



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAR 3 - 1994

Sharon M. Johnson  
ROUSSEL UCLAP CORP.  
95 CHESTNUT RIDGE RD  
MONTVALE, NJ 07645

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Subject: Label Amendment Submission of 09/24/93 in Response to PR Notice 93-7  
EPA Reg. No. 4816-490  
PYRENONE CROP SPRAY

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments reflected on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

**WHAT THIS ACCEPTANCE MEANS:**

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the Worker Protection Standard (WPS) labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have not been reviewed or accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

**WHAT YOU NEED TO DO NEXT:**

By the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling
- AND
- WITHIN one year from date of this acceptance.



Recycled/Recyclable  
Printed with Soy/Canola Ink on paper that  
contains at least 50% recycled fiber

2/10

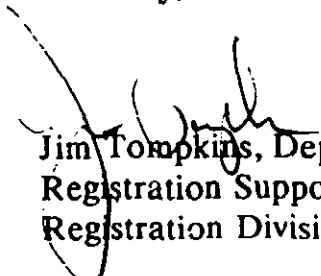
Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)  
Office of Pesticide Programs (7505C)  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, D.C. 20460-0001

Hand or courier deliveries of final printed labeling may be made to:

Document Processing Desk (FIN-LABEL)  
Office of Pesticide Programs  
Room 266A, Crystal Mall 2  
1921 Jefferson Davis Highway  
Arlington, VA 22202

Sincerely,



Jim Tompkins, Deputy Chief  
Registration Support Branch  
Registration Division (7505W)

Attachment

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs  
Registration Division

Sharon M. Johnston  
ROUSSEL UCLAF CORP  
95 CHESTNUT RIDGE RD  
MONTVALE NJ 07645

Comment for: EPA Reg Nr.4816-490  
PYRENONE CROP SPRAY

The following specific comments pertain to your WPS labeling submission concerning the product cited above:

User Safety Recommendations must either be placed in a box or printed on the label in a contrasting color from surrounding text.

Add the following User Safety Recommendation to the label in the location shown in Section A on Part 1 of the Product Worksheet in Supplement Three-A to PR Notice 93-7: "Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing."

The Agricultural Use Requirements section must be located in a clearly separate box on the product labeling -- with lines or other graphic indicators (such as contrasting color) to separate the section from the surrounding text.

You have incorrect wording in the first paragraph in the Agricultural Use Requirements box on your proposed label. That paragraph must contain the exact wording of the paragraph shown as "2" in Section F on Part 2 of the Product Worksheet in Supplement Three-A to PR Notice 93-7.

Delete the crossed-out statements on your proposed label. They are redundant statements or phrases.

**PYRENONE®**

**CROP SPRAY**

EPA Reg. No. 4816-490

EPA Est. No. 279-NY-1

- \* Contains 0.5 pounds of pyrethrins per gallon
- \* Contains 5.0 pounds of piperonyl butoxide per gallon
- \* Designed for use on minor crops
- \* Can be used up to and including the day of harvest
- \* Can be used as a tank-mixed exciter

**ACTIVE INGREDIENTS:**

Pyrethrins .....	6.0%
*Piperonyl Butoxide, Technical .....	60.0%
†INERT INGREDIENTS: .....	34.0%
	100.0%

\*Equivalent to 48.0% (butylcarbityl)(6-propylpiperonyl) ether and 12.0% related compounds.

†Contains Petroleum Distillate

PYRENONE - Registered Trademark of Roussel Uclaf Corporation

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

**STATEMENT OF PRACTICAL TREATMENT**

**IF SWALLOWED:** Do not induce vomiting unless directed by a physician. Contains Petroleum Solvent. Call a physician or poison control center at once.

**IF INHALED:** Remove victim to fresh air. Apply artificial respiration if indicated.

**IF ON SKIN:** Remove contaminated clothing and wash affected areas with soap and water.

**IF IN EYES:** Flush eyes with plenty of water. Call a physician if irritation persists.

See page 3 of this label for additional precautions

Roussel Uclaf Corporation  
95 Chestnut Ridge Road  
Montvale, NJ 07645

NET CONTENTS: \_\_\_\_\_

ACCEPTED  
with COMMENTS  
In EPA Letter Dated

MAR 3 1994

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

4816-490

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS & DOMESTIC ANIMALS  
CAUTION**

Harmful if swallowed or inhaled. Avoid breathing spray mist. Do not get in eyes. Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling.

**Personal Protective Equipment:**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

**Applicators and other handlers must wear:**

- long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, nitrile rubber, neoprene rubber, or viton.
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering Controls Statements:**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)] the handler PPE requirements may be reduced or modified as specified in the WPS.

When using in an enclosed area, do not remain in treated area. Ventilate the area after treatment is completed. All food processing surfaces should be removed or covered during treatment, or thoroughly cleaned before using. When using this product in these areas, apply only when facility is not in operation.

When using the product as a space spray in food processing plants, foods should be removed or covered during treatment. Do not apply as a space spray while food processing is underway. Food processing surfaces and equipment must be covered during treatment or cleaned with a suitable detergent and rinsed with potable water before reuse. Except in Federally inspected meat and poultry plants, food processing operations may continue when this product is applied as a surface spray with care and in accordance with the directions and precautions given above.

**USER SAFETY RECOMMENDATIONS**

**Users should:**

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

**ENVIRONMENTAL HAZARDS**

This product is toxic to fish. 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. Do not contaminate water when disposing of equipment washwaters. Do not apply directly to water except as indicated in the Directions for Use.

**PHYSICAL OR CHEMICAL HAZARDS**

Do not use or store near heat or open flame. Do not use in undiluted form.

**BEST AVAILABLE COPY**

### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

**PESTICIDE STORAGE AND SPILL PROCEDURES:** Store upright at room temperature. Avoid exposure to extreme temperatures. In case of spill or leakage, soak up with absorbent material such as sand, sawdust, earth, fuller's earth, etc. Dispose of with chemical waste.

**PESTICIDE DISPOSAL:** Pesticide, spray mixture, or rinse water that cannot be used according to label instructions must be disposed of at or by an approved waste disposal facility.

**CONTAINER DISPOSAL:** Triple rinse (or equivalent) then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other approved State and local procedures.

**CONTAINERS ONE GALLON AND SMALLER:** Do not reuse container. Wrap container in several layers of newspaper and discard in trash.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Pyrenone Crop Spray is relatively non-toxic to Honey Bees. To maximize this benefit, apply early in the morning or late in the evening.

This product is not registered for use in commercial agriculture in Arizona.

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 emergency assistance. It also contains specific statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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.

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:

- Coveralls
- Chemical-resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber or viton
- Shoes plus socks

**USE THROUGH IRRIGATION SYSTEM (CHEMIGATION):** Refer to supplemental labeling entitled "DIRECTIONS FOR APPLICATION THROUGH IRRIGATION SYSTEMS" (available through your Roussel Uclaf Corporation distributor) for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

Pyrenone Crop Spray may be used on most crops because its active ingredients are exempt from tolerances when applied to growing crops. The crop grouping scheme used on this label was devised by the Environmental Protection Agency to expedite minor use pesticide registration. Each crop grouping on this label contains the phrase "including, but not limited to," and then lists a number of crops in each group. This wording allows the use of Pyrenone Crop Spray on crops that may not be specifically listed on this label (providing that the group to which the crop belongs is listed).

Pyrenone Crop Spray may be applied to the following crops:

**ROOT AND TUBER VEGETABLES:** Including, but not limited to, Arracacha; arrowroot; arrowroot, purple, artichoke, Japanese; artichoke, Jerusalem; beet; beet, sugar; burdock, edible; carrot; cassava, bitter or sweet; celeriac (celery root); chervil, turnip-rooted; chicory; chufa; dasheen (taro); ginger; ginseng; horseradish; loren; parsley, turnip-rooted; parsnip; potato; radish; radish, Japanese (Daikon); rutabaga; salsify (Oyster plant); salsify, black; salsify, Spanish; skirret; sweet potato; taniel (cocoyam); turmeric; turnip; yam, true; yam, bean.

**LEAVES OF ROOT AND TUBER VEGETABLES:** Including, but not limited to, beet; beet, sugar; burdock, edible; carrot; cassava, bitter or sweet; celeriac; chervil, turnip-rooted; chicory; dasheen; parsnip; radish; radish, Japanese; rutabaga; salsify, black; sweet potato; taniel; turnip; yam, true.

**BULB VEGETABLES (allium spp.):** Including, but not limited to, garlic; leek; onion; shallot.

**LEAFY VEGETABLES:** Including, but not limited to, Amaranth (leafy amaranth, Chinese spinach, tampala); arrugula (Roquette); celery; celtuce; chervil; corn salad; chrysanthemum, edible leaved; chrysanthemum, garland; cress, garden; cress, upland (yellow rockets, winter cress); dandelion; dock (sorrel); endive (escarole); fenel, Florence; lettuce; orach; parsley; purslane, garden; purslane, winter; rhubarb; spinach; spinach, fine (Malabar, Ceylon); spinach, New Zealand; Swiss chard.

**BRASSICA (COLE) LEAFY VEGETABLES:** Including, but not limited to, Broccoli; broccoli, Chinese (gai lan); broccoli raab (rapini); Brussels sprouts; cabbage; cabbage, Chinese (bok choy); cabbage, Chinese mustard (gai choy); cauliflower; collards; kale; kohlrabi; mustard greens; rape greens.

missing text

**LEGUME VEGETABLES:** Including, but not limited to, Beans (Phaseolus spp.) (includes adzuki beans, field beans, kidney beans, lima beans, moth beans, mung beans, navy beans, pinto beans, rice beans, runner beans, snap beans, tepary beans, urd beans, wax beans); beans (Vigna spp.) (includes asparagus beans, blackeyed peas, catjang, Chinese longbean, cowpeas, crowder peas, southern peas, yardlong beans); broad beans (fava beans - Vicia faba); chick peas (garbanzo beans); quar; jackbean (swordbean); lablab beans (hyacinth bean); lentils; peas (Pisum spp.) (includes garden peas, field peas, sugar peas); pigeon peas; soybeans.

**LEAVES OF LEGUME VEGETABLES:** Including, but not limited to, Beans (Phaseolus spp.) (includes adzuki beans, field beans, kidney beans, lima beans, moth beans, mung beans, navy beans, pinto beans, rice beans, runner beans, snap beans, tepary beans, urd beans, wax beans); beans (Vigna spp.) (includes asparagus beans, blackeyed peas, catjang, Chinese longbean, Cowpeas, crowder peas, southern peas, yardlong beans); broadbeans (fava beans - Vicia faba); chick peas (garbanzo beans); quar; jackbean (sword bean); lablab beans (hyacinth bean); lentils; peas (Pisum spp.) (includes garden peas, field peas, sugar peas); pigeon peas; soybeans.

**FRUITING VEGETABLES:** Including, but not limited to, Eggplant; ground cherry (Physalis spp.); pepinos (Solanum muricatum); pepper (includes bell peppers, chili peppers, cooking peppers, pimientos, sweet peppers); tomatillo; tomatoes.

**CUCURBIT VEGETABLES:** Including, but not limited to, Balsam pear (bitter melon); Chinese waxgourd (Chinese preserving melon); citron melon; cucumber; gherkin; gourds, edible (Lagenaria spp., Luffa acutangula, L. cylindrica); melons, including hybrids (Cucumis melo) (including cantaloupe, casaba, crenshaw, honeydew melons, honey balls, mango melon, muskmelon, Persian melon); pumpkin (Cucurbita spp.); squash, summer (Cucurbita pepo var. melopepo); squash, winter (Cucurbita maxima, C. moschata); watermelon, including hybrids (Citrullus spp.); zucchini.

10 of 10

**ORIENTAL VEGETABLES:** acerola; atemoya; balsam pear (bitter melon); carambola; Chinese broccoli (Gai Lon); Chinese cabbage (Bok Choy, Napa); Chinese longbeans; Chinese mustard cabbage (Gai Choy); Chinese spinach; Chinese waxgourd; cantaro; citron melon; dasheen; ginger; ginseng; Japanese artichoke; Japanese radish (Daikon); rambutan.

**CITRUS FRUITS** (Citrus spp., Fortunella spp.): Including, but not limited to, Calamondin; citrus citron, citrus hybrids (Citrus spp.) (includes chironja, tangelos, tangors); grapefruit; kumquats; lemon; limes; mandarin (tangerine); orange, sour; orange, sweet; pummelo; satsuma mandarin.

**POME FRUITS:** Including, but not limited to, apple; crabapple; loquat; pear; pear, oriental; quince.

**STONE FRUITS:** Including, but not limited to, apricot; cherry, sour; cherry, sweet; nectarine; peach; plum and prune; plum, Chickasaw; plum, Damson; plum, Japanese.

**SMALL FRUITS AND BERRIES:** Including, but not limited to, blackberry; blueberry; cranberry, currant; dewberry; elderberry; gooseberry; grape; huckleberry; loganberry; olallie berry; raspberry, black and red; strawberry; youngberry.

**SUBTROPICAL FRUITS:** avocado; banana; carob; Barbados cherry; cherimoya; dates; durian (Jackfruit); feijoa; figs; guava; kiwifruit; lychee; mango; papaya; passion fruit; persimmon; pineapple; pomegranate.

**TREE NUTS:** Including, but not limited to, almond; beech nut; Brazil nut; butternut; cashew; chestnut; chinquapin; filbert (hazelnut); hickory nut; macadamia nut (bush nut); pecan; pistachio; walnut, black and English (persian).

**CEREAL GRAINS:** Including, but not limited to, barley; buckwheat; corn (sweet and field); millet; proso; oats; millet, pearl; popcorn; rice; rye; sorghum (milo); teosinte; triticale; wheat; wild rice.

**FORAGE, FODDER AND STRAW OF CEREAL GRAINS:** Including, but not limited to, barley; buckwheat; corn (sweet and field); millet; proso; oats; millet, pearl; popcorn; rice; rye; sorghum (milo); teosinte; triticale; wheat; wild rice.

**GRASSES FOR SEED, FORAGE, FODDER AND HAY:** Including, but not limited to, any grass (Gramineal family, green or cured, except sugarcane and those listed in the cereal grains group) pasture and range grasses, grasses grown for hay and silage, Bermuda grass, bluegrass, bromegrass, fescue.

**NONGRASS ANIMAL FEEDS:** Including, but not limited to, alfalfa; bean, velvet; clover; kudzu; lespedeza; lupine; sainfoin; trefoil; vetch, crown; vetch, milk.

**HERBS AND SPICES:** Including, but not limited to, anise (aniseed); balm; basil; borage; burnet; camomile; caraway; catnip; chicory; chives; daisy; coriander; costmary; cumin; curry leaf; dill; fennel (Italian and sweet); fenugreek; horehound; hyssop; marigold; marjoram, sweet (oregano); marjoram, wild; mint; nasturtium; paprika; parsley; pennyroyal; rosemary; rue; sage; savory, summer and winter; sweet bay (bay leaf); tansy; tarragon; thyme; wintergreen; woodruff; wormwood.

**ADDITIONAL CROPS:** Including asparagus; avocado; chayote; coffee; cotton; hops; jojoba; okra; pineapple; safflowers; sesame; sugarcane; sunflowers; tea.

**ORNAMENTALS:** Including, but not limited to, African violet; ageratum; aster; azalea; begonia; cacti; calceolaria; calendula; calla; camellia; camellias; carnations; caenothus; chrysanthemum; cineraria; coleus; cyclamen; cypress; daffodil; dahlia; delphinium; eucalyptus; ferns; ficus; foliage plants; fuschia; gardenia; geranium; gladiolus; gloxina; gypsophillia; hyacinth; hydrangea; imitari, foles; iris; ivy; lilies; maidenhair fern; marigold; narcissus; orchids; pansy; pelargonium; peony; petunia; philodendron; phlox; poinsettias; pyracantha; rhododendron; roses; rubber plant; snapdragon; stock; sweet pea; tulip; viburnum; wandering jew; zinnia and Andromeda; arbovitae; ash; beech; birch; boxwood; butternut; chamaecyparis; cherry; cotoneaster; crabapple; dogwood; Douglas fir; elm; euonymus; fir; firethorn; forsythia; hackberry; hawthorn; hemlock; hickory; holly; honey locust; horse chestnut; juniper; larch; laurel; lilac; linden; London plane; magnolia; maple; mimosa (silk tree); mountain ash; myrtle; oak; pachysandra; peach; pine; planetree; poplar; privet; quince; spruce; sycamore; Taxus; tulip tree; viburnum; walnut; willow; yew.

## TO CONTROL THE FOLLOWING INSECTS:

Including, but not limited to, Achemon sphinx moth, alfalfa caterpillar, alfalfa looper, alfalfa weevil, almond moth, Angoumois grain moth, ants, aphids, apple maggot, armyworms, artichoke plume moth, asparagus beetle, Bagworm, bean beetles, bean leaf beetles, bedbugs, beet armyworm, beet webworm, beetles, biting flies, black widow spiders, blister beetles, blossom weevil, blowflies, blueberry maggot, boll weevil, botworm, boxelder bug, budmoth, bugs, Cabbage looper, caddises, cankerworms, carpet beetles, carrot rust fly, carrot weevil, caterpillars, centipedes, cereal leaf beetle, cherry fruit fly, chigger, chinch bug, cicada, cigarette beetle, clothes moth, clover mite, clover weevil, cockroaches, codling moth, Colorado potato beetle, collembola, confused flour beetle, corn borers, corn earworm, corn flea beetle, corn rootworms, cornsaw beetle, cotton leaf perforator, crane flies, crickets, cross-striped cabbageworm, cucumber beetles, cutworms,

Darkling beetle, darkling ground beetle, deer fly, deer tick, diamondback moth caterpillars, digger wasps, Douglass fir tussock moth, dried fruit beetle, drugstore beetle, Earwigs, eastern tent caterpillar, Egyptian alfalfa weevil, elm bark beetle, elm leaf beetle, European corn borer, European pine tip moth, Face fly, fall webworm, fire ants, firebrats, fireworms, flat grain beetle, fleas, flea beetles, flies, forest tent caterpillars, fruit flies, fulgorids, fungus gnats,

Garden webworm, granary weevil, grape leafhopper, grapeleaf skeletonizer, grasshoppers, grapevine root borer, green bug, green cloverworm, green fruitworm, green June beetle, green peach aphid, gypsy moth, Harlequin bug, Heliothis, hessian fly, hickory shuckworm, homets, horn fly, hornworms, horse fly, house fly, Indian meal moth, imported cabbageworm, Japanese beetle, katydids,

Lace bugs, leaf beetles, leaf-footed bugs, leafhoppers, leafminers, leafrollers, leaf tiers, lesser cornstalk borer, lesser grain borer, lice, little house fly, loopers, Lygus, maize weevil, mealybugs, Mediterranean flour moth, melonworm, merchant grain beetle, Mexican bean beetle, midges, millipedes, mosquitoes, mushroom flies, Nantucket pine tip moth, navel orangeworm, nitidulids,

Oakworms, onion maggot, Oriental fruitmoth, peachtree borer, pear psylla, phorids, pickleworm, pillbugs, pine needle miner, pine tube moth, pine weevils, plant bugs, plum curculio, plume moths, potato aphids, potato leafhopper, potato tuberworm, psyllids,

Range caterpillars, redbanded leafroller, redhumped caterpillar, red flour beetle, rice weevil, rusty grain beetle, sap beetles, sawtoothed grain beetle, sciarids, shield bugs, silverfish, skippers, sod webworm, sorghum midge, sowbugs, soybean looper, squarenecked grain beetle, spittlebugs, springtails, squash beetle, squash bugs, squash vine borer, stable fly, stalk borers, stink bugs, strawberry mites, strawberry weevil,

Tabanids, tarnished plant bug, tent caterpillars, thrips, ticks, tomato hornworm, tomato pinworm, tortoise beetles, tortrix, tussock moths, velvetbean caterpillar, vinegar flies, Walnut caterpillar, wasps, webworms, weevils, whiteflies, woollybear caterpillar, yellowstriped armyworm, yellowjackets.

## USE ON GROWING CROPS

**USED ALONE:** Pyrenone Crop Spray is designed for use on minor crops and as a pre-harvest spray when other materials cannot be used due to pre-harvest interval restrictions. Pyrenone Crop Spray may be used up to and including the day of harvest. Apply up to 0.05 pounds of pyrethrins per acre and repeat as required to maintain effective control. Use the calibration chart listed below to calculate the desired application rate. Use in sufficient water for thorough coverage of upper and lower leaf surfaces.

### CALIBRATION CHART

Pounds of pyrethrins Per Acre	Fluid Ounces Pyrenone Per Acre	Acres Treated Per Gallon of Pyrenone
0.004	1	128
0.008	2	64
0.016	4	32
0.032	8	16
0.050	12	11

**BEST AVAILABLE COPY**

**USED IN COMBINATION WITH OTHER INSECTICIDES:** Pyrenone Crop Spray may be combined with other insecticides for quicker and more complete control and as an exciter to flush insects out of hiding and into contact with spray residues. The application must conform to the accepted use precautions and directions for both products. Pyrenone Crop Spray may be tank-mixed at rates of up to 0.05 pounds of pyrethrins with the amount of companion insecticide specified for one acre. Products with which Pyrenone Crop Spray may be tank-mixed include, but are not limited to, Actellic<sup>1</sup>, Ambush<sup>1</sup>, Ammo<sup>0</sup>, Apollo<sup>k</sup>, Asana<sup>1</sup>, Baythroid<sup>1</sup>, Bidrin<sup>1</sup>, Biobit<sup>1</sup>, Bolstar<sup>1</sup>, Capture<sup>0</sup>, Carzol<sup>k</sup>, Comite<sup>0</sup>, Curecron<sup>0</sup>, Cygon<sup>0</sup>, Cymbush<sup>1</sup>, Cythion<sup>0</sup>, diazinon<sup>0</sup>, Dibrom<sup>0</sup>, Dimilin<sup>0</sup>, DiPel<sup>a</sup>, Di-Syston<sup>1</sup>, Fyradan<sup>0</sup>, Guthion<sup>1</sup>, Imidan<sup>1</sup>, Javelin<sup>n</sup>, Karate<sup>1</sup>, Kelthane<sup>m</sup>, Kryocide<sup>c</sup>, Lannate<sup>1</sup>, Larvin<sup>1</sup>, Lorsban<sup>0</sup>, Mitac<sup>k</sup>, Mocap<sup>1</sup>, Monitor<sup>1</sup>, Ornite<sup>0</sup>, Orthene<sup>0</sup>, Penncap M<sup>c</sup>, Pounce<sup>0</sup>, Reldan<sup>0</sup>, Scout<sup>h</sup>, Sevin<sup>1</sup>, Thiodan<sup>0</sup>, Trident<sup>n</sup> and Vydate<sup>1</sup>.

Prior to tank-mixing, a small jar compatibility test should be conducted using the proper proportions of chemicals and water to ensure the physical compatibility of the mixture.

Tank-mix applications must be made in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing.

**USE ON GREENHOUSE FRUIT, VEGETABLE, FLOWER AND FOLIAGE PLANTS:**

**USED ALONE:** Combine 12 to 24 ounces of Pyrenone Crop Spray with 100 gallons of water for applications with conventional hydraulic sprayers or 1 to 2 teaspoons per gallon of water for applications with compressed air sprayers.

**USED IN COMBINATION WITH OTHER INSECTICIDES:** To provide quick knockdown of insects when used with a residual insecticide, tank-mix 1 to 4 ounces of Pyrenone Crop Spray with the proper amount of companion insecticide in 100 gallons of water and apply with a conventional hydraulic sprayer.

Applications must be made in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing.

**IMPORTANT NOTE:** Plant safety is an important consideration when using insecticides in a greenhouse. However, it is not possible to evaluate the phytotoxicity of Pyrenone Crop Spray towards numerous plant varieties that may react differently to insecticides in different growth stages or under varying environmental conditions. Before making widespread applications of Pyrenone Crop Spray, treat a limited number of plants and observe for phytotoxicity over a 10 day period.

**USE OUTDOORS ON TREES, SHRUBS, FLOWERS AND FOLIAGE PLANTS:**

**USED ALONE:** Combine 12 to 24 ounces of Pyrenone Crop Spray with 100 gallons of water for applications with conventional hydraulic and airblast sprayers or 12 to 24 ounces of Pyrenone Crop Spray with 10 gallons of water for applications with low volume mist blowers or 1 to 2 teaspoons per gallon of water for applications with compressed air sprayers.

**USED IN COMBINATION WITH OTHER INSECTICIDES:** To provide quick knockdown of insects when used with a residual insecticide, tank-mix 1 to 2 ounces of Pyrenone Crop Spray with the proper amount of companion insecticide in 100 gallons of water (10 gallons of water for low volume application with mist blowers) and apply with conventional hydraulic or airblast sprayers.

Applications must be made in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing.

**FOR CONTROL OF GYPSY MOTH CATERPILLARS AND ADULTS:** Combine 8 to 12 ounces of Pyrenone Crop Spray with 100 gallons of water for applications with conventional hydraulic sprayers or 8 to 12 ounces of Pyrenone Crop Spray with 10 gallons of water for applications with airblast sprayers. To provide quick knockdown of gypsy moth caterpillars when used with a residual insecticide, tank-mix 1 to 4 ounces of Pyrenone Crop Spray with the proper amount of companion insecticide in 100 gallons of water (10 gallons of water for airblast sprayers) and apply with a conventional hydraulic sprayer.

Applications must be made in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing.

**USE INDOOR ON TREES, SHRUBS FLOWERS AND FOLIAGE PLANTS:**

**USED ALONE:** Combine 12 to 24 ounces of Pyrenone Crop Spray with 100 gallons of water for applications with conventional hydraulic sprayers or 1 to 2 teaspoons of Pyrenone Crop Spray per gallon of water for applications with compressed air sprayers.

**USED IN COMBINATION WITH OTHER INSECTICIDES:** To provide quick knockdown of insects when used with a residual insecticide, tank-mix 1 to 4 ounces of Pyrenone Crop Spray with the proper amount of companion insecticide in 100 gallons of water and apply with a conventional hydraulic sprayer.

Applications must be made in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing.

**USE ON TURF AND GRASS**

**USED ALONE:** To control ants, armyworms, billbugs, chinch bugs, chiggers, crickets, cutworms, earwigs, fleas, grasshoppers, Hyperodes weevils (adults), Japanese beetles (adults), mole crickets, sod webworms and ticks, dilute and apply per the instructions in the following table:

Treatment Area (Square Feet)	Fluid ounces of Pyrenone	Suggested Volume <sup>a</sup> of Water (Gallons)
1000	0.25 to 0.5	2.5 to 5.0
5000	1.25 to 2.5	12.5 to 25.0
20000	5.0 to 10.0	50.0 to 100.0
43560 <sup>b</sup>	12.0 to 24.0	110.0 to 220.0

<sup>a</sup>Dilute with enough water to obtain thorough coverage.  
<sup>b</sup>43560 square feet = 1 acre.

**USED IN COMBINATION WITH OTHER INSECTICIDES:** To provide quick knockdown of insects when used with a residual insecticide, tank-mix Pyrenone Crop Spray with the proper amount of companion insecticide and apply at the rates listed above.

Applications must be made in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing.

**USED AS A TURF PEST DIAGNOSTIC AID:** To detect turf insects prior to making an insecticide application or to evaluate control from previous treatments, dilute one tablespoon of Pyrenone Crop Spray per gallon of water and apply evenly with a sprinkling can over one square yard of turf. Record the species and number of insects present ten minutes after application. Sample 3 to 5 sites per 5000 square feet. Note: this procedure does not bring white grubs or billbug grubs to the surface. Use other methods to sample for these pests.

**USE WITH HYDROPONICALLY GROWN VEGETABLES**

**AS A WATER SYSTEM TREATMENT:** To control aquatic diptera larvae, apply Pyrenone Crop Spray to the water at the rates outlined in the following table:

<u>Pyrethrins Concentration</u>	<u>mL of Pyrenone Crop Spray</u>	<u>Gallons of Water</u>
0.1 ppm	64.6	10000
0.01 ppm	6.46	10000
0.001 ppm	0.646	10000

**USE ON HARVESTED FRUITS**

Including apples, blackberries, blueberries, boysenberries, cherries, crabapples, currants, dewberries, figs, gooseberries, grapes, guavas, loganberries, mangoes, muskmelons, oranges, peaches, pears, peas, pineapples, plums, raspberries, tomatoes.

**DIRECT SPRAY TO FRUITS IN BASKETS, ON TRUCKS OR IN PROCESSING PLANTS:** To control vinegar flies and fruit flies, dilute 1 part Pyrenone Crop Spray with 1200 parts of water (1 pint per 150 gallons or 1 teaspoon per 12.5 pints of water). Thoroughly mix the emulsion in the spray tank and apply at high pressure at the rate of 2.5 to 3 pints of the diluted spray per ton of fruit. Direct the spray for maximum coverage of the baskets or hampers. It is important to spray between and beneath the containers.

**USE AS A SURFACE SPRAY**

**IN HOMES, RESTAURANTS, FOOD PROCESSING PLANTS, INDUSTRIAL INSTALLATIONS AND WAREHOUSES:** To control accessible, exposed stages of crawling insects including, but not limited to, ants, cockroaches, caddises, cigarette beetles, confused flour beetles, dark mealworms, dried fruit beetles, drugstore beetles, grain mites, red flour beetles, rice weevils, sawtoothed grain beetles, spider beetles, yellow mealworms, dilute 1 part of Pyrenone Crop Spray with 59 parts water and apply at the rate of 1 gallon to 750 square feet, paying special attention to force the spray into all cracks and crevices.

Except in Federally inspected meat and poultry plants, food processing operations may continue when this product is applied as a surface spray with care and in accordance with the directions and precautions given above.

**IN USDA INSPECTED FACILITIES:** To control accessible, exposed stages of crawling insects including, but not limited to, ants, cockroaches, caddises, cigarette beetles, confused flour beetles, dark mealworms, dried fruit beetles, drugstore beetles, grain mites, red flour beetles, rice weevils, sawtoothed grain beetles, spider beetles, yellow mealworms, dilute 1 part of Pyrenone Crop Spray with 19 parts of water and apply at the rate of 1 gallon to 750 square feet, paying special attention to force the spray into all cracks and crevices.

**USE AS A SPACE SPRAY**

To control crawling and flying insects in sites that include, but are not limited to, homes, restaurants, food processing plants, industrial installations and warehouses, Pyrenone Crop Spray may be diluted with water and applied as a space spray. For best results, close doors and windows before spraying and keep them closed for 30 minutes after treatment. The applicator must vacate the area after treatment and ventilate before reoccupying. Where oil residues are not undesirable, Pyrenone Crop Spray can be diluted in deodorized base oil instead of water and applied with mechanical, thermal or ULV applicators.

The use of this product in food processing or food handling establishments must be confined to time periods when the plant is not in operation. Foods should be covered or removed during treatment. Food processing surfaces and equipment must be covered during treatment or cleaned with a suitable detergent and rinsed with potable water before reuse.

**CRAWLING AND FLYING INSECTS:** For control of accessible, exposed stages of CRAWLING INSECTS including, but not limited to, ants, cockroaches, caddises, cigarette beetles, confused flour beetles, dark mealworms, dried fruit beetles, drugstore beetles, grain mites, red flour beetles, rice weevils, sawtoothed grain beetles, spider beetles, yellow mealworms and FLYING INSECTS including, but not limited to, Angoumois grain moths, cheese skippers, fruit flies, fungus gnats, gnats, house flies, Indianmeal moths, mosquitoes, Mediterranean flour moths, small flying moths, tobacco moths, dilute 1 part of Pyrenone Crop Spray with 11 parts of water or oil (10.67 ounces per gallon) and apply at the rate of 1 ounce per 1000 cubic feet of space. Direct the spray towards the ceiling and upper corners of the area and behind obstructions. Vacate the treated area and keep the area closed for at least 30 minutes after treatment. Ventilate the area before reoccupying. Repeat treatment as necessary.

**FLYING INSECTS:** For control of flying insects including, but not limited to, Angoumois grain moths, cheese skippers, fruit flies, fungus gnats, gnats, house flies, Indianmeal moths, mosquitoes, Mediterranean flour moths, small flying moths, tobacco moths, dilute 1 part of Pyrenone Crop Spray with 47 parts of water or oil (2.67 ounces per gallon) and apply at the rate of 1 ounce per 1000 cubic feet of space. Direct the spray towards the ceiling and upper corners of the area and behind obstructions. Vacate the treated area and keep the area closed for at least 30 minutes after treatment. Ventilate the area before reoccupying. Repeat treatment as necessary.

**STORED SWEET POTATOES:** To control vinegar flies and fruit flies, dilute 1 part Pyrenone Crop Spray with 19 parts of water (6.4 fluid ounces per gallon) and apply at the rate of 1 gallon per 100,000 cubic feet. Apply only when flying insects are present. Several applications may be necessary during periods of heavy infestation, but do not make more than 10 applications.

**IN BARN, MILKING PARLORS, MILK ROOMS, DAIRIES AND POULTRY HOUSES:** To control flying insects including, but not limited to, flies, fruit flies, mosquitoes, gnats, wasps, hornets and small flying moths, dilute 1 part of Pyrenone Crop spray with 63 ounces of water (2 ounces per gallon) and apply at the rate of 1 to 2 ounces per 1000 cubic feet. Apply as a fog or fine mist, directing the spray above livestock and poultry toward the ceiling and upper corners of the area being treated. For best results, close doors and windows before spraying and keep them closed for ten to fifteen minutes. The applicator must vacate the treated area after treatment and ventilate before reoccupying. Repeat application as necessary.

**USE IN STORED PRODUCT PROTECTION**

**AS A GRAIN AND SEED PROTECTANT:** Pyrenone Crop Spray may be applied to the following grains and seeds: barley, beans, birdseed, buckwheat, cocoa beans, corn, cottonseed, flax, oats, rice, rye, sorghum and wheat to protect them from grain storage insects for a full season or approximately 8 months. Pyrenone Crop Spray may be used in combination with a registered fumigant for use on heavily infested stored products.

To control stored product insects including, but not limited to, almond moths, Angoumois grain moths, caddises, cigarette beetles, confused flour beetles, drugstore beetles, flat grain beetles, granary weevils, Indianmeal moths, lesser grain borers, maize weevils, Mediterranean flour moths, merchant grain beetles, red flour beetles, rice weevils, rusty grain beetles, sawtoothed grain beetles and square-necked grain beetles, dilute at the rate of 1 part Pyrenone Crop Spray with 29 parts water (1 pint with 3 gallons 5 pints water). Thoroughly mix the emulsion and apply at the rate of 4 to 5 gallons per 1000 bushels of grain or seed as it is carried along a belt or as it enters the auger or elevator.

**SURFACE TREATMENT OF STORED GRAIN AND SEED:** To control Indianmeal moths, Angoumois grain moths and Mediterranean flour moths, monthly inspections should be made after the grain is placed in storage. If the top two or three inches are infested, dilute 1 part of Pyrenone Crop Spray with 19 parts of water and apply at the rate of 1 to 2 gallons per 1000 square feet of grain. Rake the mixture into the grain to a depth of 4 inches.



1810

**ON ALMONDS, PEANUTS AND WALNUTS IN BULK OR IN BAGS:** To control stored product insects including, but not limited to, almond moths, Angoumois grain moths, ants, caddises, cigarette beetles, confused flour beetles, drugstore beetles, flat grain beetles, granary weevils, Indianmeal moths, lesser grain borers, maize weevils, Mediterranean flour moths, merchant grain beetles, red flour beetles, rice weevils, rusty grain beetles, sawtoothed grain beetles and square-necked grain beetles, dilute 1.33 ounces of Pyrenone Crop Spray per gallon of water and apply a coarse wet spray over the top of stored nuts or the outer surface of stacked bagged nuts at the rate of 4 gallons per 1000 square feet. Apply at weekly intervals for about 6 weeks and then at 15-day intervals. The first two applications should be applied at the rate of 4 gallons per 1000 square feet and subsequent treatments should be applied at the rate of 2 gallons per 1000 square feet.

**STORAGE SITES:** To treat grain and seed storage sites, warehouse bins, trucks, cargo ships and planes prior to filling with grain or seed, the site should be thoroughly cleaned by sweeping out the waste, cobwebs and other debris on the walls and rafters as well as on the floor and about the door frames, paying special attention to the material lodged in the cracks and crevices. These accumulations should be removed and burned to kill eggs and insects that might be present.

In mills and elevators, particular attention should be given to the bin hoppers to remove all grain infested accumulations. Conveying equipment should also be made clean and free of trash deposits that could maintain an infestation. For farms, specific attention should be given to cleaning up around the used feed and grain bags, grain residues from wagons, harvesting equipment and feed troughs. Newly harvested grain should not be placed in the same bin with carry-over grain and all carry-over grain stocks not treated with grain protectant should be fumigated. These cleaning operations should be done within two or three weeks before harvest.

To treat the storage site prior to using it for storage, dilute 1 part of Pyrenone Crop Spray with 59 parts of water (1 pint with 7 gallons 3 pints of water) and apply to walls, floors, ceilings and partition boards at the rate of one gallon per 750 square feet. It is important to thoroughly treat all cracks and crevices.

**SPACE SPRAY ON STORED SWEET POTATOES:** To control vinegar flies and fruit flies, dilute 1 part Pyrenone Crop Spray with 19 parts of water (6.4 fluid ounces per gallon) and apply at the rate of 1 gallon per 100,000 cubic feet. Apply only when flying insects are present. Several applications may be necessary during periods of heavy infestation, but do not make more than 10 applications.

#### USE AS A LIVESTOCK AND POULTRY SPRAY

**TO KILL AND REPEL HORN FLIES, HOUSE FLIES, MOSQUITOES AND GNATS:** Dilute at the rate of 1/2 to 1 fluid ounce per gallon of water and apply to wet the hair thoroughly, with particular attention to top-line, underline, flanks, withers and other infested areas. Repeat treatment at intervals of 5 to 12 days for small insect populations or as needed when flies are emerging in large numbers.

**TO KILL AND REPEL STABLE FLIES, HORSE FLIES AND DEER FLIES:** Dilute at the rate of 2 fluid ounces per gallon of water and apply at a quart per adult animal to wet the hair thoroughly with particular attention to the legs, flanks, barrel, topline and other body areas commonly attacked by these flies or allow the animals to walk through the mist from mechanical spray equipment. Repeat treatment each week as needed.

**TO KILL AND REPEL FACE FLIES:** Dilute at the rate of 2 fluid ounces per gallon of water and apply using spray which produces large wetting droplets. Apply to the face of the animal in the morning before releasing to pasture. Apply sufficiently to wet the face but not more than 1 1/2 ounces per animal. Repeat daily as needed.

**TO CONTROL BITING AND SUCKING LICE ON CATTLE, HORSES, SHEEP, GOATS AND HOGS:** Dilute at the rate of 1 quart with 150 gallons of water (1 tablespoonful with 2 gallons) and spray to thoroughly wet the hair of the animal including the head and brush of the tail. Repeat treatment in 10 days to kill newly hatched lice.

**TO CONTROL POULTRY LICE:** It is not necessary to remove poultry from the housing unit during treatment. Dilute 2 fluid ounces of concentrate per gallon of water and spray roosts, walls and nests or cages thoroughly. Spray over the birds with a fine mist.

**TO CONTROL BEDBUGS AND MITES ON POULTRY AND IN POULTRY HOUSES:** Dilute at the rate of 2 fluid ounces per gallon of water and spray crevices of roost poles, cracks in walls and cracks in nests where the bedbugs and mites hide. This should be followed by spraying over the birds with a fine mist.

**TO CONTROL SHEEP "TICK" OR KED:** Dilute at the rate of 1 fluid ounce per 4 gallons of water and thoroughly wet all portions of the body by dipping or by spraying with sufficient pressure and with a nozzle adjustment that penetrates the wool. Treat at a rate sufficient to thoroughly wet the animal.

#### TO CONTROL FLEAS AND TICKS ON LIVESTOCK AND PETS

Dilute at the rate of 1 1/2 fluid ounces per gallon of water and wet the animal by dipping or spraying. For best results against fleas and ticks on dogs and cats, the animal quarters and bedding should also be treated with an appropriate insecticide.

#### USE IN MOSQUITO CONTROL

Pyrenone Crop Spray may be used for mosquito control programs involving residential, industrial, recreational and agricultural areas as well as swamps, marshes, overgrown waste areas, roadsides and pastures where adult mosquitoes occur. Pyrenone Crop Spray may be used over agricultural crops. For best results, apply when meteorological conditions create a temperature inversion and wind speed does not exceed 5 miles per hour. The application should be made so the wind will carry the insecticidal fog into the area being treated. Treatment may be repeated as necessary to achieve the desired level of control.

When used in cold aerosol generators that produce a fog with the majority of droplets in the 5 - 50 micron range, Pyrenone Crop Spray should be diluted with light mineral oil (specific gravity of approximately 0.8 at 60°F; boiling point: 500 - 840°F). An N.F. grade oil is preferred.

**GROUND APPLICATION:** To control adult mosquitoes and biting flies, apply up to 0.0025 pounds of pyrethrins per acre (use a 300 foot swath width for acreage calculations).

**TRUCK-MOUNTED ULV APPLICATION:** Dilute 5 parts of Pyrenone Crop Spray with 1 part of oil and apply at the rate of 2 to 2.25 ounces per minute while the machine is traveling 5 miles per hour. The nozzle should be positioned approximately 30° above horizontal off the side of the truck bed. The delivery rate and truck speed may be varied as long as the application rate is 0.002 to 0.0025 pounds of pyrethrins per acre (use a 300 foot swath width for acreage calculations).

**BACKPACK SPRAYER APPLICATION:** Apply 0.002 to 0.0025 pounds of pyrethrins per acre. Dilute 1 part of Pyrenone Crop Spray with 12 parts of oil and apply at the rate of 7 ounces per acre (based on a 50 foot swath, 7 ounces should be applied while walking 870 feet).

**AERIAL APPLICATION (FIXED WING AND HELICOPTER):** To control adult mosquitoes and biting flies, apply up to 0.0025 pounds of pyrethrins per acre with equipment designed and operated to produce a ULV spray application.

**TO CONTROL MOSQUITO LARVAE:** Dilute 7 ounces of Pyrenone Crop Spray with 50 gallons of oil or water and apply as a uniform fog or fine mist at the rate of 20 to 25 gallons per acre over wetlands, swamps, marshes or bodies of water where larvae may breed. Do not exceed this application rate or a fish kill may result.

**NOTICE:** Buyer assumes all responsibility for safety and use not in accordance with directions.

**BEST AVAILABLE COPY**

- <sup>a</sup> Registered Trademark of Abbott Laboratories.
- <sup>b</sup> Registered Trademark of American Cyanamid Company.
- <sup>c</sup> Registered Trademark of Atochem North America, Inc.
- <sup>d</sup> Registered Trademark of Ciba-Geigy Corporation.
- <sup>e</sup> Registered Trademark of the DowElanco Chemical Company.
- <sup>f</sup> Registered Trademark of E.I. DuPont de Nemours & Co., Inc.
- <sup>g</sup> Registered Trademark of FMC Corporation.
- <sup>h</sup> Registered Trademark of Hoechst-Roussel Agri-Vet Company
- <sup>i</sup> Registered Trademark of ICI Americas, Inc.
- <sup>j</sup> Registered Trademark of Mobay Corporation.
- <sup>k</sup> Registered Trademark of Nor-Am Chemical Company.
- <sup>l</sup> Registered Trademark of Rhone-Poulenc Ag Company.
- <sup>m</sup> Registered Trademark of Rohm and Haas Company.
- <sup>n</sup> Registered Trademark of Sandoz Crop Protection Corporation.
- <sup>o</sup> Registered Trademark of Uniroyal Chemical Company.
- <sup>p</sup> Registered Trademark of Valent USA Corporation.

**BEST AVAILABLE COPY**