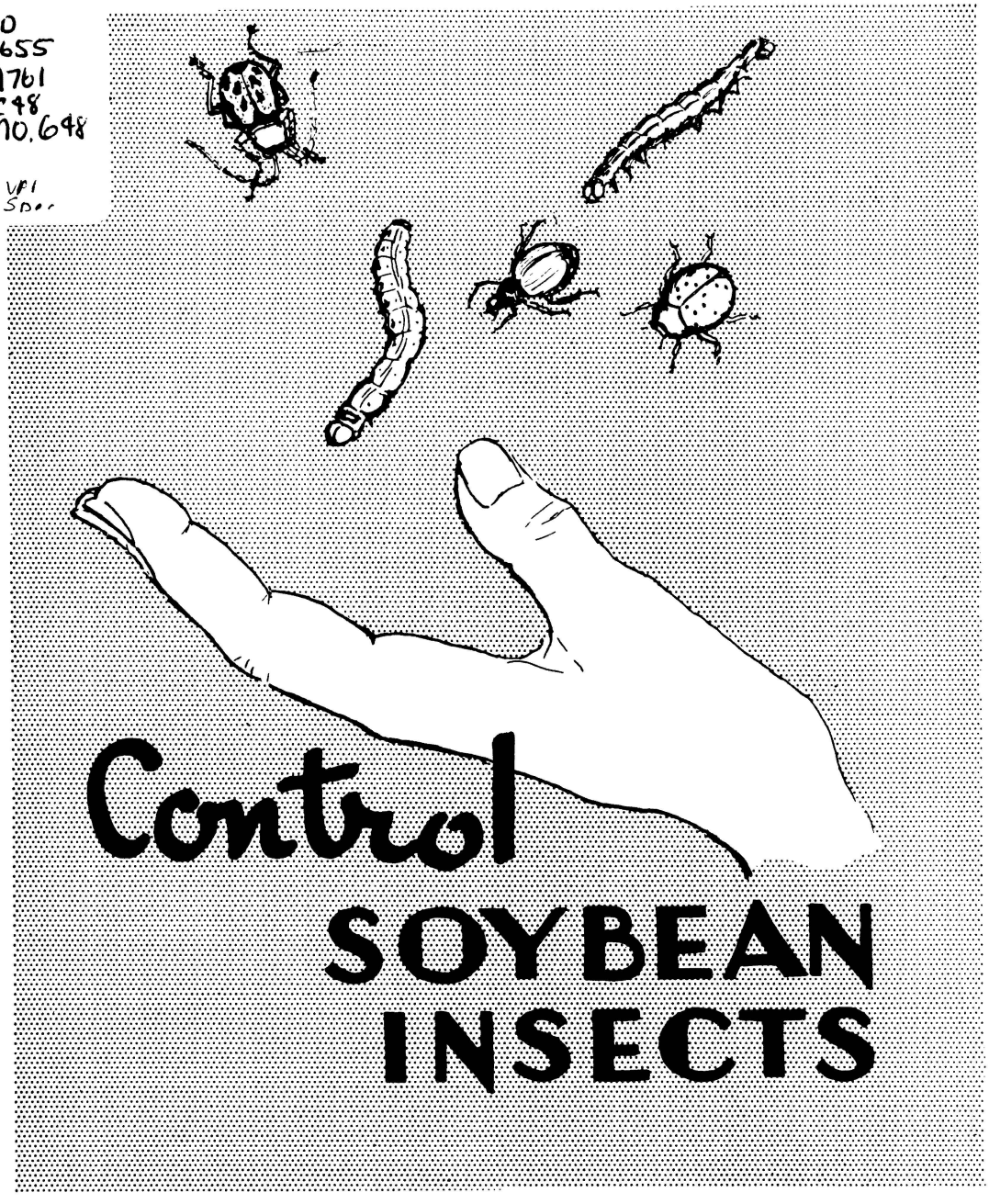

Control SOYBEAN INSECTS

EXTENSION DIVISION
VIRGINIA POLYTECHNIC INSTITUTE

Circular 648
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KEYS TO PROPER USE OF PESTICIDES

1. Read the label on each pesticide container before each use. Follow instructions to the letter; heed all cautions and warnings, and note precautions about residues.

2. Keep pesticides in the containers in which you bought them. Put them where children or animals cannot get to them, preferably under lock and away from food, feed, seed, or other material that may become harmful if contaminated.

3. Dispose of empty containers in the manner specified on the label. If disposal instructions are not printed on the label, burn the containers where smoke will not be a hazard, or bury them at least 18" deep in a place where water supplies will not be contaminated.

SEE YOUR DOCTOR IF SYMPTOMS OF ILLNESS OCCUR DURING OR AFTER USE OF PESTICIDES.

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Control Soybean Insects

In the southeastern United States, and Virginia in particular, soybeans are attacked from the seedling stage to harvest by a succession of insect pests.

Effective chemical control measures exist for the major insect pests of soybeans. Unfortunately, the problem is usually one of deciding whether the actual or potential damage is sufficient to justify insecticidal treatments. This is especially true of the numerous foliar-feeding insects, since it has been shown that leaf surface must be appreciably reduced before a loss in bean yield is noted. The grower will have to base his decisions on the many factors to be considered. Among the more important of these are infestation level, anticipated damages if left uncontrolled, cost of control, general condition and stage of growth, and expected yield and price of the crop. Insecticide applications should be timed with occurrence of different pests.

General Control Information

Carbaryl (Sevin), if used as recommended, may be applied up to the day of harvest without exceeding established tolerances. Hay or ensilage from carbaryl-treated soybeans may be fed safely to livestock.

Airplane Spraying or Dusting:

Much of the insect-control treatment of soybeans is done by airplane dusting or spraying. Aerial spray operators usually try to apply about 2 gallons of spray, containing the recommended amount of the insecticide, to each acre. On soybeans with heavy foliage, this amount of spray does not give sufficient coverage for satisfactory control of corn earworms or fall armyworms feeding on the pods. It is recommended that at least 4 gallons of liquid per acre be sprayed on soybeans. If aerial dusting is done, sufficient material should be used to assure adequate plant coverage.

Sprayer or Duster Application:

Tractor-mounted, weed-type sprayers (low-gallonage, low-pressure) and tractor-mounted dusters can be used to apply insecticides for control of soybean insects. Some of the larger beans will be lost when they are pushed down under the wheels of the tractor. With ground sprayers, ap-

ply the recommended amount of the insecticide in 20 to 30 gallons of water per acre. Sprayers should be calibrated accurately before starting the spraying operation. From 30 to 40 lbs. of pressure usually is sufficient. If dusters are used, they should be calibrated accurately before starting the dusting operation.

Control of Specific Pests

Thrips:

These pale-yellow, slender, near-microscopic pests occasionally injure seedling beans and can seriously reduce stand. Thrips injury is difficult to recognize--it is easily confused with other conditions that result in yellowing and withering of lower leaves and stunting of young plants. Shaking a plant over white paper will usually dislodge numerous thrips. Against this white background, an estimate of their numbers can be made.

Thrips can be controlled by a spray or dust application of carbaryl. Apply as a spray 1 to 1-1/2 lbs. of actual carbaryl (made from a micro-fine, sprayable formulation recommended for use in low-gallonage, low-pressure, weed-type sprayers) or 20 to 30 lbs. of a 5% carbaryl dust per acre. Spray or dust nozzles should be directed over the row. One application is usually sufficient.

Bean Leaf Beetle:

This small, active, light-yellow and black beetle is about 3/16'' long. It injures soybeans by eating small, shot-like holes in the leaves, as well as feeding on the blooms. It attacks seedlings and full-grown beans. Control measures, if needed, are the same as for Thrips.

Mexican Bean Beetle:

This is a common foliage-feeding pest of soybeans. Both larvae and adults are general foliage feeders, and can occasionally defoliate a field. Full-season soybeans are usually more frequently damaged than late-planted beans. Control is readily obtained with carbaryl, applied as a spray or dust in the manner suggested for Thrips. Direct the insecticide to the under surface of leaves.

Stink Bugs:

This group of green or brown shield-shaped bugs is of especial importance because their feeding on developing pods appreciably lowers the grade and value of harvested beans. In recent years they have been particularly troublesome in the Northern Neck area of Virginia. For control, use a spray or dust treatment of carbaryl as suggested for Thrips. However, check first to determine whether an appreciable population of stink bugs is present to necessitate application of insecticide.

Corn Earworm and Fall Armyworm:

These destructive pod-feeders are quite similar in appearance, can and do occur in the same field at the same time, and usually are treated as a "complex." This group comprises the most serious insect pests of soybeans in Virginia. To avoid serious losses, inspect beans frequently during the period of pod formation. Small larvae are much easier to control than large ones. Control measures with carbaryl are the same as for Thrips. See General Control Information, page 1.

Miscellaneous Soybean Insects:

Velvetbean caterpillar, Japanese beetles, blister beetles, green cloverworm, and grasshoppers occasionally feed on the foliage of soybeans. If control measures appear necessary, apply carbaryl spray or dust as suggested for Thrips.

Spider Mites:

Sometimes one or more of several species of mites cause damage to soybeans, especially early in the growing season. However, at present there is no miticide available with label approval and without important restrictions for foliage treatments to control mites on soybeans. In most soybean-producing areas of Virginia, mites have developed resistance to malathion and are no longer controlled by it.

PRECAUTIONS:

The insecticide (carbaryl) recommended in this circular for the control of soybean insects is safe and effective when used according to directions. A tolerance of 100 ppm has been established for carbaryl on forage and 5 ppm on beans, with no waiting period between application (1 to 1-1/2 lbs. of actual carbaryl to the acre) and harvest.

Do not use DDT or DDT-toxaphene insecticides on soybeans. If toxaphene alone is used on soybeans, follow closely the label directions for application and for restrictions and precautions.

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