

PM 04

5905-517

11/10/99

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ACCEPTED

NOV 10 1999

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 5905-517

CARBARYL 80WP
INSECTICIDE

ACTIVE INGREDIENT:

Carbaryl (1-naphthyl methylcarbamate).....	80.00%
INERT INGREDIENTS.....	20.00%
TOTAL	100.00%

KEEP OUT OF REACH OF CHILDREN
WARNING AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a Usted en detalle.
 (If you do not understand this label, find someone to explain it to you in detail.)

STATEMENT OF PRACTICAL TREATMENT
N-Methyl Carbamate

- IF ON SKIN: Wash thoroughly with soap and water.
- IF IN EYES: Flush with plenty of water.
- IF INHALED: Remove to fresh air.
- IF SWALLOWED: Drink one or two glasses of water and induce vomiting by touching back of throat with fingers. Do not induce vomiting or give anything by mouth to an unconscious person.

This product is an N-methyl carbamate acid ester that inhibits cholinesterase.

See Inside Booklet For Additional Precautionary Statements

EPA Reg. No. 5905-517

EPA Est. No.

Manufactured By
HELENA CHEMICAL COMPANY
 6075 Poplar Avenue, Suite 500
 MEMPHIS, TN 38119

PRECAUTIONARY STATEMENTS
Hazards To Humans And Domestic Animals

WARNING

May be fatal if swallowed. Avoid breathing vapors (dust or spray mist). Avoid contact with eyes, skin or clothing.

NOTE TO PHYSICIAN: Carbaryl is a moderate, reversible, cholinesterase inhibitor. Atropine is antidotal. Do not use 2-PAM, opiates, or cholinesterase inhibiting drugs.

Do not use this product in commercial food areas of food handling establishments, restaurants, or other places where food is prepared or processed.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

1. Coveralls over short-sleeved shirt and short pants
2. Waterproof gloves
3. Chemical-resistant footwear plus socks
4. Protective eyewear
5. Chemical-resistant headgear for overhead exposure
6. Chemical resistant apron when cleaning equipment, mixing, or loading

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

BEE CAUTION: This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment areas. This product is extremely toxic to aquatic and estuarine invertebrates. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Discharge from rice fields may kill aquatic and estuarine invertebrates. Do not contaminate water by cleaning of equipment or disposal of wastes.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil, or water, is:

- 1. Coveralls over short-sleeved shirt and short pants
- 2. Waterproof gloves
- 3. Chemical-resistant footwear plus socks
- 4. Protective eyewear
- 5. Chemical-resistant headgear for overhead exposure

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Store in a dry place. In case of minor spills, follow all precautions indicated above and cleanup immediately. Sweep up and dispose of wastes.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

GENERAL INFORMATION

SUBSEQUENT PLANTING OF FOOD AND FEED CROPS IN TREATED SOIL MUST BE MADE WITH CROPS ON THIS OR OTHER CARBARYL LABELS.

Carbaryl 80WP is a dry powder for dispersion in water and application as an insecticidal

spray in hydraulic sprayers, mist blowers, low-gallonage ground equipment and aircraft. The directions on this label are based on tests and field experience relating to (a) effectiveness, (b) possible injury to plants and animals, and (c) residues in food, feed, and milk. **READ THIS LABEL BEFORE USE. STRICTLY OBSERVE LABEL DIRECTIONS AND CAUTIONS, AND APPLICABLE FEDERAL AND STATE REGULATIONS.**

Read Entire Label. Use Strictly According to Label Directions and Cautions. Do not use application methods, dosages, concentrations, or frequencies not listed on labeling. Do not apply against target pests or crops not listed on labeling. Do not mix with fertilizers or micronutrients if the resulting spray mixture is incompatible or alkaline.

PREHARVEST AND GRAZING USE INFORMATION AND LIMITATIONS

Tolerances established under the Federal Food, Drug and Cosmetic Act permit the sale of crops bearing probable carbaryl residues when this product is used in accordance with label directions. Do not plant rotational crops not listed on this product label within 18 months following treatment. If used as directed, treated forage may be grazed or used as feed for dairy and meat animals without causing illegal residues in meat or milk. Do not use reclaimed irrigation water from crops treated with carbaryl on upland crops for which carbaryl tolerances are not established.

PLANT RESPONSE PRECAUTIONS

To avoid possible injury to tender foliage. Do not apply to wet foliage or when rain or high humidity is expected during the next two days. Carbaryl injures Boston ivy, Virginia creeper, and maidenhair fern. During early season, it may also injure Virginia and sand pines. Observe label instructions on apple thinning and on combinations with certain herbicides on rice and soybeans.

SPRAY PREPARATION

TO ASSURE UNIFORM SUSPENSIONS, AGITATE, STIR, OR RECIRCULATE ALL CARBARYL 80WP SPRAYABLE CONTAINERS PRIOR TO AND DURING USE. Remove oil, rust, scale, pesticide residues and other foreign matter from mix tanks and entire spray system. Flush with clean water.

Fill spray or mix tank with 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Slowly add the required amount of Carbaryl 80WP and then the remaining volume of water. Prepare only as much spray mixture as can be applied on the day of mixing.

MAINTAIN CONTINUOUS AGITATION DURING MIXING AND APPLICATION TO ASSURE A UNIFORM SUSPENSION. DO NOT STORE SPRAY MIXTURES FOR PROLONGED PERIODS.

COMPATIBILITY

CARBARYL 8WP has been used without plant injury with most common insecticides, miticides, fungicides, nutrients, adjuvants, and petroleum oil used on citrus. If compatibility with another product and the resulting crop response is unknown, it should be tested on a small scale. Curdling, precipitation, greasing, layer formation or increased viscosity are symptoms of incompatibility. **WHEN PREPARING COMBINATION SPRAYS, FIRST ADD**

CARBARYL 80WP TO AT LEAST 1/2 THE DESIRED VOLUME OF WATER, MIX THOROUGHLY, AND THEN ADD COMBINATION PRODUCTS TO THE MIXTURE, AND THEN THE REMAINING VOLUME OF WATER. DO NOT APPLY TANK MIX COMBINATIONS UNLESS YOUR PREVIOUS EXPERIENCE INDICATES THE MIXTURE IS EFFECTIVE AND WILL NOT RESULT IN APPLICATION PROBLEMS, EXCESSIVE RESIDUES OR PLANT INJURY.

Unstable under highly alkaline conditions. Not effective if used with alkaline materials such as Bordeaux, lime-sulfur, and casein-lime spreaders.

APPLICATION

On all crops, use sufficient gallonage to obtain thorough and uniform coverage.

Calibrate spray equipment to deliver the required volume.

Use 50 mesh slotted strainers in spray system and behind nozzles.

Avoid applications just before rainfall as poor insect control may result.

To clean the sprayer after use, drain and flush with water.

Refer to the Storage and Disposal directions for proper disposal of this rinse water.

INSECT CONTROL

Apply when insects or their damage appear. To maintain control, repeat at 7 to 14 day intervals or as necessary unless a shorter interval is specified below. Where a dosage range is indicated, use lower rate on young plants and early instars and higher rate on mature plants, advanced instars and adults. Thorough and uniform spray coverage is essential for effective control.

This product does not control spider mites. If spider mites are a problem, use a registered miticide. Regional differences have been noted in the susceptibility of certain strains of fall armyworms to carbaryl. If your experience indicates inadequate control, use an alternative pesticide.

FORAGE, FIELD AND VEGETABLE CROPS

Use at least 1 gallon of finished spray per acre for aerial application and at least 3 gallons of finished spray per acre for concentrate ground application. To prepare small volumes of spray, use 1-1/4 tablespoons per gallon of water where rates of 1-1/4 pounds per acre or 1-1/4 pounds per 100 gallons of water are indicated in the text below.

ALL FORAGE, FIELD AND VEGETABLE CROPS - For grasshoppers use 2/3 to 1-7/8 pounds per acre. Use 2/3 to 1-1/4 pounds for nymphs on small plants or sparse vegetation in wasteland, rangeland, ditch banks, and borders. Use 1-1/4 to 1-7/8 pounds for adult grasshoppers or applications to dense vegetation. See specific crop for pre-harvest interval.

ALFALFA*, CLOVERS - Use 2/3 to 1-1/4 pounds per acre for blister beetles and Mexican bean beetle.

Use 1-1/4 pounds for alfalfa caterpillar, bean leaf beetle, cucumber beetle, green cloverworm, Japanese beetle, leafhoppers, three-cornered alfalfa hopper, thrips, and velvetbean caterpillar.

Use 1-1/4 to 1-7/8 pounds for alfalfa weevil larvae, armyworm, cloverhead weevil, cutworms, Egyptian alfalfa weevil larvae, essex skipper, European alfalfa beetle, fall armyworm, lygus bugs, stink bugs, webworms, and yellowstriped armyworm.

Observe plant response precautions.

Do not apply within 7 days of harvest.

For alfalfa weevil larvae, if pretreatment damage is extensive, cut alfalfa and treat the stubble. Use higher rate in areas east of the Rocky Mountains. On dense growth, use 25 to 40 gallons per acre with ground equipment to ensure adequate coverage.

*For application to alfalfa via Center Pivot Irrigation Systems, refer to "Directions for Use Through Center Pivot Irrigation Systems".

ASPARAGUS - Use 1-1/4 to 2-1/2 pounds per acre. Do not apply within 1 day of harvest. **FOR POST HARVEST APPLICATION ONLY** - Use 2-1/2 to 5 pounds for apache cicada and asparagus beetle.

Treat ferns or brush growth. Do not treat more than once every 3 days.

BEANS (including blackeyed peas, cowpeas, crowder or southern peas, dry beans, green beans, lima beans, navy beans, and snap beans) - Use 2/3 to 1-1/4 pounds per acre for blister beetle and Mexican bean beetle.

Use 1-1/4 pounds for alfalfa caterpillar, bean leaf beetle, cucumber beetle, flea beetle, green cloverworm, Japanese beetle, leafhoppers, three-cornered alfalfa hopper, thrips, velvetbean caterpillar, and western bean cutworm.

Use 1-1/4 to 1-7/8 pounds for armyworm, corn earworm, cutworm, European corn borer, fall armyworm, stink bug, tarnished plant bug, and webworm.

Use 2-1/2 pounds for cowpea curculio.

CALIFORNIA USE ONLY, Use 2-1/2 pounds for corn earworm, limabean pod borer, lygus bugs, and stink bugs.

Observe plant response precautions.

Do not apply within 3 days of harvest (succulent), 14 days of harvest (forage), and 21 days of harvest (dried and hay).

CABBAGE, BROCCOLI, BRUSSELS SPOUTS, CAULIFLOWER, KOHLRABI - Use 2/3 to 1-1/4 pounds per acre for flea beetles and harlequin bug.

Use 1-1/4 to 2-1/2 for armyworm, corn earworm, fall armyworm, and imported cabbage-worm.

Do not apply within 3 days of harvest.

CHINESE CABBAGE, COLLARDS, HANOVER SALAD, HORSERADISH, KALE, MUSTARD GREENS, RADISHES, RUTABAGAS, TURNIPS - Use 2/3 to 1-1/4 pounds per acre for flea beetle, harlequin bug, and leafhoppers.

Use 1-1/4 to 2-1/2 pounds for armyworm, corn earworm, fall armyworm, imported cabbage-worm, stink bugs and tarnished plant bug.

Do not apply within 3 days of harvest on radishes.
Do not apply within 7 days of harvest on horseradish, rutabagas, and turnip (roots).
Do not apply within 14 days of harvest on Chinese cabbage, collards, Hanover salad, kale, mustard greens, and turnip (tops).

CARROTS, CELERY, PARSNIPS, PARSLEY - Use 2/3 to 1-1/4 pounds per acre for flea beetles and leafhoppers.
Use 1-1/4 to 1-7/8 pounds for aster leafhopper, lygus bugs, and spittlebugs.
Use 1-1/4 to 2-1/2 pounds for armyworm, corn earworm, fall armyworm, stink bugs, and tarnished plant bug.
Do not apply within 7 days of harvest on carrots and parsnips.
Do not apply within 14 days of harvest on celery and parsley.
Treat on a 5 to 7 day schedule.
DO NOT USE ON CELERY IN CALIFORNIA.

CORN* (field, sweet, pop) - Use 1-1/4 to 2-1/2 pounds per acre for armyworm, chinch bug, corn earworm, corn rootworm adults, European corn borer, fall armyworm, flea beetle, Japanese beetle, sap beetle, Southwestern corn borer, and leafhoppers.
OBSERVE BEE CAUTION. For insects attacking silks and ears, apply at 1 to 6 day intervals starting when first silks appear and continuing until silks begin to dry. For larvae in whorl and foliage feeders, apply as necessary. Optimum timing and good coverage are essential for effective control.
Use 2-1/2 pounds for western bean cutworm. Treat when infestation averages 15% and at 90% to 100% tassel emergence. Treatment after 100% silk emergence will reduce effectiveness.
Use 2-1/2 to 8 pounds for cutworm. Apply in a 12 inch band using 1/4 pound (4 ounces) per 1000 linear feet of row in at least 15 gallons of water per acre. For broadcast application, use up to 8 pounds in at least 20 gallons (ground) or 5 gallons (air) of water per acre.
Do not apply within 2 days of harvest on sweet corn (ears), 14 days of harvest (forage), and 48 days of harvest (fodder).
Do not apply within 14 days of harvest on field and pop corn (forage, silage) and 48 days of harvest (grain, fodder).
*For application to corn via Center Pivot Irrigation Systems, refer to "Directions for Use Through Center Pivot Irrigation Systems".

CUCUMBER, MELONS, PUMPKINS, SQUASH - Use 2/3 to 1-1/4 pounds per acre for pickleworm and melonworm.
Use 1-1/4 pounds for cucumber beetle, flea beetle, leafhopper, and squash bug.
Observe plant response precautions. Avoid excessive applications.
Do not apply within 3 days of harvest.

DANDELION, ENDIVE (Escarole), LETTUCE SALSIFY - Use 2/3 to 1-1/4 pounds per acre for flea beetle, harlequin bug, and leafhopper.
Use 1-1/4 to 1-7/8 pounds for aster leafhopper, lygus bug, and spittlebug.
Use 1-1/4 to 2-1/2 pounds for armyworm, corn earworm, fall armyworm, imported cabbage-worm, stink bugs, and tarnished plant bug.
Observe plant response precautions. Treat on a 5 to 7 day schedule after heads begin to form.

Do not apply within 7 days of harvest on salsify (roots).

Do not apply within 14 days of harvest on dandelion, endive (escarole), lettuce, and salsify (tops).

FORAGE GRASSES, PASTURE - Use 1-1/4 to 1-7/8 pounds per acre for armyworm, black grass bugs, chinch bugs, essex skipper, fall armyworm, range caterpillars, range crane fly, striped grass looper, and thrips.

Use 1-7/8 to 2-1/2 pounds for white grubs (green June beetle).

To control thrips in grasses grown for seed, use high spray pressure to improve penetration into boot.

Do not apply within 14 days of harvest.

GARDEN BEET, SPINACH - Use 2/3 to 1-1/4 pounds per acre for flea beetles, harlequin bug, and leafhoppers.

Use 1-1/4 to 1-7/8 pounds for aster leafhopper.

Use 1-1/4 to 2-1/2 pounds for armyworm, corn earworm, fall armyworm, stink bugs, and tarnished plant bug.

Treat on a 5 to 7 day schedule.

Do not apply within 7 days of harvest on garden beet (roots).

Do not apply within 14 days of harvest on garden beet (tops), spinach, and Swiss chard.

OKRA - Use 1-1/4 to 2-1/2 pounds per acre for corn earworm and stink bugs.

Treat on a 5 to 7 day schedule.

Do not apply within 3 days of harvest.

PEANUTS - Use 2/3 to 1-1/4 pounds per acre for blister beetles and Mexican bean beetle.

Use 1-1/4 pounds for alfalfa caterpillar, bean leaf beetle, cucumber beetle, green cloverworm, Japanese beetle, leafhoppers, red-necked peanut worm, three-cornered alfalfa hopper, and velvetbean caterpillar.

Use 1-1/4 to 1-7/8 pounds for armyworm, corn earworm, fall armyworm, stink bugs, and webworm.

Use 2-1/2 pounds for whitefringed beetle adults and cutworms.

Observe plant response precautions

Do not apply within 14 days of harvest.

PEAS - Use 1-1/4 pounds per acre for Colorado potato beetle and leafhoppers.

Use 1-1/4 to 1-7/8 pounds for armyworm.

Use 1-7/8 pounds for alfalfa caterpillar, cutworm, pea leaf weevil, pea weevil, and yellowstriped armyworm.

Do not apply within 3 days of harvest (succulent), 14 days of harvest (forage), and 21 days of harvest (dried and hay).

POTATO*, TOMATO, EGGPLANT, PEPPER - Use 2/3 to 1-1/4 pounds per acre for Colorado potato beetle, flea beetles and leafhoppers.

Use 1-1/4 to 2-1/2 pounds for European corn borer, fall armyworm, lace bug, stink bug, tarnished plant bug, tomato fruit worm, tomato hornworm, and tomato pinworm.

Use 2-1/2 pounds for cutworms.

Do not apply within 3 days of harvest on tomato, eggplant, and pepper.

Do not apply within 7 days of harvest on potato.

*For application to potatoes via Center Pivot Irrigation Systems, refer to "Directions for Use Through Center Pivot Irrigation Systems".

RICE - FOR USE IN THE MISSISSIPPI DELTA & TEXAS - Use 1-1/4 to 1-7/8 pounds per acre for armyworm, chinch bugs, fall armyworm, and stink bugs.

CAUTION. May kill shrimp and crabs. Do not use on areas where these are important resources.

Do not use on rice fields in which crayfish and/or catfish farming is included in the cultural practice.

DO NOT APPLY PROPANIL HERBICIDES WITHIN 15 DAYS BEFORE OR AFTER APPLICATION OR INJURY WILL RESULT.

CALIFORNIA USE ONLY - Use 2-1/2 pounds for armyworm, leafhoppers, and tadpole shrimp. For optimum shrimp control, apply to water when pest first appears.

Do not apply within 14 days of harvest.

SORGHUMS (milo, grain sorghum and hybrids) - Use 1-1/4 to 2-1/2 pounds per acre for armyworm, chinch bugs, corn earworm, fall armyworm, stink bug, and webworm.

Use 1-7/8 pounds for sorghum midge and Southwestern corn borer.

Use 2-1/2 pounds for cutworms.

Direct spray into forming heads for optimum insect control.

Treat for sorghum midge when 25 to 30 percent of heads have emerged from boot and are in bloom. Repeat application 3 to 5 days later if adults are still active. A third application may be necessary in late planted sorghum or if midge are abundant.

For chinch bugs, use high gallonage ground application directed at base of plants.

Do not apply within 14 days of harvest for grain sorghum (grazing, forage) and 21 days of harvest (grain, fodder).

SOYBEANS - Use 2/3 pounds per acre for bean leaf beetle, cucumber beetle, green cloverworm, Mexican bean beetle, and velvetbean caterpillar.

Use 2/3 to 1 pound for corn earworm.

Use 2/3 to 1-1/4 pounds for blister beetles, grape colaspis, and Mexican bean beetle.

Use 1-1/4 pounds for alfalfa caterpillar, bean leaf beetle, cucumber beetle, green cloverworm, Japanese beetle, leafhoppers, three-cornered alfalfa hopper, thrip, and velvetbean caterpillar.

Use 1-1/4 to 1-7/8 pounds for armyworm, cutworm, fall armyworm, stink bug, and webworm.

Use 2-1/2 to 3 pounds for painted lady (thistle caterpillar), saltmarsh caterpillar, and yellowstriped armyworm.

DO NOT APPLY A COMBINATION OF CARBARYL 80WP AND 2,4-DB HERBICIDES TO SOYBEANS. Use lower rates for light to moderate populations and smaller instars. Use the higher rate for heavy infestations and larger instars.

Do not apply within 14 days of harvest ((grazing, forage) and within 21 days of harvest (dried).

SUGAR BEETS - Use 1-1/4 to 1-7/8 pounds per acre for armyworm, beet leaf beetle, fall armyworm, flea beetles, leafhoppers, and webworm.

Use 1-7/8 pounds for cutworms.
Do not apply within 28 days of harvest.

SUNFLOWER - Use 1-7/8 pounds per acre for cutworm.
Use 1-7/8 to 2-1/2 pounds for armyworm and fall armyworm.
Use 1-1/4 to 2-1/2 pounds for stem weevil and sunflower beetle.
NOT FOR USE IN CALIFORNIA.

Do not allow animals to graze on treated crops.
Do not apply within 30 days of harvest (grazing, forage) and 60 days of harvest (seed).

SWEET POTATO - Use 9 T./gal. for sweet potato weevil. NOT FOR USE IN CALIFORNIA.
PREPLANT DIP - Just prior to planting, dip sweet potato cuttings in a suspension of
CARBARYL 80WP (9 T./gal. of water).

Use 1-1/4 to 2-1/2 pounds per acre for corn earworm, cucumber beetle, flea beetle, sweet
potato hornworm, and tortoise beetle. Apply as a foliar spray as needed.
Use 1-1/4 to 2-1/2 pounds for sweet potato weevil. FOLIAR APPLICATION - Full coverage
of plants is essential. Use lower rate on young plants and higher rate on mature plants.
Do not apply within 7 days of harvest.

TOBACCO - In Plant Beds, use 2-1/2 T./gal. or 1-1/2 lbs./50gal. and apply 6 gal./100 sq.
yards. To prevent plant injury, avoid excessive applications.

Use 2/3 lb./100 gal. for green June beetle grubs. Apply only to areas that larvae have up-
rooted by sprinkling as a drench with 50 to 100 gallons per 100 square yards.

In Fields, use 1-1/4 to 2-1/2 pounds per acre for budworm, fall armyworm, flea beetle,
hornworm, Japanese beetle, June beetle, and suckfly. Use lower rate on young plants (up
to knee height). Use at least 10 gallons of prepared spray per acre. Begin treatments when
worms are small. In late season, applications are necessary. Allow 3 days before priming
or cutting.

WHEAT - Use 1-1/4 pounds per acre for cereal leaf beetle.
Use 1-1/4 to 1-7/8 pounds for armyworm and fall armyworm.
NOT FOR USE IN CALIFORNIA.

Do not make more than 2 applications after grain heads emerge from boot.
Application is effective against eggs, larvae, and adults of cereal leaf beetle.
Do not apply within 7 days of harvest (forage) and 21 days of harvest (grain).

TREE FRUIT AND NUT CROPS

For dilute sprays, apply the specified dosage per 100 gallons of water. For concentrate and
aerial sprays increase the concentration of CARBARYL 80WP in the spray mixture to apply
an amount per acre equivalent to that in a dilute spray. The optimum spray gallonage will
depend on tree size, density and stage of growth. Typical spray gallonages per acre range
from 200-300 gallons for dilute sprays, 30-100 gallons for concentrate sprays, and 10-25
gallons for aerial sprays. Do not exceed maximum label rate per acre per application.

APPLE THINNING - Use 1/3 to 2/3 pounds per 100 gal. water for easily thinned varieties
including Cortland, Grimes, Jonathan, McIntosh, Orleans, Rome Beauty, Puritan, Red

Delicious, Winesap, and Yellow Newton. Apply 1 full coverage dilute spray between 10 and 25 days after full bloom. If factors such as tree age, variety, nutrition, previous crop, pruning, bloom and degree of set favor excessive fruit thinning, exercise caution to avoid possible reduction.

Use 2/3 to 1-1/4 pounds per 100 gal. water for difficult to thin varieties including Baldwin, Ben Davis, Duchess, Early McIntosh, Golden Delicious, Lady Apple, Northern Spy, Rhode Island Greening, Steele Red, Turley, Wealthy, Yellow Transparent, and York Imperial. Do not apply within 3 days of harvest.

ALMOND - Use 1-1/4 pounds per 100 gal. water for peach twig borer, San Jose scale, and fruittree leafroller. Apply in popcorn or petal fall stages and again when the May brood of the peach twig borer begins to hatch or thereafter as needed.

Use 1-1/4 pounds for navel orangeworm. Time early and mid season applications to correspond to moth flight peaks. Make a late season application at initiation of hull split or up to 10% hull split. Do not apply more than 6-1/4 pounds per acre.

Do not apply within 14 days of harvest.

APPLES, PEARS - WEST OF THE ROCKY MOUNTAINS - Use 1 to 1-1/4 pounds per 100 gal. water for apple aphid, apple rust mite, apply sucker, bagworms, California pearslug (pear sawfly), codling moth, eyespotted bud moth, green fruitworm, lecanium scales, lesser appleworm, lygus bug, orange tortrix, oystershell scale, pear leaf blister mite, pear psylla, pear rust mite, San Jose scale, tentiform leafminers, and wooly apple aphid.

To avoid undesired apple thinning, delay use until at least 30 days after full bloom.

For psylla control, apply when eggs hatch or young nymphs are present.

EAST OF THE ROCKY MOUNTAINS - Use 2/3 pounds per 100 gal. water for apple mealybug, apple aphid, codling moth, and white apple leafhopper.

Use 1-1/4 pounds per 100 gal. water for apple maggot, apple rust mite, bagworms, eastern tent caterpillar, European apple sawfly, eyespotted, bug moth, forbes scale, fruittree leafroller, green fruitworm, Japanese beetle, lecanium scale, lesser appleworm, oystershell scale, pear psylla, pear leaf blister mite, pear rust mite, periodical cicada, plum curculio, red-banded leafroller, rosy apple aphid, San Jose scale, tarnished plant bug, tentiform leafminers, wooly apple aphid, and yellowheaded fireworm.

To avoid undesired apple thinning, delay use until at least 30 days after full bloom.

For optimum scale control, apply when crawlers are present.

Do not apply within 3 days of harvest.

CHESTNUTS - Use 2-1/2 to 3-3/4 pounds per 100 gal. water for chestnut weevil. Make 4 applications at weekly intervals beginning in late July for adult chestnut weevil control. Last application should be made prior to shuck split.

NOT FOR USE IN CALIFORNIA.

Do not apply within 14 days of harvest.

CITRUS FRUITS (such as grapefruit, lemons, lime, oranges, tangelos, tangerines, citrus citron, kumquats, and hybrids) - Use 1-1/4 pounds per 100 gal. water for avocado leafroller, California orangedog, citrus cutworm, citrus root weevil, fruittree leafroller, orange tortrix, western tussock moth, west Indian sugarcane borer (adults).

Use 1 to 1-1/4 pounds for black scale, brown soft scale, California red scale, Citricola scale, citrus snow scale, and yellow scale.

Do not apply more than 25 pounds of CARBARYL 80WP per acre per application.
Do not apply less than 10 gallons of dilute spray mixture per mature tree. May be mixed with petroleum oils commonly used on citrus.
Do not apply within 5 days of harvest.

FILBERTS - Use 1-1/4 pounds per 100 gal. water for filbert aphid, filbert leafroller, and filbertworm. Apply when leafroller eggs are hatching. Repeat on first appearance of adult filbert moths and again 3 to 4 weeks later.
Do not apply within 14 days of harvest.

OLIVES - Use 1 to 1-1/4 pounds per 100 gal. water for olive scale. For optimum scale control, apply mixture when crawlers are present. Do not exceed 2 applications per year. Do not apply more than 18-3/4 lbs. of CARBARYL 80WP per acre per application.
Do not apply within 14 days of harvest.

PEACHES, APRICOTS, NECTARINES - Use 1-1/4 pounds per 100 gal. water for apple pandemis, codling moth, cucumber beetles, European earwig, fruittree leafroller, Japanese beetle, June beetle, lecanium scales, lesser peachtree borer, olive scale, orange tortrix, oriental fruit moth, peach twig borer, periodical cicada, plum curculio, redbanded leafroller, San Jose scale, tarnished plant bug, tussock moth, and variegated leafroller. Do not apply more than 7-1/2 pounds per acre per application to apricots. For optimum scale control, apply when crawlers are present. Spray limbs and trunk thoroughly, weekly during moth flight.
Do not apply within 3 days of harvest.

PECANS - Use 1-1/4 to 3 pounds per 100 gal. water for black margined aphid, fall webworm, hickory shuckworm, lesser webworm, pecan leaf phylloxera, pecan nut casebearer, pecan spittlebug, pecan stem phylloxera, pecan weevil, twig girdler, and walnut caterpillar. Do not apply more than 8 pounds per acre per application.
Do not apply within 14 days of harvest.

PISTACHIOS - Use 2/3 to 2-1/2 pounds per 100 gal. water for navel orangeworm. Apply dilute volumes of 150-300 gallons of mixed spray per acre for full coverage at onset of hull split.
Do not apply within 14 days of harvest.

PLUMS, PRUNES, CHERRIES - Use 1-1/4 pounds per 100 gal. water for black cherry aphid, brown soft scale, cherry maggot, European earwig, eyespotted bud moth, forbes scale, fruittree leafroller, green fruitworm, Japanese beetle, lecanium scales, lesser peach tree borer, mealy plum aphid, oystershell scale, peach twig borer, plum curculio, prune leafhopper, redbanded leafroller, rose chafer, San Jose scale, and variegated leafroller. Use 1 pound for codling moth, eastern tent caterpillar, orange tortrix, and tussock moth. Do not apply more than 7-1/2 pounds per acre per application. For optimum scale control, apply when crawlers are present. For lesser peachtree borer control, spray limbs and tree trunks thoroughly weekly during moth flight.
Do not apply within 3 days of harvest.

WALNUT - Use 2/3 pound per 100 gal. water for calico scale, European fruit lecanium, filbertworm, fruittree leafroller, and frosted scale. Apply 6-1/2 pounds spray per for mature trees.

Use 2/3 pound for codling moth. Apply first spray when average cross sectional diameters of developing nuts are 1/2 to 3/4 inch. Repeat during middle or late June as needed.

Use 2-1/2 pounds for European earwig. Spray tree trunks to point of run-off.

Do not apply within 14 days of harvest.

SMALL FRUIT CROPS

Recommended dosages refer to pounds of CARBARYL 80WP per acre. The optimum spray gallonage will depend on plant size, density, and stage of growth. Typical spray gallonage per acre range from 100-300 gallons for dilute sprays, 30-100 gallons for concentrate spray, and 10-25 gallons for aerial sprays. Do not exceed maximum label rate per acre per application.

BLACKBERRIES, RASPBERRIES, DEWBERRIES (including boysenberries and loganberries) - Use 1-1/4 to 2-1/2 pounds per acre for European raspberry aphid, Japanese beetle, leafhoppers, leafrollers, rose chafer, and snowy tree cricket.

FOR USE IN CALIFORNIA ONLY - Use 2-1/2 pounds for omnivorous leafroller and raspberry sawfly.

Do not apply within 7 days of harvest.

BLUEBERRIES - Use 1-7/8 pounds per acre for blueberry maggot, cherry fruitworm, cranberry fruitworm, European fruit lecanium, and Japanese beetle. Apply 3 weeks before harvest and repeat as necessary.

Do not apply within 7 days of harvest.

CRANBERRIES - Use 1-7/8 to 3-3/5 pounds per acre for cutworm, cranberry fireworm, cranberry fruitworm, Japanese beetle, leafhopper, and rose chafer.

CAUTION. May kill shrimp and crabs. Do not use in areas where these are important resources.

Apply in late bloom and as needed at 7 to 10 day intervals.

Do not apply within 7 days of harvest.

GRAPES - Use 1-1/4 to 2-1/2 pounds per acre for European fruit lecanium, grape leafroller, grape leafhopper, western grapeleaf skeletonizer, and western yellowstriped armyworm.

Use 2-1/2 pounds for cutworms, eight-spotted forester, grape berry moth, Japanese beetle, June beetles, orange tortrix, omnivorous leafroller, redbanded leafroller, and saltmarsh caterpillar. Apply before first brood leafroller larvae emerge from rolls.

Do not apply within 7 days of harvest.

STRAWBERRIES - Use 1-1/4 to 2-1/2 pounds per acre for flea beetle, meadow spittlebug, omnivorous leaf-tier (strawberry fruitworm), strawberry leafroller, and strawberry weevil.

Injury may occur to Early Dawn and Sunrise varieties on the Delmarva Peninsula.

Do not apply within 7 days of harvest.

TREES AND ORNAMENTALS

For dilute-spray ground applications to trees (including shade trees, shelter belts, forests, plantations, parks and recreational areas), ornamentals, woody plants and shrubs, apply the specified dosage per 100 gallons of water. For concentrate-spray ground applications, apply the specified dosage per acre in sufficient spray volume to provide thorough coverage. To prepare small volumes of spray, use 1-1/4 tablespoons per gallon of water where rates of 1-1/4 pounds are indicated.

For aerial applications to forest trees (including shade trees, shelter belts, plantations, parks and recreational areas), commercially grown ornamentals, woody plants and shrubs, apply the specified dosage per acre in sufficient spray volume to provide thorough coverage. Avoid direct application to lakes, streams, and ponds.

GROUND APPLICATION: Trees (including shade trees, shelter belts, forests, plantations, parks and recreational areas). Ornamentals (including roses, flowers and other herbaceous plants), woody plants and shrubs.

AERIAL APPLICATION: Forest trees (including shade trees, shelter belts, forests, plantations, parks and recreational areas), commercially grown ornamentals (including roses, flowers and other herbaceous plants), woody plants, and shrubs.

Use 1-1/4 pounds for ants, apple aphid, azalea leafminer, bagworms, birch leafminer, blister beetle, boxelder bug, boxwood leafminer, brown tail moth, cankerworms, catalpa sphinx, chiggers, cooley spruce gall aphid, cutworm, cypress tip moth, Douglas fir tussock moth, eastern spruce gall aphid, elm leaf aphid, elm leaf beetle, elm spanworm, eriophyid mite, European pine shoot moth, fall armyworm, flea beetles, fuller rose beetle, gall midges, gall wasps, green striped mapleworm, grasshoppers, gypsy moth, hackberry nipplegall maker, holly bud moth, holly leafminer, jackpine budworm, Japanese beetle, June beetles, lace bugs, leafhoppers, leafrollers, locust borer, maple leaf cutter, mealy bugs, mimosa webworm, Nantucket pine tip moth, oak leafminers, oak leaf skeletonizer, oakworm complex, oleander caterpillar, olive ash borer, orange striped oakworm, orange tortrix, periodical cicada, pine sawfly, pine spittlebug, pitch pine tip moth, plant bugs, poinsettia hornworm, psyllids, puss caterpillar, redhumped oakworm, rose aphid, rose chafer, roseslug, saddled prominent, sawflies (exposed), scale insects, sowbugs, spiny elm caterpillar, springtails, spruce budworm, spruce needleminer, subtropical pine tip moth, tent caterpillar, thorn bug, thrips (exposed), ticks, walnut caterpillar, webworms, western hemlock looper, western spruce budworm, willow leaf beetle, and yellow poplar weevil.

Observe plant response precautions. Apply dilute sprays to obtain thorough coverage of upper and lower leaf surfaces. To control scale insects, treat trunks, stems and twigs in addition to plant foliage. For optimum worm control, treat when in early instars. Addition of a sticker may improve residual control.

Use 25 pounds for ips engraver beetle, mountain pine beetle, roundheaded pine beetle, and western pine beetle. Effective as a preventative treatment only. Repeat annually as required to prevent beetle attacks. Apply 1 gallon of spray per 50 square feet of bark in late May to early July or prior to beetle attack. Treat tree trunks ground level up, until trunk diameter is less than 5 inches.

LAWNS AND RECREATIONAL AREAS

LAWNS AND RECREATIONAL AREAS (including turf, golf courses, and parks) - For ants, armyworm, bluegrass billbug, centipedes, chiggers, cutworms, earwigs, essex skipper, European chafer, fall armyworm, fiery skipper, flea, grasshopper, June beetle, leathopper, lucerne moth, millipede, mosquito, sod webworm (lawn moth), sowbug, springtail, tick, and yellowstriped armyworm, use 1-1/4 pounds in 150 to 200 gallons of spray mixture per 5000 square feet of established lawn, recreational area, roadway or path border. For best results, mow lawn and apply after watering or rain. Insure good penetration of turf. Garden hose or pressure application may be used. Repeat 2 to 3 weeks later if necessary.\

For chinch bug and white grub, use 1-7/8 pounds in 150 to 200 gallons of spray per 5000 square feet.

MOSQUITO CONTROL

) For dilute-spray ground applications to trees (including shade trees, shelter belts, forests, plantations, parks and recreational areas), ornamentals, woody plants and shrubs, apply the specified dosage per 100 gallons of water. For concentrate-spray ground applications, apply the specified dosage per acre in sufficient spray volume to provide thorough coverage. To prepare small volumes of spray, use 1-1/4 tablespoon per gallon of water where rates of 1-1/4 pounds are indicated.

For aerial applications to forest trees (including shade trees, shelter belts, plantations, parks and recreational areas), commercially grown ornamentals, woody plants, and shrubs, apply the specified dosage per acre in sufficient spray volume to provide thorough coverage. Avoid direct application to lakes, streams, and ponds.

ADULT MOSQUITOES - On pastures, rangelands, parks, recreational areas, logging camps, military posts and adjacent forested lands or wastelands, use 1/3 to 1-1/4 (1/3 to 1-1/4 tablespoons per gallon).

) Treat shrubbery and areas where adult mosquitoes congregate. Treat when adult mosquitoes are active in early morning or late evening. Repeat at 7 to 10 day intervals. Use 1/3 to 2/3 pound per 100 gallons in mistblowers, 2/3 to 1-1/4 pounds per acre in aerial sprays and 1-1/4 pounds per acre in low pressure ground sprayers.

CAUTION. May kill shrimp and crabs. Do not use in areas where these are important resources.

OBSERVE BEE CAUTION.

For residential control in subtropical regions, apply 4 gallons of prepared spray per 2000 square feet of surface area. Repeat in 3 to 6 months or when necessary.

IMPORTED FIRE ANT CONTROL

To prepare small amounts, use 1/3 ounce per gallon of water.

For lawns, cemeteries, recreational areas (including turf, golf courses and parks), pastures, rangeland, forested lands and wastelands, use 2 pounds per 100 gallons of water.

Apply a total of 2 gallons of the diluted solution over the surface of each mound or at least 1 quart per 6 inches of mound diameter using a bucket, can or other appropriate equipment. Thoroughly wet mound and surrounding area to a 4 ft. diameter (12 sq. ft.). Do not disturb

mounds prior to treatment. Pour solution from a height of about three feet to give sufficient force to break mound apex and flow into ant tunnels. For best results, apply in cool weather, 65-80 degrees, or in early morning or late evening hours. Repeat application if mound activity resumes after 10 days. Treat new mounds as they appear. Pressurized sprays may disturb the ants and cause migration, reducing product effectiveness.

PEST CONTROL IN AND AROUND BUILDINGS

Limited to Pest Control Operators Only

Use 25 pounds per 100 gal. water (25 tablespoons/gallon) for ants and cockroaches.

Use 12-1/2 pounds per 100 gal. water (12-1/2 tablespoons/gallon) for brown dog tick, earwig, flea, millipede, and silverfish. For use in and around buildings such as homes, apartments, warehouses, barns, and municipal and recreational areas.

Apply as a coarse wet spray or with a paint brush and thoroughly treat cracks and crevices, baseboards, corners, walls, door sills, and window frames, quarters of household pets, ant trails, outside perimeter of dwellings and other areas where insects tend to congregate.

Do not use as a space spray. Repeat when necessary but not more often than twice per week. Do not use in food areas of food handling establishments, restaurants, or other areas where food is commercially prepared or processed. Do not use in service areas while food is exposed. Avoid application to surfaces where visible spray residues are objectionable.

POULTRY INSECT CONTROL

For use on chickens, ducks, geese, gamebirds, pigeons, and turkeys to control chicken mite, fleas, lice, and northern fowl mite.

For use as a direct mist spray on birds by:

1) Misting with Electric Fog Machine: Mix 3/8 pound (6 ounces) in 1 gallon of spray. Use 1-1/2 gallons per 1000 hens in cages, on litter or on slatted floor. Repeat in 4 weeks if necessary.

OR

2) Spraying with knapsack or cylinder type compressed air sprayers: Mix 1/4 pound (4 ounces) in 5 gallons of spray. Use 1 gallon per 100 hens in cages, or litter or on slatted floor. Repeat in 4 weeks if necessary.

Direct mist spraying for chicken mite and fleas is a supplement to spraying roosts and buildings for control of these pests.

Do not apply to poultry and gamebirds within 7 days of slaughter.

For use in poultry quarters of roosts and buildings to control bedbug, chicken mite, fleas, fowl tick, lesser mealworm, lice, and northern fowl mite.

Spray roosts and buildings with conventional power spray of knapsack equipment. For chicken mite, fleas, and bedbugs, use 5 pounds per 100 gallons of water. For fowl ticks, use 20 pounds per 100 gallons of water. For lesser mealworms, use 62-1/2 pounds per 100 gallons. Spray 1 to 2 gallons per 1000 square feet of wall, bedding, litter or roost surface. Force spray into cracks. Repeat as needed. Avoid contamination of nests, eggs, and feed-

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ing and watering troughs. Ventilate while spraying.

Do not treat premises within 7 days of slaughter.

CENTER PIVOT IRRIGATION APPLICATIONS FOR ALFALFA, CORN AND POTATO

General Precautions for Applications Through Center Pivot Irrigation Systems

Maintain continuous agitation in mix tank during mixing and application to assure a uniform suspension.

Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute solution per unit time.

Application of more than label recommended quantities of irrigation water per acre may result in decreased product performance.

Apply only through systems containing anti-siphon and check valves which will prevent water source contamination and overflow of the mix tank and containing interlocking controls between the metering device and the water pump to insure simultaneous shut-off.

Do not apply when wind speed favors drift, when system connections or fittings leak, when nozzles do not provide uniform distribution, or when lines containing the product must be dismantled and drained.

Where sprinkler distribution patterns do not overlap sufficiently, unacceptable insect control may result.

Where sprinkler distribution patterns overlap excessively, plant injury may result on sensitive crops. Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water.

Directions for Use Through Center Pivot Irrigation Systems

Spray Preparation: Remove scale, pesticide residues, and other foreign matter for the chemical tank and entire injector system. Flush with clean water.

Application Instructions: Prepare a suspension of insecticide in a mix tank. Fill tank with 1/2 or 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Slowly add the required amount of insecticide and then the remaining volume of water. Suspension concentrations of 1-1/4 to 2-1/2 pounds per 1 to 4 gallons of water are recommended.

Set sprinkler to deliver 0.1 to 0.3 inches of water per acre. Start sprinkler and then uniformly inject the suspension into the irrigation water line so as to deliver the desired rate per acre. The suspension should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing.

Note: When treatment has been completed, further field irrigation over the treated area should be avoided for 24 to 48 hours to prevent washing the chemical off the crop.

FOR INSECT CONTROL THROUGH CENTER PIVOT IRRIGATION SYSTEMS

Recommended dosages refer to pounds of CARBARYL 80WP per acre. Consult the Directions for Use and General Precautions Through Center Pivot Irrigation Systems before application.

ALFALFA - Use 1-1/4 to 2-1/2 pounds per acre for alfalfa caterpillar and leafhopper.
Use 2-1/2 pounds for grasshoppers.
Observe plant response precautions.
Do not apply within 7 days of harvest.

CORN (field, sweet, pop) - Use 2-1/2 pounds per acre for corn earworm.
OBSERVE BEE CAUTION. Apply when first silks appear. If local populations warrant, a second application should be made 5 to 7 days after the first. Optimum timing is essential for effective control.

Use 2-1/2 pounds for European corn borer and Southwestern corn borer.

Apply as necessary. Optimum timing is essential for effective control.

Use 2-1/2 pounds for Western bean cutworm.

Make 2 applications. First should be made at 60% egg hatch. Second application should be made at 90% egg hatch. Optimum timing is essential for effective control.

Use 2-1/2 pounds for corn rootworm beetles and grasshoppers.

Treat as necessary.

Do not apply within 2 days of harvest on sweet corn (ears), 14 days of harvest (forage), and 48 days of harvest (fodder).

Do not apply within 14 days of harvest on field and pop corn (forage, silage) and 48 days of harvest (grain, fodder.)

POTATO - Use 2-1/2 pounds per acre for Colorado potato beetles, European corn borer, and flea beetle. Treat as necessary.
Do not apply within 7 days of harvest.

**CONDITIONS OF SALE - LIMITED WARRANTY
AND LIMITATIONS OF LIABILITY AND REMEDIES**

The directions on this label are believed to be reliable and should be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions, the failure to follow the label directions, or good application practices, all of which are beyond the control of Helena Chemical Company (the "Company") or seller. In addition, failure to follow label directions may cause injury to crops, animals, man, or the environment. The Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of the Company. The Company makes no other warranties or representations of any kind, express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose, and no such warranty shall be implied by law.

The exclusive remedy against the Company for any cause of action relating to the handling or use of this product is a claim for damage and in no event shall damages or any other recovery of any kind against the Company exceed the price of the product which causes the alleged loss, damage, injury, or other claim. The Company shall not be liable and any and all claims against the Company are waived for special, indirect, incidental, or consequential damages or expense of any nature, including, but not limited to, loss of profits or income.

The Company and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability, and remedies.