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Series
(Monographs)**

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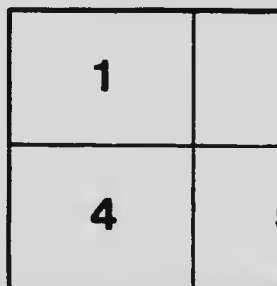
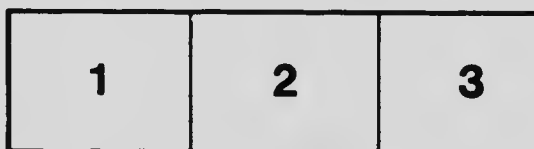
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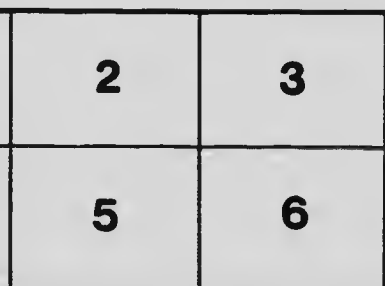
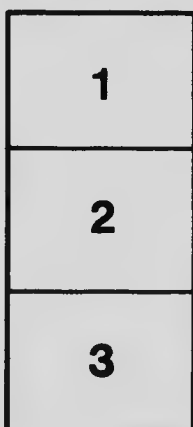
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Insect Poisons and Spray Mixtures



Spraying is Plant Insurance

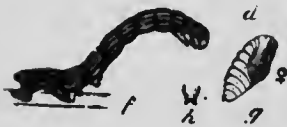
**Protect Your Trees, Vegetables,
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**BOTANY DEPARTMENT
Manitoba Agricultural College
WINNIPEG, CANADA**

Published by authority of Hon. Valentin Winkler, Minister of Agriculture



Plum Pockets



Cankerworm



Potato Scab

Bordeaux Mixture

For Moulds, Tots, Spots, Etc.

BLUESTONE.....4 lbs.
 FRESH LIME4 lbs.
 WATERBarrel (40)

Add $\frac{1}{2}$ lb. Paris green or 1 lb. arsenate of lead to kill insects.

To make a pail of Bordeaux:—Add 4 tablespoons each of lime and bluestone, and 1 of Paris green. Test Bordeaux with cable-knife; it shouldn't turn coppery.

Spray plums before blossoms for plum pockets (empty plums). Arsenate of lead is better than Paris green; doesn't burn leaves.

For Cankerworm

Use tar bandages in March and arsenate of lead early in June. Use fine spray; sticks better. Cankerworm destroys our Maples. The spring one is green, the fall one black; often both on one tree. Female moth has no wings; hence tar bandage early.

Potato Scab

1 lb. formalin to 30 gallons water; soak 2 hours. Avoid scabby sets; change potato ground; avoid fresh manure or lime; scab is caused from the outside. Formalin doesn't prevent scab, but lessens it. Select good seed.



CUTWORM

Cutworms

Use Poison Bait

- BRAN..... 50 lbs.
- MOLASSES 2 qts.
- PARIS GREEN 1 lb.
- WATER to make MASH

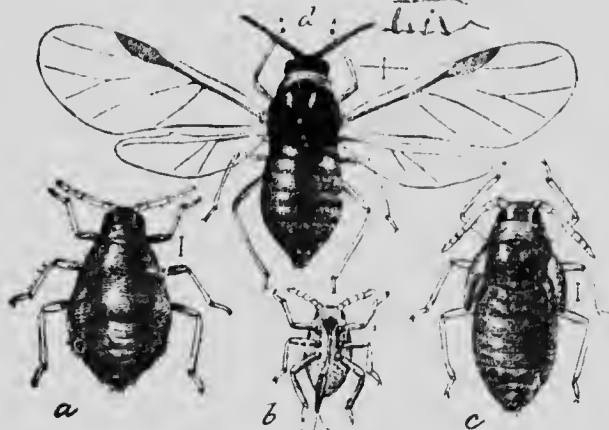
Scatter on ground and rows in the evening. Plow adjoining sod; avoid corn after sod; avoid grains after sod; sow potatoes or roots. Cultivate after harvest. Cutworms winter through on grass and green weeds.

Plant Lice

- Hard Soap..... 1/2 lb.
- or
- Soft Soap..... 1 lb.
- Boiling Water..... 1 gall.
- Coal Oil..... 2 galls.

Stir 10 mins. Dilute with 10 times water

☒ Kerosene emulsion is to smother lice that suck plant juices and cannot be poisoned with Paris Green.



Plant Lice

Dandelions

and Sow Thistle and Mustard

- Iron Sulphate..... 1 lb.
- Water..... 4 lbs.
- or
- Iron Sulphate 100 lbs.
- Water.... barrel, 40 galls.

Spray before cutting.

Barrel sprays large lawn. Only costs \$1.50.



Dandelion

Other Spray Mixtures and Powders

TOBACCO WATER: for White Flies, Leaf Hoppers, Etc.

Boil 1 lb. refuse tobacco in 2 gallons (pail) water for half-an-hour. Spray or sprinkle on plants when cool. Should be color of cold tea.

WHALE OIL SOAP: for Plant Lice and Scale Insects.

Add 1 lb. to 7 gallons (3 pails) hot water. Cheap and effective but bad smelling and nasty to handle.

STRONG SOAP SOLUTION:

5c. cake in 2 pails boiling water will kill plant lice.

WASH FOR BARK BORERS: to apply to shade trees in early June.

Add soft soap to strong solution of washing soda, making a thick paint, then add 1 pint crude carbolic acid and $\frac{1}{2}$ lb. Paris green to 10 gallons of the wash, and apply to trees with white-wash brush.

CRIDDLE MIXTURE: for Grasshoppers.

60 lbs. of horse-droppings, 1 lb. Paris green and 2 lbs. of salt mixed thoroughly in a gallon of water, and the mash scattered broadcast around field or crop.

HELLEBORE: for Root Maggots around garden vegetables.

Mix thoroughly 2 ounces hellebore to every gallon of water. Water plants every week or 10 days with this.

PYRETHRUM or Insect Powder: for Green Cabbage Worms.

Use wet or dry. Mix thoroughly 1 ounce Pyrethrum powder with 2 gallons water (pail), or mix thoroughly 1 ounce powder with 5 ounces of flour and allow to stand over night in tight box and dust through a cheese cloth.

FORMALIN: for Grain Smut.

1 lb. in 40 gallons water. Immerse 5 minutes.

FORMALIN: for Seed Potatoes.

1 lb. in 30 gallons. Allow sets to soak 2 hours.

CARBON BISULPHIDE: for Grain Weevils.

1 lb. in shallow dishes for every 100 bushels of grain. The poison gases go down through the grain.

HINTS on Spraying: Bordeaux mixture is for moulds, mildews and fungus diseases only. Paris green or arsenate of lead must be added if insects are to be killed. Paris green must always be mixed to a paste in a teacup or a bowl before adding it to water. It will not mix in a pail. Arsenate of lead is better, as it dissolves in water readily and doesn't burn the leaves as readily. Cost is same. Plant lice cannot be poisoned; they suck the juices and must be smothered; hence emulsions used should be sticky. Copper sulphate can be used instead of iron sulphate to kill dandelion, mustard and sow thistle. 9 lbs. in a barrel water.

PARIS GREEN MIXTURE: for leaf-eating insects.

Fresh lime 2 lbs., Paris green $\frac{1}{2}$ lb., water (barrel) 40 gallons. The lime is to make the Paris green harmless to plants and to cause it to stick on the leaves.

For further information write Botany Department
MANITOBA AGRICULTURAL COLLEGE



