, Oats, Wheat
Reldan 4E	11.5 fl oz	Wheat
	9.2 fl oz	Barley
	6.2 fl oz	Oats

Grain Surface Treatments -- for Indian Meal Moth in stored small grains.

Dipel 2X	1 lb / 1,000 ft sq (mixed to 4 inches deep)
Malathion 57E	½ pt / 1,000 ft sq (mixed to 4 inches deep)
Reldan 3D	7 lbs / 1,000 sq ft
Javelin WG	14 oz / 1,000 ft sq (mixed to 4 inches deep)

Amount of Fumigant -- to be applied/1,000 bu stored small grains.

Aluminum phosphide	
tablets	25 - 180 / 1,000 bu
pellets	120 - 900 / 1,000 bu

Where trade names are used no endorsement is intended, nor criticism implied of similar products not names.

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