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Common

INSECTS AND DISEASES

Attacking Garden Plants

MICHIGAN STATE COLLEGE
EXTENSION SERVICE
EAST LANSING

TREATMENTS RECOMMENDED for DISEASES of VICTORY GARDEN CROPS

<i>VEGETABLE</i>	<i>FIELD TREATMENT</i>	<i>SEED TREATMENT</i>
Asparagus.....	None	None
Beans (snap).....	None	None
Broccoli.....	Semesan or Arasan	None
Brussels sprouts.....	Semesan or Arasan	None
Cabbage.....	Semesan or Arasan	None
Cauliflower.....	Semesan or Arasan	None
Celery.....	Semesan or Arasan	Fixed copper-sulfur dust or bordeaux mixture
Corn.....	Semesan Jr. or Barbak	None
Cucumber.....	Semesan or Arasan	Fixed copper spray or dust
Eggplant.....	Semesan or Arasan	Fixed copper spray or dust
Onion.....	Semesan or Arasan	None
Peas.....	Spargon, Semesan or Arasan	None
Pepper.....	Semesan or Arasan	Fixed copper spray or dust
Potato.....	Semesan Bel	Bordeaux mixture; 20-80 copper-lime dust, or fixed copper spray or dust
Rutabaga.....	Semesan or Arasan	None
Squash.....	Semesan or Arasan	None
Tomato.....	Semesan or Arasan	Fixed copper spray or dust

COMMON GARDEN INSECTS

VEGETABLE	INSECTS	SEASON	CONTROL
Asparagus.....	Asparagus beetles.....	At cutting.....	Rotenone
Beans (snap).....	Aphids.....	Mid-summer.....	Nicotine or rotenone
	Bean weevil.....	Blossom period on for 5 weeks.....	Rotenone
Broccoli.....	Mexican bean beetle.....	Blossom period on for 5 weeks.....	Rotenone
	Aphids.....	Mid-summer.....	Rotenone
	Cabbage worms.....	All season.....	Rotenone
Brussel sprouts.....	Flea beetles.....	Early summer.....	Rotenone
Cabbage.....	(see broccoli).....	(see broccoli).....	(see broccoli)
	Aphids.....	Summer.....	Nicotine or rotenone
Cauliflower.....	Cabbage worms.....	All season.....	Rotenone
	Flea beetle.....	Spring.....	Calcium arsenate-gypsum
	Cabbage maggot.....	Spring.....	Calcium arsenate-gypsum
	Cutworms.....	Spring.....	Tarpaper disks
	(see broccoli).....	(see broccoli).....	Poison bait
Corn.....	Corn borer.....	Early summer.....	Poison bait
	Corn earworm.....	Summer.....	Snip off tips of ears after pollination
Cucumber.....	Cutworms.....	Spring.....	Poison bait
	White grub.....	All season.....	Avoid infested land
	Wire worm.....	All season.....	Hand pick
	Aphid.....	Summer.....	Avoid infested land
Eggplant.....	Cucumber beetle.....	All season.....	Rotenone or nicotine
	Flea beetles.....	Early summer.....	Calcium arsenate-gypsum
Onions.....	Onion maggot.....	Spring.....	Calcium arsenate-gypsum and fixed copper fungicides
	Onion thrips.....	Late summer.....	and calcium arsenate
Peas (green).....	Aphids.....	Summer.....	¼ pint dormant oil in 1 gal- lon water—pour along the rows but not on the plant
	Weevils.....	From blossom time on.....	Tartar emetic
	Red spider.....	Late summer.....	Nicotine or rotenone
Peppers.....	Aphids.....	Summer.....	Rotenone
	Flea beetle.....	Spring.....	Nicotine or rotenone
Potatoes.....	Aphids.....	Summer.....	Calcium arsenate-gypsum
	Flea beetle.....	Spring.....	Nicotine or rotenone
	Leafhopper.....	Late summer.....	Bordeaux mixture or fixed copper fungicide
Rutabagas.....	Potato beetle.....	Summer.....	plus calcium arsenate, or calcium arsenate-gypsum
	Maggots.....	Late summer.....	Bordeaux mixture or a fixed copper
	Cabbage worms.....	All season.....	(See flea beetle)
Squash.....	Cucumber beetle.....	Summer, fall.....	(See onion maggot)
	Squash bug.....	Summer, fall.....	Calcium arsenate-gypsum
	Vine borer.....	Early summer.....	Hand pick, trap under boards
	Fall.....	Fall.....	Spray lead arsenate at week- ly intervals from time vines start to run for 4-6 weeks
Tomato.....	Aphids.....	Summer.....	Cause vine to root at various nodes
	Cutworms.....	Spring.....	Nicotine or rotenone
	Flea beetle.....	Spring.....	Poison bait
	Tomato worms.....	Summer, fall.....	Calcium arsenate-gypsum
			Bordeaux mixture plus calcium arsenate

COMMON INSECTS AND DISEASES ATTACKING GARDEN PLANTS

This handy reference chart on disease and insect control is designed to guide Victory Gardeners in the purchase of specific insecticides or fungicides for use in their gardens.

GENERAL INFORMATION

INSECTICIDES YOU WILL NEED

FOR A 25-BY-50-FOOT GARDEN

- 1 pound poison bait (dry)
- 3 pounds calcium arsenate-gypsum dust
- 1 pound nicotine dust
- 1 pound rotenone dust
(do not mix with lime)

FOR 1/3-ACRE GARDEN

- 20 pounds calcium arsenate-gypsum dust
- 10 pounds poison bait
- 2 pounds nicotine dust
(5 ounces nicotine sulfate, 5 pounds of lime)
- 3 pounds rotenone dust
(do not mix with lime)

HOW TO PREPARE BAITS, DUSTS AND SPRAYS

1. Poison bait for cutworms, grasshoppers and crickets:
 - 2 pounds of dandelions, cut up fine
 - 1 ounce white arsenic, paris green or sodium fluosilicate
 Prepare this bait in the morning to permit wilting.
2. Calcium arsenate-gypsum dust for worms and beetles eating plant leaves:
 - 1 part calcium arsenate to 19 parts gypsum
3. Nicotine dust for plant lice and other sucking insects:
 - ½ teaspoon nicotine sulfate plus ½ pound lime or 3 parts fixed nicotine - 1 part lime
(Mix by shaking in tight can.)
4. Nicotine spray:
 - 1 teaspoonful nicotine sulfate to 1 gallon soap suds
5. Rotenone dust:
 - Usually purchased as a dust ready to use.
6. Lead arsenate:
 - 1 ounce lead arsenate to 2 gallons of water

7. Tartar emetic (onion thrips):
 - 1/3 ounce (1 level tablespoonful) and 4 tablespoonsful sugar to 1 gallon water

8. Fixed copper fungicides:

Fixed copper fungicides may be used in place of bordeaux mixture and copper-lime dust. They do not require the addition of lime. These materials may be purchased from dealers in spray materials, already mixed and ready for application. Follow the manufacturer's directions. Such materials commonly sold in Michigan are Yellow Cuprocide, Bordow, Basicop, Tri-basic Copper Sulfate, Copper Compound A, COCS, OXO-Bordo, Copper Hydro 40 and others.

9. Commercially prepared copper dusts:

Commercially prepared copper dusts also may be used instead of sprays. These should be used according to the manufacturer's directions.
10. To make 3 gallons of bordeaux mixture for potatoes, celery and tomatoes*:

To make 3 gallons of bordeaux mixture, dissolve required amount of powdered copper sulfate in 1½ gallons of water. In a second 1½ gallons of water, dissolve required amount of hydrated spraying lime. Pour the two solutions into the sprayer. Shake well while using. For tomatoes, use an 8-4-100 mixture, and for potatoes and celery, use an 8-12-100 mixture.

BORDEAUX MIXTURE

Amount of powdered copper sulfate and lime to add to separate 1½ gallons of water:		Strength of bordeaux mixture
Powdered copper sulfate	Hydrated lime	
4 ounces	2 ounces	8-4-100
4 ounces	6 ounces	8-12-100

*Bordeaux mixture should be used immediately after making. Calcium arsenate may be added to bordeaux mixture or fixed copper sprays and dusts to control chewing insects. Do not spray or dust cabbage or related plants with copper fungicides.