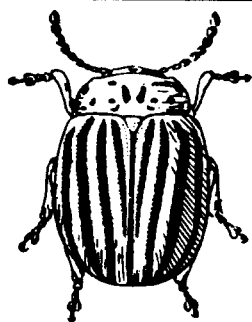


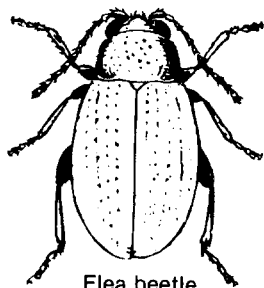
Garden Insect Control Guide

Dean K. McBride
 Extension Entomologist

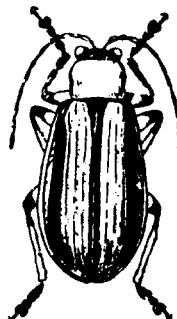
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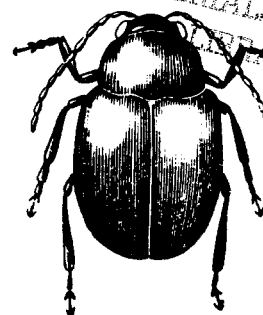
Colorado potato beetle or potato bug



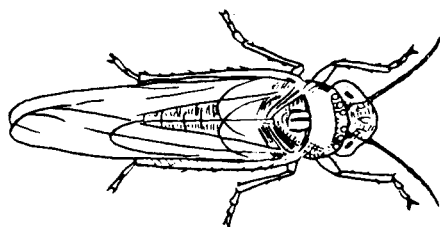
Flea beetle



Cucumber beetle



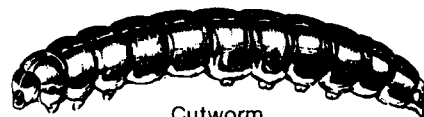
Potato flea beetle



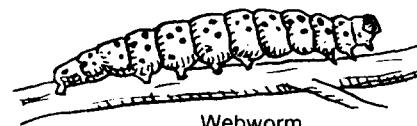
Potato leafhopper



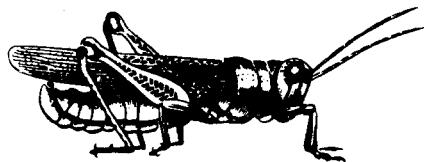
Thrips



Cutworm



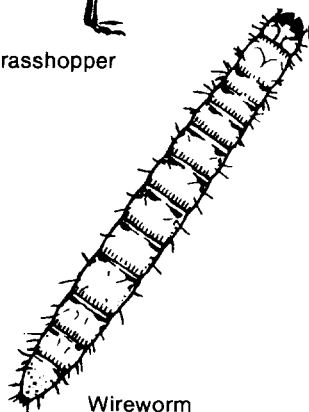
Webworm



Differential grasshopper



European corn borer



Wireworm



Cabbage looper or inchworm

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NDSU EXTENSION SERVICE

North Dakota State University, Fargo, ND 58105

This bulletin is intended for use in providing helpful information for the control of garden insect pests. Use chemical control only when necessary and always read the label on the package before applying the product.

Pest	Crops	Insecticide To Use and Rates of Application¹	Remarks
Aphids	Cabbage, corn, cucumbers, melons,	Malathion: 2 tsps. 57% emulsifiable concentrate	Observe a 3-7 day waiting period depending on vegetable.
		Diazinon (Spectracide): Several formulations. Follow label directions.	Up to 7 days waiting period on some vegetables, see label instructions.
Asparagus Beetle	Asparagus	Malathion: 2 tsps. 57% emulsifiable concentrate	One day waiting period.
		Carbaryl (Sevin): 2 Tbls. 50% wettable powder	One day waiting period.
Cucumber Beetles	Melons, cucumbers, squash. (These vegetables are easily injured by most insecticides; therefore, apply light application only.)	Methoxychlor: 2 Tbls. 50% wettable powder	Seven day waiting period.
		Diazinon (Spectracide): Several formulations. Follow label directions.	Up to 7 days waiting period on some vegetables, see label instructions.
		Carbaryl (Sevin): 2 Tbls. 50% wettable powder	One day waiting period.
Colorado Potato Beetle & Flea Beetle	Potatoes	Methoxychlor: 2 Tbls. 50% wettable powder	Treat for Colorado potato beetle as soon as brick colored larvae appear. Seven day waiting period. No waiting period.
		Carbaryl (Sevin): 1 Tbls. 50% wettable powder.	
		Diazinon (Spectracide): Several formulations. Follow label directions.	Thirty-five day waiting period.
European Corn Borer	Corn, tomato, potato and peppers	Carbaryl (Sevin): 3 Tbls. 50% wettable powder	Make first application when 50 or more egg clusters are found per 100 plants. Egg masses are found on underside of leaves. Use 1½ gals. of spray per 100 plants. Repeat treatment 3 times at 5 day intervals beginning about July 4.
		<i>Bacillus thuringiensis</i> (Dipel, Biotrol, Thuricide)	Apply according to label instructions.
Flea Beetle	Tomatoes, potatoes, radishes	Carbaryl (Sevin): 1 Tbls. 50% wettable powder	Waiting period is 3 days.
		Methoxychlor: 2 Tbls. 50% wettable powder	Waiting period is 7 days.
		Diazinon (Spectracide): Several formulations. Follow label directions	Waiting periods: Tomatoes - 1 day Potatoes - 35 days Radishes - 10 days
Corn Ear Worm	Corn	Carbaryl (Sevin): 3 Tbls. 50% wettable powder	If control is necessary, mix 3 Tbls. carbaryl (Sevin) 50% wettable powder per gallon of water. Direct sprays at ear zone and silks every 4 days during silking until silks dry up.
		<i>Bacillus thuringiensis</i> (Dipel, Biotrol, Thuricide)	Apply according to label instructions.

Pest	Crops	Insecticide To Use and Rates of Application ¹	Remarks
Grasshopper	General feeders	Carbaryl (Sevin): 3 Tbls. 50% wettable powder	May be used within 3 days of harvest.
		Malathion: 2 tsps. 57% emulsifiable concentrate	May be applied to vegetables within 3 days of harvest.
		Diazinon (Spectracide): Several formulations Follow label directions	Up to 10 days waiting period on some vegetables; see label instructions.
Leafhoppers	General feeders	Malathion: 2 tsps. 25% wettable powder or 2 tsps. 57% emulsifiable concentrate.	Wait at least 4-7 days before harvesting.
		Carbaryl (Sevin): 3 Tbls. 50% wettable powder	May be used within 3 days of harvest.
		Methoxychlor: 2 Tbls. 50% wettable powder	Seven day waiting period.
		Diazinon: 2 tsps. 25% emulsifiable concentrate	Up to 10 days waiting period on some vegetables; see label instructions.
Cabbage Looper & Cabbage Worm	Cabbage and related crops	Malathion: 2 tsps. 57% emulsifiable concentrate	Seven day waiting period. Wait 14 days for leafy vegetables.
		Carbaryl (Sevin): 3 Tbls. 50% wettable powder	May be used within 3 days of harvest.
		<i>Bacillus thuringiensis</i> (Dipel, Biotrol, Thuricide)	Apply according to label instructions. No waiting period.
		Diazinon (Spectracide): Several formulations Follow label instructions	Seven day waiting period.
Onion Thrips	Onions	Diazinon (Spectracide): Several formulations Follow label directions	Spray every 10-14 days as needed. Wait 10 days to harvest.
		Malathion: 2 tsps. 57% emulsifiable concentrate	Repeat application every 7-10 days. Three day waiting period.
Mites (Red Spider)	Before treatment, check the label of the pesticide you intend to use to be sure that it is registered for the vegetable you want to treat as mites will attack various vegetables.	Malathion: 2 tsps. 57% emulsifiable concentrate	Waiting period varies depending upon vegetable treated.
		Diazinon (Spectracide): Several formulations Follow label directions	Waiting period varies depending upon vegetable treated.
Hornworm	Tomatoes	Carbaryl (Sevin): 2 Tbls. 50% wettable powder	One day waiting period.
		<i>Bacillus thuringiensis</i> (Dipel, Biotrol, Thuricide)	Use according to label instructions.

SOIL TREATMENTS FOR GARDEN PESTS

Pest	Crops	Insecticide To Use & Rates of Application ¹	Remarks
Cutworms	General feeders	Carbaryl (Sevin): 5% bait (as directed). Sevin 50% wettable powder at 3-4 Tbls. per gal. water.	If cutworms appear after planting, apply insecticide to soil surface around plants.
		Diazinon (Spectracide): Several formulations Follow the label	Use as preplant broadcast, work into upper 3-4 inches of soil for surface cutworms – 3-6 inches for subterranean cutworms.
		<i>Bacillus thuringiensis</i> (Dipel, Biotrol, Thuricide)	Apply according to label instructions.
Cabbage or Onion Maggot	Cabbage or onion	Diazinon (Spectracide): Several formulations	Apply as a preplant broadcast treatment and work into the top 3-4 inches of soil.
White Grubs, Wireworms	General feeders	Diazinon (Spectracide): Several formulations Follow the label	Apply broadcast just before planting. Immediately work into soil 4-8 inches. Waiting period varies depending upon vegetable treated.
Slugs ²	General feeders	Metaldehyde 4% liquid bait	Apply a line of drops 3-4 inches apart on soil between vegetable plants. Do not apply directly onto plants.
		Metaldehyde 3.25% dry pellet bait: 1 lb. per 1,000 sq. ft.	Water lightly after application. Do not contaminate edible plant parts.
		Stale beer	Bury pans near dense vegetation so that top of the rim is flush with soil surface. Fill pans to rim level with beer. Remove slugs frequently.

¹Rates of application for dusts are to 50 feet of garden row. Rates of application for wettable powders and emulsifiable concentrates are for 1 gallon of water.

²Avoid watering garden daily, allow the surface to dry between waterings. The removal of excess plant debris, stones, etc. aids in eliminating hiding places for slugs.



Use Pesticides Safely
FOLLOW THE LABEL

BE A COMPETENT APPLICATOR OF PESTICIDES

- ☐ READ AND UNDERSTAND PESTICIDE LABELS AND LABELING.
- ☐ RECOGNIZE COMMON PESTS AND THE DAMAGES THEY CAUSE.
- ☐ APPLY PESTICIDES ACCORDING TO LABEL INSTRUCTIONS.
- ☐ RECOGNIZE ENVIRONMENTALLY HAZARDOUS SITUATIONS TO AVOID.
- ☐ RECOGNIZE POISONING SYMPTOMS.

To become a certified pesticide applicator contact your county agent.

Helping You Put Knowledge To Work

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