

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 (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 enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

Exception: If the product is soil injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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 or butyl rubber or nitrile rubber or neoprene rubber or polyvinyl chloride (PVC) or viton
- Chemical-resistant footwear plus socks

11-31

Before applying MARKSMAN® HERBICIDE, read all directions and precautions appearing on the container label and this booklet. Failure to follow all directions and precautions may result in unsatisfactory weed control, crop injury, or illegal residues.

Where there are state/local requirements regarding atrazine use (including lower maximum rates and/or higher set-backs) which are different from the label, the more restrictive/protective requirements apply.

GENERAL INFORMATION

MARKSMAN® Herbicide is intended for control and suppression of annual broadleaf and perennial broadleaf weeds. MARKSMAN® Herbicide may be applied preplant through early post-emergence on field corn, seed corn, popcorn and silage corn, early post-emergence on grain sorghum, and as a post-harvest treatment in fallow (wheat/fallow/wheat) and ecofallow (wheat/corn or sorghum/fallow) rotations.

Ground and Surface Water Advisory:

MARKSMAN® Herbicide contains the active ingredient atrazine. Atrazine can leach through soil and has been found to result in contamination of water supplies by way of groundwater. Therefore growers are advised to avoid use of MARKSMAN® Herbicide in well-drained loamy-sand to sand soils, particularly in areas having high groundwater tables. Consult with your state or county extension agent for alternative recommendations such as Banvel Herbicide alone or in combination with a non-triazine herbicide.

Check valves or anti-siphoning devices must be used on all mixing equipment to prevent back-siphoning into wells or bulk storage tanks. See the storage and disposal section at the end of this booklet regarding proper disposal of excess pesticide, spray mixtures and rinsates.

Do not apply this product through any type of irrigation system. Do not contaminate irrigation ditches or water used for domestic purposes.

Mixing and Application:

MARKSMAN® Herbicide is a water-dispersible formulation that can be applied in water on corn, sorghum, or fallow. Sprayable fluid fertilizer may be used for preemergence application on corn. Fluid fertilizer may damage corn if applied after

12931

corn emergence. If a fluid fertilizer will be used, a compatibility test (see Compatibility Test) should be made prior to tank mixing.

Ground or aerial application equipment which will give good spray coverage of weed foliage should be used.

Rainfall or irrigation occurring within 4 hours after postemergence applications may reduce the effectiveness of MARKSMAN® Herbicide.

Apply 10 to 50 gallons of diluted spray per treated acre when using ground application equipment or 2 to 10 gallons of diluted spray per treated acre when using aerial application equipment. Use the higher spray volumes when treating dense or tall vegetation.

MARKSMAN Herbicide should not be applied during periods of gusty wind or when wind is in excess of 15 mph as uneven spray coverage may occur.

Sensitive Crop Precautions:

MARKSMAN® Herbicide may cause injury to desirable broadleaf plants or trees when contacting their roots, stems or foliage. To avoid potential off-target herbicide movement:

Do not apply MARKSMAN® Herbicide in the general vicinity of tobacco, tomatoes, or other highly sensitive plants.

Do not use aerial applications if broadleaf crops are growing in the vicinity of the area to be treated.

Do not make applications when winds are moving toward sensitive crops, inversions are present, or high temperatures (above 85° F) are expected on the day of application.

Use nozzles designed to produce large spray droplets such as Delavan Raindrops, Spraying Systems XR flat fans or large capacity flood nozzles such as Delavan D-10, Spraying Systems TK-10 - or greater capacity. Use spray pressure of 30 psi or less and 10 gpa or more; unless otherwise required by the manufacturer of drift reducing nozzles.

An agriculturally approved drift control agent may be added to further reduce the potential of physical drift at the time of application.

Consult your state and local authorities for possible other application restrictions

and advice.

Tank Mixing:

To ensure a uniform mixture when MARKSMAN® Herbicide is tank mixed with one or more other products, follow this procedure: Fill the spray tank approximately one-third full with water and with the agitator operating, add the recommended amount of ingredients using the following order: dry formulations (e.g. wettable powders, dry flowables) first, and liquid suspensions (e.g. flowables) next. Mix thoroughly and fill the tank to one-half full with continuous agitation. Add Emulsifiable Concentrate formulations last while maintaining agitation and then complete filling the spray tank with water. If a surfactant is to be used, add it last. If a drift control agent is to be used, follow the directions for mixing on the specific product label.

Band Treatments:

MARKSMAN® Herbicide may be applied as a band treatment. Use the formulas below to determine the appropriate rate and volume per treated acre.

<u>Band width in inches</u>	X	Broadcast RATE	=	
Band RATE				
Row width in inches		per treated acre		per treated
acre				

<u>Band width in inches</u>	X	Broadcast VOLUME	=	Band
VOLUME				
Row width in inches		per treated acre		per treated
acre				

Compatibility Test:

Before mixing in the spray tank, it is advisable to test compatibility by mixing all components in a small container in proportionate quantities (see following table).

14731

**Amount of Component to Add to One Pint
of Spray Carrier
(Assuming Volume is 25 Gallons Per Acre)**

<u>COMPONENT FORMULATIONS</u>	<u>RATE PER ACRE</u>	<u>LEVEL TEASPOONS</u>
Dry	1 lb.	1 1/2
Liquid	1 pt.	1/2

If components do not ball-up or form flakes, sludge, gels, oily films or layers, or other precipitates, then the tested spray mix is compatible. Usually incompatibility in any of the above described forms will occur within 5 minutes after mixing.

If components are incompatible, the use of an agriculturally approved compatibility agent is recommended. Rerun the above COMPATIBILITY TEST with a suitable compatibility agent (1/4 teaspoon per pint is equivalent to 2 pints per 100 gallons of fluid fertilizer).

Procedure for Cleaning Spray Equipment:

Before preparing spray mixture, be sure all equipment is clean to prevent uneven applications, clogged nozzles or crop injury. Thoroughly clean equipment following applications of MARKSMAN® Herbicide. Avoid allowing dry sediment formation within spray tank.

The steps listed below are suggested for thorough cleaning of spray equipment following applications of MARKSMAN® Herbicide or tank mixes of MARKSMAN® Herbicide.

1. Hose down thoroughly the inside as well as outside surfaces of equipment while filling the spray tank half full of water. Preferably, inside surfaces should be rinsed using a multi-directional nozzle such as Spray Systems Tank Rinsing Nozzle 27500E-TEF®. Flush by operating sprayer until the system is purged of all rinse water.
2. Fill tank with water while adding a commercially available tank cleaning agent such as Nutra-Sol®, Incide-out® or Loveland Tank and Equipment Cleaner®. Carefully read and follow tank cleaning agent label directions.

Operate the pump to circulate the cleaning solution through the sprayer system for 15 to 20 minutes and discharge a small amount through the boom and nozzles. Let the solution stand for several hours, preferably overnight.

3. Completely flush the cleaning solution out of the spray tank.
4. Remove nozzles and screens. Fill tank with clean water and circulate through the sprayer system for 15 to 20 minutes. Discharge a small amount through boom lines.
5. Completely flush rinse water out of the spray tank.

GENERAL WEED LIST

This is a general list of weed species which may be treated with MARKSMAN® Herbicide as recommended under the rates and timing sections of specific crop uses listed in this label. MARKSMAN® Herbicide, when applied at recommended rates, will control many ANNUAL broadleaf weeds and give growth suppression of many PERENNIAL broadleaf weeds including:

Annuals

- | | |
|--|------------------------------------|
| Buckwheat, Wild | Nightshade, Black |
| Burcucumber | Pigweed, Prostrate |
| Chickweed, Common | Pigweed, Redroot
(Carelessweed) |
| Clover, (Annual) | Pigweed, Rough |
| Cocklebur, Common | Pigweed, Smooth |
| Cucumber, Wild | Pigweed (Triazine Resistant) |
| Jimsonweed | Pigweed, Tumble |
| Kochia | Puncturevine |
| Kochia (Triazine Resistant) | Purslane, Common |
| Kochia (Sulfonylurea Resistant) | Ragweed, Common (Buffaloweed) |
| Ladysthumb | Ragweed, Giant |
| Lambsquarters, Common | Ragweed, Lance-Leaved |
| Lambsquarters,
(Triazine Resistant) | Sicklepod |
| Mallow, Common | Sida, Prickly (Teaweed) |
| Mallow, Venice | Smartweed, green |
| Marestail | Smartweed, Pennsylvania |
| Morningglory, Ivyleaf | Spanishneedles |
| Morningglory, Tall | Spurge, Prostrate |
| Mustard, Wild | Sunflower, Common (Wild) |
| Mustard, (Yellowtops) | Sunflower, Volunteer |

Tansymustard
Thistle, Russian
Velvetleaf

Perennials

Alfalfa
Artichoke, Jerusalem
Bindweed, Field
Bindweed, Hedge
Canada thistle
Clovers, (Perennials)
Dandelion, Common
Dock, Broadleaf (Bitterdock)
Dock, Curly

Dogbane, Hemp
Horsenettle, Carolina
Lespedeza
Milkweed, Common
Ragweed, Western
Smartweed, Swamp
Sowthistle
Vetch

ROTATIONAL CROPS

To avoid potential injury to rotational crops, use the following guidelines:

- 1) In cases of treated crop failure the area may be replanted to either corn or sorghum during the same cropping season. If corn is replanted, do not apply MARKSMAN® or BANVEL® until after emergence. Consult label of each product for application directions and do not exceed the maximum yearly use rate for MARKSMAN or BANVEL. If sorghum is the replanted crop *either BANVEL or MARKSMAN can be used as a postemergence application - follow each label's directions; do not exceed the maximum yearly use rate.*
- 2) If applied after June 10th, rotation with crops other than corn or sorghum the following spring, may result in crop injury.
- 3) In the High Plains and inter-mountain areas of the West, where rainfall is sparse and erratic or where irrigation is required, use only when corn or sorghum is to follow corn or sorghum, or when a crop of untreated corn or sorghum is to precede other rotational crops, **except where applied to sprinkler or overhead irrigated corn or sorghum at 2 pint/A or less.**
- 4) Plant only corn, sorghum, soybeans or peanuts the year following treatment. For soils containing a calcareous surface layer, such as those found in eastern parts of the Dakotas, KS, western MN, NE, injury may occur to soybeans planted the year following application.

- 5) Small grains may be planted 10 months following treatment. All other crops not previously designated to follow a treated corn crop may be planted 18 months after application. On soils containing a calcareous surface layer, small grain injury could occur.

FIELD, SEED*, POPCORN* AND SILAGE CORN

Observe all previously noted precautions, mixing and application instructions as well as the following:

*Do not apply MARKSMAN® Herbicide to seed corn or popcorn without first verifying with your local seed corn company (supplier) the selectivity of MARKSMAN® Herbicide on your inbred line or variety of popcorn. This precaution will help avoid potential injury of sensitive varieties.

MARKSMAN® Herbicide is not registered for use on sweet corn.

Direct contact of MARKSMAN® Herbicide with corn seed must be avoided in preplant or preemergence applications. If corn seeds are less than 1 1/2 inches below the soil surface, delay application until corn has emerged.

Corn growing under stress conditions such as low temperatures, drought, poor fertility, excessive moisture, or foliar damage due to hail, wind or insects, can exhibit various injury symptoms that may be more pronounced if herbicides are applied.

An agricultural approved surfactant, crop oil or sprayable fluid fertilizer (such as 1/2-1 gallon per acre of 28%, 30%, or 32% urea ammonium nitrate), or ammonium sulfate (2 - 2 1/2 lbs. per acre) may be added to spray mix to improve postemergence weed control, particularly on drought stressed weeds.

The use of adjuvants containing penetrants such as petroleum based oils after corn emergence may cause crop injury.

Corn may be harvested or grazed for feed once the crop has reached the ensilage (milk stage) or later in maturity.

A maximum of two applications of MARKSMAN Herbicide may be made through the 5 leaf stage or 8 inches tall, whichever occurs first. Application must be

18 of 31

separated by two weeks or more. Do not exceed 5 1/4 pints per acre per year (a total of 0.75 pounds dicamba and 1.37 pounds atrazine).

MARKSMAN Herbicide may be applied before or after BANVEL Herbicide. Applications must be separated by two weeks or more. Maximum rate for sequential applications is Marksman at 3 1/2 pints per acre followed by Banvel at 1/2 pint or Banvel at 1 pint per acre followed by Marksman at 1 3/4 pints per acre.

To reduce the amount of atrazine used per acre, MARKSMAN Herbicide at 2 pints per acre may be tank mixed with 1/2 pint per acre of BANVEL Herbicide. Do not apply this tank mix on coarse textured soils or any soils with less than 2% organic matter prior to corn emergence.

Weeds Controlled

MARKSMAN® Herbicide will control many ANNUAL broadleaf weeds or give growth suppression of many PERENNIAL broadleaf weeds commonly found in corn (Refer to the GENERAL WEED LIST section of this booklet).

Rates and Timings:

- Preplant and Preemergence In No Tillage Corn

Applications of MARKSMAN® Herbicide may be made before, during, or after planting for control of emerged and actively growing broadleaf weeds. Apply MARKSMAN® Herbicide at the use rate of 3 1/2 pints per acre on medium or fine textured soils containing 2.0% or greater organic matter. Use 2 pints per acre on coarse soils (sand, sandy loam, and loamy sand) or medium and fine textured soils with less than 2% organic matter.

When planting into a legume sod (e.g. alfalfa or clover), apply MARKSMAN® Herbicide after 4-6 inches of regrowth has occurred. For added control of dandelion or plantain, 2,4-D at 1/4 to 1/2 lbs. a.i. per acre may be tankmixed with MARKSMAN® Herbicide.

- Preemergence in Conventional Or Reduced Tillage Corn

MARKSMAN® Herbicide may be applied after planting and prior to corn emergence. Application of 3 1/2 pints per treated acre may be made to medium or fine textured soils which contain 2% or greater organic matter. DO NOT apply to coarse textured soils (sand, loamy sand or sandy loam) or any soil with less than

19 of 31

2% organic matter until after corn emergence (see Early Postemergence uses below).

Preemergence application of MARKSMAN® Herbicide does not require mechanical incorporation to become active. A shallow mechanical incorporation is recommended if application is not followed by adequate rainfall or sprinkler irrigation. Avoid tillage equipment (e.g., drags, harrows) which concentrate treated soil over seed furrow, as seed damage could result.

**Early Postemergence
(All Tillage Systems)**

MARKSMAN® Herbicide at 3 1/2 pints per treated acre may be applied during the period from corn emergence through the 5 leaf stage or 8 inches tall, whichever occurs first. Reduce the rate to 2.0 pints per treated acre for corn grown on coarse textured soils (sand, sandy loam, and loamy sand).

**Overlay
(Sequential Treatments)**

MARKSMAN® Herbicide may be applied to ground previously treated with one or more of the following herbicides:

Herbicide	Maximum Rate Per Treated Acre (Lbs. a.i.)
Acetochlor (Surpass®, Harness® Plus)	3
Alachlor (Lasso®)	4
Atrazine*	*
Butylate (Sutan+®)	6
Cyanazine (Bladex®)	4
Dimethenamid (Frontier®)	1 1/2
EPTC (Eradicane®)	6
Flumetsulam (Broadstake®)	0.068
Glyphosate (Roundup®)	5
Metolachlor (Dual®)	3
OParaquat (Gramoxone®)	1
Pendimethalin (Prowl®)	2
Propachlor (Ramrod®)	6

* Maximum Pounds a.i. Per Treated Acre for Atrazine

For all soil applications prior to crop emergence On Highly Erodible Soils (as defined by the SCS)

If conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at planting, the maximum rate is 2 pounds a.i./A.

If the soil coverage with plant residue is less than 30% at planting, a maximum of 1.6 pounds a.i./A can be applied.

On Soils Not Highly Erodible

The maximum rate which can be applied is 2 pounds a.i./A.

For Postemergence Application

If no atrazine was applied prior to corn emergence, the maximum rate is 2 pounds a.i./A. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 pounds a.i./A per calendar year.

Read and follow the label of each of the above products for precautionary statements, directions for use and other restrictions.

Tank Mix Treatments

MARKSMAN® Herbicide may be applied prior to, during, or after planting, but before the corn exceeds 8 inches tall. MARKSMAN® Herbicide may be tank mixed with one or more of the following herbicides for control of grasses or additional broadleaf weeds. When tank mixing MARKSMAN® Herbicide with other products, read the label of each tank mix partner for precautionary statements, directions for use and other restrictions. Also, read the General Information Tank Mixing section given earlier in this label.

MARKSMAN® Herbicide Plus Bladex® (cyanazine)

Application may be made before grasses are 1 1/2 inches tall and the corn is not beyond the four leaf stage. Use 1 1/4 - 4 lbs. a.i. Bladex per treated acre for preemergence and 1 1/4 - 2 lbs. a.i. for postemergence treatments. **AFTER CORN EMERGENCE, USE ONLY THE BLADEX 90DF FORMULATIONS.**

MARKSMAN® Herbicide Plus Dual® (metolachlor)

Application may be made until grasses reach the two-leaf stage and before corn is greater than 3 inches tall. Applications prior to crop emergence may only be made on medium to fine textured soils containing 2 1/2% or greater organic matter. Use 1 1/2 - 2 1/2 lbs. a.i. Dual per treated acre.

21731

MARKSMAN® Herbicide Plus Frontier® (dimethenamid)

Apply Frontier at 13 - 25 fluid ounces per acre for preemergence grass control. Applications can be made during or after planting before corn exceeds 8 inches in height. This treatment must be combined with a herbicide that provides postemergence control of grass weeds if they are greater than 1 inch tall at the time of application.

MARKSMAN® Herbicide Plus Surpass® or Harness® plus (acetochlor)

Apply Harness® plus or Surpass at 1 1/2 - 3 pounds ai per acre. Applications may be made during or after planting and before corn emergence. Applications may only be made on medium or fine textured soils containing 2 1/2 % organic matter or greater.

MARKSMAN® Herbicide Plus Lasso® (alachlor)

Application may be made until grasses reach the two-leaf stage and before corn is greater than 3 inches tall. Applications prior to crop emergence may only be made to fine textured soils containing 2 1/2% or greater organic matter. Apply 2 1/2 - 3 lbs. a.i. Lasso per treated acre.

MARKSMAN® Herbicide Plus Gramoxone® (paraquat)

Application may be made to emerged weeds, but before corn emerges. Use 1/4 - 1 lb. a.i. Gramoxone per treated acre.

MARKSMAN® Herbicide Plus Prowl® (pendimethalin)

Application may be made after planting and before corn exceeds the two-leaf stage, and grass weeds are no more than one inch tall. Application prior to crop emergence should only be made on medium to fine textured soils containing 2 1/2% or more organic matter. Use 3/4 to 1 1/2 lb a.i. Prowl per treated acre.

MARKSMAN® Herbicide Plus Roundup® (glyphosate)

Application may be made to emerged weeds, but before corn emerges. Use 1 - 3 lbs. a.i. Roundup per treated acre.

MARKSMAN® Herbicide Plus Atrazine

Application may be made before corn exceeds 8 inches in height. Consult the maximum poundage of atrazine allowed on page ___ for maximum rates. For improved suppression of newly emerged annual grasses, crop oil concentrate may be added to this mixture if corn does not exceed 5 inches in height. Do not apply preemergence to peat, muck and high organic clay soils.

MARKSMAN® Herbicide Plus Accent®

Application may be made after grass weed emergence but before corn is greater than 8 inches tall. Use 2/3 to 1 1/3 ounces of Accent 75 DF per treated acre. Use a non-ionic surfactant at 0.25% v/v and sprayable fluid fertilizer (such as 28%, 30%, or 32% urea ammonium nitrate) at 4% v/v with this tank mixture.

GRAIN SORGHUM

Observe all previous noted precautions, mixing and application instructions as well as the following:

Applications of MARKSMAN® Herbicide to sorghum during periods of rapid growth may result in temporary leaning of plants or rolling of leaves. These effects are usually outgrown within 10-14 days.

On coarse soils, injury to sorghum may occur if heavy rain immediately follows application.

Do not apply to furrow planted sorghum until level (plowed in).

Make no more than one application of MARKSMAN® Herbicide per growing season.

Postemergence application must be made before sorghum reaches 8 inches in height.

Delay harvest until 30 days after treatment.

Do not apply MARKSMAN® Herbicide to sorghum grown for seed production.

Sorghum may be harvested or grazed for feed once the crop has reached the mature grain stage.

WEEDS CONTROLLED

MARKSMAN® Herbicide, when applied at the recommended rates and timings for grain sorghum, will control many ANNUAL broadleaf weeds (e.g. pigweed) and will

23 of 31

reduce the competition from established PERENNIAL broadleaf weeds as well as control their seedlings. Consult General Weed List for a complete list of weeds controlled.

For best performance, make application when weeds are small (less than 3 inches tall) and actively growing.

Rates and Timings

MARKSMAN® Herbicide application in grain sorghum (milo) should be made between the 2-5 leaf stage (about 2-8 inch tall) of the sorghum.

BROADCAST RATE PER TREATED ACRE: (1 1/2 to 2 pints.)

Use 1 1/2 pints MARKSMAN® Herbicide for control of redroot pigweed that are less than 3 inches tall and are actively growing. Use 2 pints of MARKSMAN® Herbicide for control of all other listed broadleaf weeds.

Do not add crop oil. Do not add surfactant unless possible crop injury is acceptable.

Overlay (Sequential) Treatments

MARKSMAN® Herbicide may be applied to ground previously treated with the following herbicides:

Herbicide	Maximum rate of listed compound per treated acre (lbs a.i.)
Alachlor (Lasso®) (Screen®-treated seed)	4
Atrazine*	*
Metolachlor (Dual®) (Concep®-treated seed)	2 1/2
Propachlor (Ramrod®)	5

* Maximum Pounds a.i. Per Treated Acre for Atrazine

For all soil applications prior to crop emergence

On Highly Erodible Soils (as defined by SCS)

If conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at planting, the maximum rate is 2 pounds a.i./A.

24 of 31

If the soil coverage with plant residue is less than 30% at planting, a maximum of 1.6 pounds a.i./A can be applied

On Soils Not Highly Erodible

The maximum rate which can be applied is 2 pounds a.i./A.

For Postemergence Application

If no atrazine was applied prior to sorghum emergence, the maximum rate is 2 pounds a.i./A. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 pounds a.i./A per calendar year.

Tank Mix MARKSMAN® Herbicide Plus Atrazine

MARKSMAN® Herbicide may be tank mixed with atrazine for added residual or for grass control in sorghum. Read and follow the label of each product used for precautionary statements, directions for use, rates and timings, and other restrictions.

Use tank mix on medium or fine soils only. Add 1/2 lb. a.i. atrazine per treated acre for added residual broadleaf weed control. Add 1 1/2 lbs. a.i. atrazine per treated acre for control of emerged grasses less than 1 1/2 inches tall. Do not add crop oil or surfactant to this combination or crop injury may result. Atrazine carryover may injure small grains and broadleaf crops if the total rate of atrazine exceeds the rate recommended for that specific geographic area or crop rotation.

POST-HARVEST ON FALLOW GROUND

MARKSMAN® Herbicide may be applied from summer to fall after wheat harvest to fallow ground in wheat/fallow/wheat or wheat/corn or sorghum/fallow (Eco-Fallow) rotations. Observe all previously noted precautions, mixing and application instructions, as well as the following:

Do not graze or feed forage from treated areas to livestock.

Do not plant any crop other than those listed on this label within 18 months following treatment.

Agriculturally approved spray adjuvants such as surfactants, crop oil concentrates, or fluid fertilizers are recommended for use with MARKSMAN® Herbicide when applied to emerged weeds.

25951

For Eco-Fallow system, plant corn or sorghum in spring after treatment with minimum soil disturbance. Use a surface planter or a planter leaving a shallow furrow. If weeds are present at planting, remove them with a sweep plow or other suitable implement before planting.

Weeds Controlled

MARKSMAN® Herbicide, when applied at recommended rates and timings for fallow applications, will control many ANNUAL broadleaf weeds and will give growth suppression of many PERENNIAL broadleaf weeds as well as control their seedlings. Refer to the General Weed List in the General Information Section of this booklet for a complete list of weeds controlled.

Rotational Crop Precautions

The application rates and timings in this label pertain only to a cropping system of WHEAT/FALLOW/WHEAT (Post-Harvest Fallow) or WHEAT/CORN or SORGHUM/FALLOW (Eco-Fallow). If any other crop is to be substituted for wheat, corn, sorghum or the fallow period, refer to the crop rotation restrictions in the General Information section of this label.

To avoid injury to crops planted after application(s) of Marksman® Herbicide, specific restrictions for post harvest fallow or eco-fallow application(s) are:

- 1) Use only on silt loam or finer-textured soils.
- 2) Do not treat erodible hillsides, caliche, and rocky outcroppings, or exposed calcareous subsoil.
- 3) Do not treat soils of the Rosebud and Canyon series in Western NE and adjoining counties in CO and WY.
- 4) Do not treat soils with calcareous surface layers.
- 5) Avoid overlapping spray swaths during treatment application.

Wheat/Fallow/Wheat

MARKSMAN® Herbicide MAY BE USED FOR WHEAT/FALLOW/WHEAT SYSTEMS IN: CO, KS, NE, OK, SD, TX, & WY

Rates and Timings:

For preemergence or postemergence control or suppression of the weed species listed in this booklet apply MARKSMAN® Herbicide at 2 to 3 1/2 pints per treated

26431

acre as a broadcast treatment. For best performance, make application soon after wheat harvest prior to or soon after weed emergence. A split application of MARKSMAN® Herbicide may be used, but only in the summer to fall after wheat harvest and may not exceed the the maximum labeled rate of 3 1/2 pints per treated acre.

Wheat/Corn or Sorghum/Fallow (Eco-Fallow)

MARKSMAN® Herbicide MAY BE USED FOR WHEAT/CORN OR SORGHUM/FALLOW (ECO-FALLOW) SYSTEMS IN: CO, KS, NE, OK & TX

Rates and Timings Preemergence or Postemergence

For control of annual broadleaf or grass weeds following wheat and in to the following corn or sorghum crop (when grown under minimum tillage), apply 2 to 11 pints/Acre of MARKSMAN® Herbicide after wheat harvest. For best performance make application within 10 days following wheat harvest. Use the higher rates in the rate range for added grass control and longer residual weed control. A split application of MARKSMAN® Herbicide may be used but only in summer to fall after wheat harvest and may not exceed the maximum labeled rate of 11 pints/Acre (2.8 pounds atrazine/Acre).

TANK MIX TREATMENTS: Post Harvest Fallow and Eco-Fallow

MARKSMAN® Herbicide may be tank mixed with one or more of the following herbicides for control of grasses or additional broadleaf weeds. When tankmixing MARKSMAN® Herbicide with other products, read the label of each tank mix partner for precautionary statements, directions for use and other restrictions.

MARKSMAN® Herbicide Plus Banvel®

BANVEL Herbicide at 1 pint per treated acre may be tankmixed with MARKSMAN® Herbicide for additional suppression of broadleaf perennial species that are actively growing at the time of application.

MARKSMAN® Herbicide plus 2,4-D

2,4-D amine or ester at 1/8 to 1 lb. a.i. per treated acre may be tankmixed with MARKSMAN® Herbicide for improved postemergence burndown of annual or perennial broadleaf weeds. Burndown activity will particularly be enhanced on weeds growing under drought conditions or weeds that have been "topped" during the harvest operation.

07431

MARKSMAN® Herbicide plus Roundup® or Roundup RT®

Roundup at 1 pint per treated acre may be tank mixed with MARKSMAN® Herbicide for added postemergence control of grass or broadleaf weeds.

MARKSMAN® Herbicide plus Atrazine

In areas such as Oklahoma and Texas where a higher ratio of atrazine to dicamba is desired, atrazine can be tankmixed with MARKSMAN® Herbicide. Consult the table showing the maximum amount of atrazine that can be applied on page ____.

MARKSMAN® Herbicide plus Landmaster BW® or Landmaster II®

Landmaster at 27 to 54 ounces product per treated acre may be tank mixed with MARKSMAN® Herbicide added for postemergence control of grass and broadleaf weeds.

MARKSMAN® Herbicide plus Fallow Master®

Fallowmaster at 32 to 44 ounces product per treated acre may be tank mixed with MARKSMAN® Herbicide for added postemergence control of grass and broadleaf weeds.

MARKSMAN® Herbicide Plus Gramoxone® or Cyclone®

Gramoxone or Cyclone may be tank mixed with MARKSMAN® Herbicide for additional postemergence control of grass and broadleaf weeds. Refer to Gramoxone or Cyclone label for recommended use rates.

MARKSMAN® Herbicide plus Sulfonylureas (Glean®, Ally® or others)

Apply as a tank mix with MARKSMAN® Herbicide for additional preemergence or postemergence control of broadleaf weeds.

Refer to sulfonylurea (Glean, Ally or others) label for recommended use rates.

MARKSMAN® Herbicide plus Command®

Command at 16 to 32 ounces product per acre may be tank mixed with MARKSMAN® Herbicide for additional preemergence control of grass and broadleaf weeds.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS:

CAUTION:

Harmful if swallowed. Avoid breathing spray mist. Avoid contact with skin, eyes, or clothing. Wash thoroughly after handling. In case of contact, wash skin with soap and water; for eyes, flush with water for 15 minutes and get medical attention.

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 C on an EPA chemical resistance category section chart.

Applicators and other handlers (other than mixers and loaders) must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate or butyl rubber or nitrile rubber or neoprene rubber or polyvinyl chloride (viton) or viton
- Chemical-resistant footwear plus socks

Mixers and Loaders must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate or butyl rubber or nitrile rubber or neoprene rubber or polyvinyl chloride (viton) or viton
- Chemical-resistant footwear plus socks
- Protective eyewear

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.

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.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

Keep out of lakes, streams or ponds. This pesticide is toxic to aquatic 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. Run-off and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

Groundwater contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

This product may not be mixed, loaded, or used within 50 feet of all wells including abandoned wells, drainage wells, and sinkholes.

This product may not be mixed or loaded within 50 feet of intermittent streams and rivers, natural or impounded lakes and reservoirs. This product may not be applied aerially or by ground within 66 feet of the points where field surface water runoff enters perennial or intermittent streams and rivers or within 200 ft. around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66 foot buffer or set-back from runoff points must be planted to crop or seeded with grass or other suitable crop.

PESTICIDE STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Store in original container in a well-ventilated area separately from fertilizer, feed and foodstuffs. Avoid cross-contamination with other pesticides. Spillage or leakage should be contained and absorbed with clay granules, sawdust, or equivalent material for disposal. Pesticide, spray mixture or rinsate that cannot be used according to label instructions must be disposed of according to Federal, State or local procedures under Subtitle C of the Resource Conservation and

30931

Recovery Act.

CONTAINER DISPOSAL

For Plastic Containers: Triple rinse (or equivalent) and add rinsate to spray tank. Offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

LIMITATION OF WARRANTY AND LIMITATION OF LIABILITY

NOTICE: Read this Limitation of Warranty and Limitation of Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Sandoz or seller. All such risks shall be assumed by buyer or user. Sandoz warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, under normal use conditions, subject to the risks described above. Sandoz makes no other express or implied warranty of fitness or of merchantability or any other express or implied warranty. In no event shall Sandoz or seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. The exclusive remedy of the user or buyer, and the exclusive liability of Sandoz or seller for any and all claims, losses, injuries or damages (including claims based on breach of warranty, contract, negligence, tort, strict liability or otherwise) resulting from the use or handling of this product, shall be the return of the purchase price of the product or, at the election of Sandoz or seller, the replacement of the product. Sandoz and seller offer this product, and buyer and user accept it, subject to the foregoing limitations of warranty and limitation of liability, which may not be modified by any oral or written agreement.

REGISTERED TRADEMARKS:

Ally[®], Bladex[®], Glean[®], and Accent[®] are registered trademarks of E. I. DuPont de Nemours & Company (Inc.)

Bronco[®], Harness[®] Plus Landmaster BW[®], Landmaster II[®], Lasso[®], Ramrod[®], Roundup[®] and Roundup RT[®] are registered trademarks of Monsanto Agricultural Products Company.

3/1/31

Command® is a registered trademark of FMC Corporation.

Dual® is a registered trademark of Ciba-Geigy Corporation, Agricultural Division.

Eradicane®, ~~Surpass®~~ and Sutan +® are registered trademarks of I.C.I. Chemical Company.

Fallow Master® is a registered trademark of Sandoz, Ltd. and used under license by Monsanto Ag. Products Co.

Gramoxone® and Cyclone® are registered trademarks of ICI Agrichemicals, Inc.

Loveland Tank and Equipment Cleaner is a product of Loveland Industries.

Nozzle 27500E-TEF is a product of Spray Systems Inc.

Nutra-sol® is a registered trademark of Cornbelt Chemical Co.

Incide-out® is a product of Precision Laboratories, Inc.

Prowl® is a registered trademark of American Cyanamid Company.

MARKSMAN® Herbicide, ~~Frontier® Herbicide~~ and BANVEL® Herbicide are registered trademarks of SANDOZ LTD.

NOV 14 1994



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

5462011

$$\frac{300}{17}$$

Mr Mark Herbst
Registration Assistant
Valent U.S.A. Corporation
1333 N California Blvd. Suite 600
Walnut Creek, CA 94596-8025

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Dear Mr. Herbst:

Subject: Orthene 75 S Soluble Powder
EPA Registration No. 59639-26
Labeling Submitted April 25, 1994

The labeling referred to above, submitted in connection with registration under FIFRA, is acceptable, provided that you:

Submit one copy of your final printed labeling incorporating the following correction(s) before you release the product for shipment.

1. In the directions for use on cotton as an in-furrow spray, delete the designation, "active" from the phrase, " active Orthene 75 S".
2. Correct the maximum application rate for non-bearing citrus from 1 1/3 lbs. product to 1 lb. product to be consistent with the EPA registered product label for this use (label stamped accepted with our letter of September 27, 1993 for the subject product).
3. Either delete the asterisk appearing on page 16 after the word, "water" under the heading "Small Volume Spray Equipment" or add the appropriate footnote for it. It is noted that the registered label for the subject product specified the following as a footnote to this asterisk: "use a 16 oz. measuring cup".
4. On page 20, under "recommended application" for "Black Turfgrass Atenuis", specify the minimum amount of water to be applied per 1,000 sq. ft.
5. Correct the grazing and feeding prohibition under "Pasture, Rangeland, and Wasteland" from "Do not graze or feed grass hay to dairy animals " to read "Do not graze or feed grass or grass hay to dairy animals".



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

2926

If this condition is not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of this condition.

A stamped copy of the label is enclosed for your records.

Sincerely yours,

Robert A. Forrest
Product Manager (14)
Insecticide-Rodenticide Branch
Registration Division (7504C)

3 26



ACCEPTED
WITH COMMENTS
in EPA Letter dated

NOV 14 1994

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, this product is
registered with the EPA.
59639-26

ORTHENE® 75 S Soluble Powder

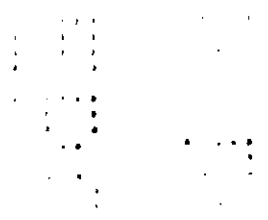
(INSECTICIDE)

Active Ingredient	By Wt.
* Acephate (O,S-Dimethyl acetylphosphoramidothioate)	75%
Inert Ingredient	25%
* ORTHENE®, Acephate	
U.S. Pat. No. 3,914,417	

KEEP OUT OF REACH OF CHILDREN
CAUTION
SEE NEXT PAGE FOR ADDITIONAL
PRECAUTIONARY STATEMENTS

KILLS FIRE ANTS

NET WEIGHT 10 POUNDS



BEST AVAILABLE COPY

4926

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Causes eye irritation. Avoid contact with eyes, skin and clothing. Avoid breathing dust or spray mist. Wash hands thoroughly after handling. Do not allow children or pests to come into contact with treated areas until sprays have dried.

STATEMENT OF PRACTICAL TREATMENT: Acephate is an organophosphate, cholinesterase inhibitor.

If swallowed drink 1 or 2 glasses of water (or milk) and induce vomiting by touching the back of the throat with finger. If possible contact a physician, Poison Control Center, or emergency center before inducing vomiting. Do not induce vomiting or give anything by mouth to an unconscious person. Take person and product container to the nearest emergency treatment center. In case of eye contact, wash eyes with fresh water for 15 minutes. If irritation continues, see a doctor. For skin contact, wash skin with plenty of soap and water. If inhaled, remove person from exposure area.

NOTE TO PHYSICIAN: Emergency information - call 1-800-892-0099. Acephate is cholinesterase inhibitor. If signs of cholinesterase inhibition appear, atropine is antidotal. 2-PAM may also be used in conjunction with atropine but should not be used alone.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks and chemical-resistant headgear for overhead exposure.

Mixers and Loaders must wear: long-sleeved shirt and long pants, waterproof gloves, shoes plus socks and chemical-resistant headgear.

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/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.
- * Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to birds. Applications may adversely affect birds in rangeland treatment areas. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Cover or soil-incorporate spills.

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 area.

BEST AVAILABLE COPY

DIRECTIONS FOR USE

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

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

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 (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 enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 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, waterproof gloves, shoes plus socks and chemical-resistant headgear for overhead exposure.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when its product is used to produce agricultural plants on farm, forests, or greenhouses.

For other areas, including golf courses and other non-agricultural areas, do not enter treated areas without protective clothing until sprays have dried.

DIRECTIONS

Apply to cranberries only by sprinkler irrigation systems. Do not apply by chemigation to any other crop, or this crop using any other type of irrigation system.

Table of Equivalents

Amount of ORTHENE 75 S Soluble Powder	1 1/3 lbs.	1 lb.	2/3 lb.	4 oz.	2 oz.
Amount Active Contained	1 lb.	3/4 lb.	1/2 lb.	1/3 lb.	1/10 lb.

COTTON

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions	Day to Harvest
Cotton	Thrips	3 oz. to 4 oz.	Apply in water at 3 to 10 gals. spray per acre by air (minimum 5 gals./acre in CA.) or 10 to 25 gals. spray per acre by ground.	21
	Plantbugs (Lygus)	1/3 to 1 1/3 lbs. (5.25 to 21.25 oz.) 1 to 1 1/3 lbs. (16 to 21.25 oz.) (CA, AZ)	Apply when eggs or insects first appear. Repeat as necessary to maintain control.	
	Fleahopper	1/3 lb. (5.25 oz.)	Do not feed gin trash to livestock or allow animals to graze on treated areas.	
	Cotton Aphid* (excluding CA, AZ) Whitefly	2/3 to 1 1/3 lbs. (10.5 to 21.25 oz.)	Lygus - Use higher rate for Lygus adults that have migrated into cotton. *Cotton Aphid - This insect has shown the ability to develop resistance to various classes of insecticides in various locations at various times during the production season. Consult your local Agricultural Extension Service for the current recommended control practices for this insect.	
	Sweetpotato Whitefly (Silverleaf whitefly)	2/3 lb. (10.5 oz.) + *DANITOL® 10 2/3 to 16 fl. oz.	*Comply with all applicable directions, restrictions and precautions on the EPA registered label for DANITOL®.	
	Armyworms (excluding Beet Armyworm) Cabbage Looper	1 1/3 lbs. (21.25 oz.)	Bollworm and Tobacco Budworm - Early season light infestation use 2/3 lb. per acre. Mid and late season moderate to severe infestations use 1 to 1 1/3 lbs. per acre. Apply when eggs appear and repeat at 3 to 7 day spray interval. Adults/Larvae: Moths are controlled when they come in direct contact with spray particles during application. Moth kill is most likely to occur when application is made late in the evenings during periods of peak activity.	
	Bollworm Tobacco Budworm Adults Larvae Eggs/ DEADHATCH®	2/3 to 1 1/3 lbs. (10.5 to 21.25 oz.) (East of Rockies) 1 1/3 lbs. (CA, AZ) (21.25 oz.)	Eggs: When spray particles come in direct contact with eggs, hatching larvae may be controlled as they consume and emerge from their egg casing. *Cutworms - Control measures are most effective when ground applications are made in the evenings and the spray is directed toward the lower portion and base of the plant. Apply in water at 10 to 25 gals. spray per acre by ground. Aerial applications are not as effective in controlling cutworms. However, should aerial application be necessary, apply in water at 3 to 10 gals. spray per acre (minimum 5 gals. per acre in CA). Apply when insects first appear or damage is first noted and repeat to maintain control.	
	Stinkbugs Cutworms*	1 lb. (16 oz.)		
	Pink Bollworm (CA, AZ)	1 1/3 lbs. (21.25 oz.)	Pink Bollworm - Apply when insects appear and repeat at a 5 to 7 day spray interval.	

7926

COTTON TANK MIXES

Crop	Insects	Amount ORTHENE 75 S + LORSBAN® 4E Per Acre	Further Use Instructions	Days to Harvest
Cotton	Armyworms (excluding Beet Armyworm) Bollworm Cabbage Looper Cotton Aphid Cutworms* Fleahopper Grasshoppers Pink Bollworm Plant Bugs (Lygus, Mirids) Salt Marsh Caterpillar Thrips Tobacco Budworm Whitefly (Excluding Sweetpotato Whitefly)	1/3 to 1-1/3 lbs. (5.25 to 21.25) + 1 to 2 pts.	Do not feed gin trash or treated forage to livestock. Do not allow livestock to graze on treated areas. *Cutworms - Use ORTHENE at 1 lb. per acre. Control measures are most effective when ground applications are made in the evenings and the spray is directed toward the lower portion and base of the plant. Apply in water at 10 to 25 gals. spray per acre by ground. Aerial applications are not as effective in controlling cutworms. However, should aerial application be necessary, apply in water at 3 to 10 gals. spray per acre (minimum 5 gals. per acre in CA). Apply when insects first appear or damage is first noted and repeat to maintain control.	21

COTTON TANK MIXES (Continued)

Crop	Insects	Amount ORTHENE 75 S (lb.) + ** Synthetic Pyrethroid (fl.oz.) Per Acre	Pyrethroid Maximum lbs. Active Per Acre	Further Use Instructions	Days To Harvest For Each Combination
Cotton	Bollworm	ORTHENE 75 S		Begin applications when eggs or insects appear and apply as needed to maintain control. Apply in 3 to 5 gals. of water with aerial equipment or in 10 to 25 gals. of water with ground equipment. Do not feed gin trash to livestock or allow animals to graze on treated areas. Stinkbugs and Cutworms: Use ORTHENE 75 S at 1 lb. to 1 acre. Cutworms - Control measures are most effective when ground applications are made in the evenings and the spray is directed toward the lower portion and base of the plant. Apply in water at 10 to 25 gals. spray per acre by ground. Aerial applications are not as effective in controlling cutworms. However, should aerial application be necessary, apply in water at 3 to 10 gals. spray per acre (minimum 5 gals. per acre in CA). Apply when insects first appear or damage is first noted and repeat to maintain control. All applicable directions, restrictions and precautions on the EPA registered labels are to be followed.	
	Tobacco	1 1/3 lb. to 2 acres up to			
	Budworm	1 1/3 lb. to 1 acre			
	Cabbage	PYDRIN® 2.4 EC, 5.3 - 10.67	2.0		21
	Looper	or			
	Plant bugs	ASANA® 1.9 EC, 1.4 - 3.4*	0.5		21
	Thrips	or			
	Fleahoppers	ASANA® XL, 3.9 - 9.6*	0.5		21
	Pink	or			
	Bollworm (CA, AZ)	CAPTURE® 2 EC, 1.3 - 6.4	0.5		21
	Aphids	or			
	Whitefly	BAYTHROID® 2 EC, 1.6 - 3.2	0.89		21
	Cotton Leaf	or			
	Perforator	KARATE® 1 E, 3.2 - 5.12 (Except CA) or	0.2		21
Fall Armyworm	AMBUSH® 2 EC, 6.4 - 12.8	3.0	21		
Cutworms	or				
Stinkbugs	POUNCE® 3.2 EC, 2 - 8*	3.0	21		
Sweet Potato	or				
Whitefly	AMMO® 2.5 EC, 2 - 5*	1.0	21		
	or				
	CYMBUSH® 3 EC, 1.7 - 2.56*	1.0	21		
	or				
	SCOUT® 0.3 EC, 6.4 - 8 (Except CA) or	0.19	28		
	SCOUT® X-TRA, 2.13 - 3.33 (Except CA)	0.19	28		

* Use low rate only for light insect infestations.

** Synthetic pyrethroids should be used within the guidelines of state and/or regional resistance management programs and recommendations.

**COTTON SEED HOPPER BOX TREATMENT
(EXCEPT AZ, CA AND THE BLACKLANDS OF TEXAS)**

Crop	Insects	Amount ORTHENE 75 S Soluble Powder Per Acre	Further Use Instructions
Cotton	Thrips Cotton Aphids Black (Greasy) Cutworm	3 to 4 oz.	Apply 3 to 4 oz. ORTHENE 75 S Soluble Powder per acre in the planter box as a dry powder. Even coverage is required for acceptable insect control. To obtain even coverage, fill planter box 1/2 full of seed, add the proper amount of ORTHENE 75 S Soluble Powder and mix thoroughly with a stick. Add the remainder of the seed to the planter box and the additional required amount of ORTHENE 75 S Soluble Powder followed by thorough mixing. For improved mixing premix seed with ORTHENE 75 S Soluble Powder in a suitable container, then pour treated seed into planter box. Loss of ORTHENE 75 S Soluble Powder will occur if air planters are used. Plants grown from improperly covered seed will not exhibit insect control. Do not use treated seed for food or feed purposes or process for oil.

COTTON IN-FURROW APPLICATION

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions												
Cotton	Aphids Thrips Black (Greasy) Cutworm (Except CA)	2/3 to 1 1/3 lbs. (10.5 to 21.25)	<p>Refer to the ORTHENE 75 S conversion chart before making product application.</p> <p align="center">ORTHENE 75 S CONVERSION CHART</p> <p align="center"><u>LBS. A.I. TO OZ. FORMULATED PRODUCT</u></p> <table border="0"> <tr><td>0.5</td><td>10.7</td></tr> <tr><td>0.6</td><td>12.8</td></tr> <tr><td>0.7</td><td>14.9</td></tr> <tr><td>0.8</td><td>17.0</td></tr> <tr><td>0.9</td><td>19.2</td></tr> <tr><td>1.0</td><td>21.3</td></tr> </table> <p>Apply 3/4 to 1 1/2 lb. active ORTHENE 75 S in 3 to 5 gals. of water per acre as an in-furrow spray.</p> <p>NOTE: For the Blacklands of Texas use only the 1.0 lb. active ORTHENE 75 S rate (21.3 oz. formulated product per acre.) ORTHENE 75 S can be mixed with fungicides that are sprayed in-furrow for disease control.</p> <p>Fan nozzles used for in-furrow application should be set so that the fanned spray pattern is aligned with the row to insure good spray deposition in the seed furrow. Cone type nozzles may not provide a spray pattern that insures maximum spray deposition in the seed furrow, and should be avoided. Spray systems that employ metal or plastic tubing for delivery of spray solution into the seed furrow should have tubing securely fastened to the furrow opener and should be checked frequently to insure that the tubing is properly positioned to deposit spray solution into the seed furrow.</p>	0.5	10.7	0.6	12.8	0.7	14.9	0.8	17.0	0.9	19.2	1.0	21.3
0.5	10.7														
0.6	12.8														
0.7	14.9														
0.8	17.0														
0.9	19.2														
1.0	21.3														

FIELD CROPS

Crops	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions	Days to Harvest
Peppermint Spearmint	Alfalfa Looper Cutworms Aphids	1 1/3 lbs. (21.25 oz.)	Apply in water at 5 to 10 gals. spray per acre by air or 20 to 100 gals. spray per acre by ground. Apply when eggs or insects first appear. Make one repeat application, if necessary, to maintain control. Do not apply more than 2 2/3 lbs. per acre per season. Do not use spent mint hay for feed for dairy animals.	14
Soybeans	Grasshoppers	1/3 to 2/3 lbs. (5.25 to 10.5 oz.)	Apply in water at 2 to 10 gals. spray per acre by air or 10 to 50 gals. spray per acre by ground. Repeat as necessary to maintain control. Do not graze or cut vines for hay or forage. *Soybean Looper-This insect has shown the ability to develop resistance to various classes of insecticides in various locations during the production season. Consult your local Agricultural Extension Service for the current recommended control practices for this insect.	14
	Soybean Looper* Cabbage Looper Green Cloverworm Velvetbean Caterpillar Bean Leaf Beetle Mexican Bean Beetle	2/3 to 1 1/3 lbs. (10.5 to 21.25 oz.)		
	Silver Spotted Skipper (Except CA)	1 lb. (16 oz.)		
	Stinkbugs Armyworms (excluding Beet Armyworm) Threecornered Alfalfa Hopper Corn Earworm	1 to 1 1/3 lbs. (16 to 21.25 oz.)		
Peanuts	Grasshoppers	1/3 to 2/3 lb. (5.25 to 10.5 oz.)	Apply in water at 10 to 50 gals. spray per acre by ground or in 5 to 10 gals. spray per acre by air. Begin applications when insects first appear and repeat as needed to maintain control. Do not feed treated forage or hay to livestock or allow animals to graze treated areas.	14 (of digging)
	Thrips	2/3 to 1 lb. (10.5 to 16 oz.)		
	Corn Earworm Fall Armyworm Leafhoppers Loopers Velvetbean Caterpillar	1 to 1 1/3 lbs. (16 to 21.25 oz.)		

TOBACCO

TRANSPLANT WATER APPLICATION (EXCEPT CA)

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions
Tobacco	Flea Beetle Green Peach Aphid Tobacco Aphid Cutworms Tobacco Thrips	1 lb. (16 oz.)	Provides control of early season flea beetles, green peach aphids, tobacco aphids, and cutworms for approximately 3 to 4 weeks after transplanting. For later season control of these insects, apply a foliar spray of ORTHENE 75 S Soluble Powder. Apply in a minimum of 100 gals. of transplant water per acre. Do not apply more than 1 lb. ORTHENE 75 S Soluble Powder per acre as a transplant water application as some phytotoxicity may occur.

TOBACCO FOLIAR APPLICATION (EXCEPT CA)

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions	Days to Harvest
Tobacco (Flue-Cured, Air Cured, Dark Fire Cured)	Grasshoppers	1/3 to 2/3 lb. (5.25 to 10.5 oz.)	Apply in 10 to 50 gals. water per acre with ground equipment or a minimum of 3 gals. per acre by air.	3
	Green Peach Aphid Flea Beetle Hornworm Tobacco Thrips	2/3 lb. (10.5 oz.)		
	Tobacco Aphid Vegetable Weevils Stinkbugs	2/3 to 1 lb. (10.5 to 16 oz.)	Do not re-enter sprayed areas until the spray deposit has dried.	
	Budworm Cabbage Looper Cutworm	1 lb. (16 oz.)		

TOBACCO PLANT BED APPLICATION (EXCEPT CA)

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions
Tobacco Bed Treatment	Flea Beetle Green Peach Aphid Tobacco Aphid Cutworm	1 lb. (16 oz.)	Apply to foliage at the equivalent of 1 tablespoon in 1 gal. of water per every 1,000 sq. ft. of bed. Apply evenly to insure thorough coverage.

TOBACCO GREENHOUSE APPLICATION (EXCEPT CA)

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions
Tobacco	Cutworm Flea Beetle Green Peach Aphid Tobacco Aphid	1 lb. (16 oz.)	Apply to foliage at the equivalent of 1 tablespoon in 3 gals. water per every 1,000 sq. ft. of bed. Apply evenly to insure thorough coverage. Note: Floatbed water should be disposed of in the transplanted field through the transplant water or through foliar spray.

TOBACCO SOIL APPLICATION (EXCEPT CA)

Crop	Insects	Amount ORTHENE 75 S	Further Use Instructions	Days to Harvest
Tobacco	Ants, including Imported Fire Ants and Harvester Ants	Mound Treatment-Dry Method: Evenly distribute 1 to 2 teaspoons over the mound. Drench Method: Mix 1 oz. in 5 gals. of water. Apply 1 gal. of mix to each mound area by sprinkling the mound until it is wet and treat a four (4) foot diameter circle around the mound.	For best results apply the material in the early morning or late afternoon when the ants are most active. Applications made under prolonged hot and dry conditions may be ineffective due to the location of the ants deep within the nest. Treat maximum of 13 mounds per acre. Do not treat more than once per season.	3

FRUIT CROPS

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions	Days to Harvest
Cranberries	Cranberry Blossom Worm Gypsy Moth False Armyworm Fireworms Spanworms Sparganothis	1 1/3 lbs. (21.25 oz.)	Apply in water by air, ground or with sprinklers. Use a minimum of 2 gals. spray per acre by air. Use sufficient water to give thorough coverage with ground or sprinkler equipment. Note: Limit to one application per growing season. Do not apply from start of bloom until all berries set.	90

13926

SPRINKLER IRRIGATION APPLICATION TO CRANBERRIES:

This product may only be applied through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, travelers, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop may result from non-uniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the label-prescribed safety devices for public water suppliers are in place.

A person knowledgeable of the chemigation system and responsible for its operation shall shut the system down and make necessary adjustments should the need arise.

The system must contain a functional check valve, vacuum, relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Solid Set System: Apply specified dosage for the entire length of the irrigation period or for a 30 to 60 minute period at the end of a regular irrigation set or as a 30 to 60 minute injection as a separate application not associated with a regular irrigation. Allow time for all lines to flush the pesticide through the nozzle before turning off irrigation water. To ensure the lines are flushed and free of remaining pesticide, a dye indicator may be injected into the lines to mark the end of the application period. See **NOTE**.

Center Pivot Systems: Inject the specified dosage per acre continuously for one complete revolution of the system. See **NOTE**.

NOTE: Constant agitation must be maintained in the chemical supply tank during the entire period of insecticide application. Inject the product with a positive displacement pump into the main line ahead of a right turn to insure adequate mixing.

Application of more than label recommended quantities of irrigation water per acre may result in decreased product performance by removing the chemical from the zone of effectiveness.

VEGETABLE CROPS

Crops	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions	Days to Harvest
Beans and Lima Beans (Dry and Succulent Forms)	Fleahoppers Grasshoppers	1/3 to 2/3 lb. (5.25 to 10.5 oz.)	Apply in water at a minimum of 2 gals. spray per acre by air or 20 to 100 gals. spray per acre by ground.	14 (snapbeans or dry beans)
	Aphids (excluding Black Bean Aphid) Bean Leaf Beetle Bean Leafroller Cabbage Looper Cutworms Green Cloverworm Leafhoppers Mexican Bean Beetle Plantbugs (Lygus) Soybean Looper Thrips Whitefly	2/3 to 1 1/3 lbs. (10.5 to 21.25 oz.)	Apply when eggs or insects first appear. Repeat at 7 to 10 day intervals as necessary. Severe insect infestations, use higher rates. Do not feed treated vines to livestock.	0 (lima beans - succulent form)
	Armyworms (excluding Beet Armyworm) Corn Earworm European Corn Borer	1 to 1 1/3 lbs. (16 to 21.25 oz.)		
Brussels Sprouts Cauliflower	Green Peach Aphid	2/3 to 1 1/3 lbs. (10.5 to 21.25 oz.)	Apply in water at 25 to 150 gals. spray per acre by ground or a minimum of 5 gals. spray per acre by air. Use the high rate when heavy infestations of aphids are present. Begin applications when insects or eggs first appear. Repeat application as needed. Do not apply more than 8 lbs. per acre per season to Brussels Sprouts.	14
	Cabbage Looper Diamondback Moth larvae Imported cabbage Worm	1 1/3 lbs. (21.25 oz.)	Do not feed trimmings to livestock or allow animals to graze in treated areas. *Diamondback Moth larvae-This insect has shown the ability to develop resistance to various classes of insecticides in various locations during the production season. Consult your local Agricultural Extension Service for the current recommended control practices for this insect.	
Celery	Green Peach Aphid	2/3 to 1 1/3 lbs. (10.5 to 21.25 oz.)	Apply in water at 50 to 100 gals. spray per acre by ground or in a minimum of 5 gals. per acre by air. Apply when eggs or insects appear and repeat at 3 to 10 day intervals as necessary to maintain control.	21
	Fall Armyworms Cabbage Looper	1 1/3 lbs. (21.25 oz.)	Trim plants (tops removed) before shipment for use. Do not use trimmed (tops) for food or feed.	

VEGETABLES CROPS (Continued)

Crops	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions	Days to Harvest
Head Lettuce (Crisphead Type Only)	Aster Leafhopper Green Peach Aphid	2/3 to 1 1/3 lbs. (10.5 to 21.25 oz.)	Apply in water at 5 to 10 gals. spray per acre by air or 10 to 60 gals. spray per acre (broadcast) by ground. Apply as necessary to maintain desired control. Do not apply more than 6-2/3 lbs. per acre per season.	21 Spring summer and early fall crops in all areas and winter crops in Florida and Texas, late fall crops in Arizona and California.
	Cabbage Looper Armyworms (excluding Beet Armyworm)	1 1/3 lbs. (21.25 oz.)	Do not apply after first head begins to form to crops which germinate from mid-September through November in desert areas of AZ and CA. Do not feed trimmings to livestock or allow animals to graze on treated areas.	
Peppers (non-bell type)	Aphids	2/3 lb. (10.5 oz.)	For use in Midwestern, Eastern States and Puerto Rico only. Apply in water at 40 to 150 gals. spray per acre with ground equipment. Repeat at 7 to 10 day intervals as necessary. Do not exceed 7 applications per season.	7
Sweet peppers (Bell type)	Grasshoppers	1/3 to 2/3 lb. (5.25 to 10.5 oz.)	Apply in water at a minimum of 3 gals. spray per acre by air or 25 to 150 gals. spray per acre by ground. Apply when eggs or insects appear. Repeat as necessary until insects have been reduced below economic numbers.	7
	Cabbage Looper Green Peach Aphid Tobacco Hornworm	2/3 to 1 1/3 lbs. (10.5 to 21.25 oz.)		
	European Corn Borer	1 to 1 1/3 lbs. (16 to 21.25 oz.)		

16 9 26
7

PASTURE, RANGELAND, WASTELAND

Crops	Insects	Amount ORTHENE 75 S	Further Use Instructions	Days to Harvest
Pasture, Rangeland, Wasteland	Grasshoppers Mormon Crickets Black Grass Bugs	1/8 to 1/6 lb. (2 to 2 2/3 oz.)	<p>Apply in water at a minimum of 1/2 gal. spray per acre by air or 10 to 20 gals. spray per acre by ground.</p> <p>Use the higher rate in thicker vegetation or on larger insects. An approved drift retardant additive may be added to aid in controlling drift and reducing evaporation of aerial sprays.</p> <p>Do not make more than one application per season.</p> <p>Do not apply when lactating dairy cattle are present. Do not graze or feed grass hay to dairy animals. Remove meat animals from treated areas at least one day before slaughter if they were present at application or grazed treated areas within 21 days after application.</p>	21 for hay
	Ants, Including Imported Fire Ants and Harvester Ants	<p>Mound Treatment - Dry Method: Evenly distribute 1 to 2 teaspoons over the mound.</p> <p>Drench Method: Mix 1 oz. in 5 gals. of water. Apply 1 gal. of mix to each mound area by sprinkling the mound until it is wet and treat a four (4) foot diameter circle around the mound.</p>	<p>For best results apply the material in the early morning or late afternoon when the ants are most active.</p> <p>Applications made under prolonged hot and dry conditions may be ineffective due to the location of the ants deep within the nest.</p> <p>Grass in treated area may be injured.</p> <p>Treat maximum of 13 mounds per acre. Do not treat mound more than once per season.</p> <p>Do not apply when lactating dairy cattle are present. Do not graze or feed grass or grass hay to dairy animals. Remove meat animals from treated areas at least one day before slaughter if they were present at application or grazed treated areas within 21 days after application.</p>	21

BEST AVAILABLE COPY

NON-BEARING CITRUS

Plants	Insects	Amount ORTHENE 75S per Acre	Time of Application	Recommended Application
Non-bearing Citrus (including citrus nursery seedlings) (Except CA)	Aphids Grasshoppers Katydid Mealybugs Orangedogs Plant Bugs Thrips Whiteflies	2/3 lb. (10.5 oz.)	Apply as needed for control of existing populations.	Apply ORTHENE 75S in 100 to 200 gallons of water per acre. Spray individual juvenile or non-bearing trees for coverage with total application not to exceed specified rate in lbs. per acre. Length of residual activity will depend upon spray coverage and the amount of moisture following application. Do not graze treated areas. DO NOT HARVEST citrus for one year after treatment. For mound drench treatment, apply 1 gal. of mix to each mound area by sprinkling the mound until it is wet and treat a four (4) foot diameter circle around the mound.
	Citrus Blackfly	2/3 to 1 1/3 lb. (10.5 to 21.25 oz)	The high rate should be used when a heavy infestation of Citrus Blackfly is present. Begin applications when eggs or adults first appear. Apply on a 7 to 10 day interval or as needed to maintain control.	
	Ants, Including Imported Fire Ants and Harvester Ants	Foliar Spray 1.0 lbs. (16 oz.)	Apply as needed for control of existing populations.	
		Mound Treatment Drench Method: Mix 1 oz. in 5 gals. of water.		

SPECIALTY USES NON CROP AREAS

Crop	Insects	Amount ORTHENE 75 S Per Acre	Further Use Instructions
Non-Crop Areas (field borders, fencerows, roadsides, ditchbanks and borrow pits)	Grasshoppers	1/3 lb. (5.25 oz.)	For early to mid-season application to grasshoppers in field borders, fencerows, roadsides, ditchbanks, and borrow pits. Apply in 1 to 5 gals. of water by air, or in 10 to 20 gals. of water with ground equipment. Use the higher volumes when spraying heavier foliage. Do not graze or feed vegetation cut from treated areas.
Non-Crop Areas	Ants, Including Imported Fire Ants and Harvester Ants	Mound Treatment - Dry Methods: Evenly distribute 1 to 2 teaspoons over the mound. Drench Method: Mix 1 oz. in 5 gals. of water. Apply 1 gal. of mix to each mound area by sprinkling the mound until it is wet and treat a four (4) foot diameter circle around the mound.	For best results apply the material in the early morning or late afternoon when the ants are most active. Applications made under prolonged hot and dry conditions may be ineffective due to the location of the ants deep within the nest. Grass in treated areas may be injured. Do not treat mound more than once per season.

18 9 26

SPECIALTY USES CONTAINER GROWN NURSERY STOCK

Plants	Insects	Amount ORTHENE 75 S Per 100 Gal.:	Time of Application	Recommended Application
Container Grown Nursery Stock (Arborvitae Azalea Camellia Rhododendron Roses Viburnum Yew)	Black Vine Weevil Strawberry Root Weevil	1 lb. (16 oz.)	Application should be made by mid-September for greenhouse stock and by mid-October for outdoor stock. Consult your local county extension agent for information on the identification and control of root weevils on ornamentals.	Apply the specified amount of ORTHENE 75 S Soluble Powder per 100 gals. of solution so as to thoroughly drench the root system.
	Ants, including Imported Fire Ants and Harvester Ants	1 lb. (16 oz.)	Apply as needed to control the pest.	

SMALL VOLUME SPRAY EQUIPMENT

Preparation of ORTHENE Spray Mix Using a Small Fluid Ounce Measuring Cup		
Label Recommendation ORTHENE 75 S in 100 Gals. Water	Equivalent ORTHENE 75 S in 20 Gals. Water*	Equivalent ORTHENE 75 S in 1 Gal. Water (tsp./Gal.)
1/3 lb.	1.1 oz.	1/2 tsp.
2/3 lb.	2.1 oz.	1 tsp.
1 lb.	3.2 oz.	1 1/2 tsp.
1-1/3 lbs.	4.3 oz.	2 tsp.

TREES AND SHRUBS

Plants	Insects	Amount ORTHENE 75 S Per 100 Gals.	Time of Application	Recommended Application
Trees and Shrubs (Except Flowering Crabapple, see below).	Aphids Bagworms Birch Leafminer Tent Caterpillars* Lace Bugs Leafrollers	1/3 lb. (5.3 oz.)	As the insects begin to appear.	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer. The addition of a suitable sticker improves control of Gypsy Moth larvae. *Mist blower application. Adjust rates to 1-1/3 lbs. per 100 gals. water for Gypsy Moth control and 1.0 lb. per 100 gals. water for Tent Caterpillar control.
	Douglas Fir Tussock Moth Larvae Gypsy Moth Larvae* Webworms	2/3 lb. (10.5 oz.)	As the insects begin to appear.	Do not apply to Huckleberry, Balm of Gilead, Cottonwood, Lombardy Poplar and Viburnum suspensum.
	Scales (Crawlers)	2/3 lb. (10.5 oz.)	As crawlers begin to appear. Repeat applications, at a 2 week or more interval, may be necessary where there is continuous crawler production.	Nursery crops. Before treating large plantings, spray only a few plants and observe two weeks for phytotoxicity.
	Ponderosa Pine Needle Miner	2/3 lb. (10.5 oz.)	Time of application is important. Consult your Farm Advisor or County Extension Agent.	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer as a full coverage spray .
	Grasshoppers	2/3 lb. (10.5 oz.)	As the grasshoppers begin to appear.	
	California Oakworm Cankerworms (Spring and Fall)	1/3 to 2/3 lb. (5.3 to 10.5 oz.)	As the insects begin to appear. Use the higher amount when the larger larvae are present.	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer.
	Nantucket Pine Tip Moth Larvae	1 lb. (16 oz.)	Time of application is important. Consult your Farm Advisor or County Extension Agent. Repeat applications will be required for subsequent generations.	
	Root Weevil Adults	1 lb. (16 oz.)	Apply when first feeding damage occurs. Repeat applications, at four week intervals until the first heavy frost, may be necessary for complete foliage protection.	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer as a full coverage spray.
	Box Elder Bugs Sawflies Budworms Leafhoppers	1 lb. (16 oz.)	As the insects begin to appear.	
	Japanese Beetle	1-1/3 lbs. (21.3 oz.)	As the Japanese Beetles begin to appear. Repeat applications, at 2 week intervals, may be necessary.	
Elm Leaf Beetle (larvae)	1-1/3 lb. (21.3 oz.)	As the larvae begin to appear. ORTHENE will not prevent Elm Leaf Beetle eggs from hatching.		

TREES AND SHRUBS (Continued)

Plants	Insects	Amount ORTHENE 75 S Per 100 Gals.	Time of Application	Recommended Application
Douglas Fir (Christmas Trees)	Douglas Fir Needle Midge	2/3 lb. (10.5 oz.) (2/3 lb. per acre)	Application should be made no more than 2 weeks prior to bud burst. For additional pest management information, consult your County Extension Service.	Apply the specified amount of ORTHENE 75 S Soluble Powder in not less than 2 gals. of spray per acre by air or in 100 gals. of spray per acre by ground.
Flowering Crabapples	Aphids Tent Caterpillars Leafrollers	1/3 lb. (5.3 oz.)	As the insects begin to appear.	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer. Do not apply more often than 3 times in a growing season at a 4 week interval. Caution: Phytotoxicity has occurred on the following Crabapple varieties: Hopa, Ichonoski, Malusflorbunda, Pink Perfection, Red Wine and Snow Cloud.
Crape Myrtle	Aphids	3 to 4 level Tbs. (0.8-1.1 cz.) per 1 Tbs. of water.	As aphids begin to appear.	Make a paint-on slurry by mixing the specified amount of ORTHENE 75 S Soluble Powder with 1 tablespoon of water. Remove the loose bark from the trunk areas to be treated. Completely paint a band around each trunk to a width twice its diameter. Application should be made to trunks within a zone 6 to 12 inches above the ground and below the point where branching begins. For multi-trunk plants be certain to treat all trunks. For either single or multi-trunk plants, application should be made as low as possible within the recommended treatment zone.

21 9 26
7

COMMERCIAL TURFGRASS, LAWNS, AND OTHER RECREATIONAL TURFGRASS AREAS
DO NOT ALLOW LIVESTOCK TO GRAZE TREATED AREAS. DO NOT FEED TREATED GRASS TO LIVESTOCK.

Plant	Insects	Amount ORTHENE 75 S Per 1000 Sq. Ft.	Time of Application	Recommended Application
Turfgrass Residential & commercial)	Fall Armyworm Yellow Striped Armyworm Southern Armyworm	1/2 to 1.2 oz. (1 1/3 to 3 1/4 lbs. per acre)	As the insects appear. A repeat application at 2 week intervals may be necessary.	Apply the specified amount of ORTHENE 75 S Soluble Powder per 1,000 sq. ft. Use a minimum of 5 gals. water per 1,000 sq. ft. to obtain good coverage.
	Cutworm	1.2 to 2.4 oz. (3 1/4 to 6 2/3 lbs. per acre)		
	Chinch Bugs	1.2 to 2.4 oz. (3 1/4 to 6 2/3 lbs. per acre)	Apply as needed for adult population knockdown (10 to 14 days).	Apply the specified amount of ORTHENE 75 S Soluble Powder per 1,000 sq. ft. Use 1 to 15 gals. water per 1,000 sq. ft. to obtain good coverage.
	Fleas	1.2 to 2.4 oz. (3 1/4 to 6 2/3 lbs. per acre)	Apply as needed for knockdown (7 to 10 days) only of existing adult populations.	
	Sod Webworm (Crambus spp.)	1/2 to 1 oz. (1 1/3 to 2 3/4 lbs. per acre)	As sod webworms begin to appear. Use the higher amount when quick knockdown is needed or with heavy infestations. Repeat application may be necessary. Do not repeat at more 1 week intervals.	
	Leafhopper	1 oz. (2 3/4 lbs. per acre)	As the leafhoppers begin to appear. A repeat application at 1 week intervals may be necessary.	

COMMERCIAL TURFGRASS LAWNS, AND OTHER RECREATIONAL TURFGRASS AREAS (Cont.)
 DO NOT ALLOW LIVESTOCK TO GRAZE TREATED AREAS. DO NOT FEED TREATED GRASS TO LIVESTOCK.

Plant	Insects	Amount ORTHENE 75 S Per 1000 Sq. Ft.	Time of Application	Recommended Application
Turfgrass (Residential & Commercial)	Mole Crickets (Except CA) Spittlebug (Except CA)	1.0 to 1.9 oz. (2.66 - 5.2 lbs. per acre)	As mole crickets begin to appear. For knockdown of existing populations, more than one application may be required throughout the growing season. For heavy infestations, use the higher dosage rate.	Apply the specified amount of ORTHENE 75 S Soluble Powder per 1,000 sq. ft. Use 1 to 15 gals. water per 1,000 sq. ft. to obtain good coverage. Apply during late afternoon or early evening hours and after an irrigation. Do not irrigate after application. The use of a lemon fragrance substance in the spray mix may enhance control by acting as a flushing agent and thus provide increased mole cricket contact with the ORTHENE 75 S Soluble Powder. The following lemon-scented products have been shown to be effective flushing agents: Lemon Joy, Lemon Palmolive, and Mighty Myrt Products Manufacture-Base Pure Lemon Fragrance. The use rate for these lemon-scented products is 2 teaspoons per gallon of water for small total mix volumes or 6 fl. oz. per 50 gals. of water for large total mix volumes.
	Greenbug (Schizaphis graminum) Grasshoppers	1/2 oz. (1 1/3 lbs. per acre)	Apply when insects or their damage first appears. Repeat as necessary. Application is not to be repeated at more than 1 week intervals.	Apply the specified amount of ORTHENE 75 S Soluble Powder. Use 4 gals. of water per 1,000 sq. ft. to obtain good coverage. Do not mow turfgrass for at least 24 hours after application.
	Black Turfgrass Ataenus (Except CA)	1.5 to 1.9 oz. (4.1 to 5.2 lbs. per acre)	Apply when insects or their damage first appear.	Apply the specified Amount of ORTHENE 75 S per 1,000 sq. ft. Use adequate water to assure good coverage. Irrigate lightly after application (not more than 1/2 inch). Use the higher rate for severe infestations.
Dichondra	Cutworm Flea Beetle Southern Armyworm Yellow Striped Armyworm	1.0 to 1.9 oz. (2.7 to 5.2 lbs. per acre)	As the insects appear. Repeat at 2 week intervals as necessary.	Apply the specified amount of ORTHENE 75 S Soluble Powder per 1,000 sq. ft. Use a minimum of 15 gals. of water per 1,000 sq. ft. to obtain good coverage.

BEST AVAILABLE COPY

MOUND TREATMENT OF FIRE ANTS IN TURFGRASS

Plant	Insects	Amount ORTHENE 75 S	Time of Application	Recommended Application
Turfgrass	Ants, Including Imported Fire Ants and Harvester Ants	<p>Mound Treatment-Dry Method: Evenly distribute 1 to 2 teaspoons over the mound.</p> <p>Drench Method: Mix 1 oz. in 5 gals. of water. Apply 1 gal. of mix to each mound area by sprinkling the mound until it is wet and treat a four (4) foot diameter circle around the mound.</p>	<p>For best results apply the material in the early morning or late afternoon when the ants are most active.</p> <p>Applications made under prolonged hot and dry conditions may be ineffective due to the location of the ants deep within the nest.</p>	<p>Apply the specified amount of ORTHENE 75 S Soluble Powder as directed.</p> <p>Grass in treated areas may be injured.</p> <p>Do not treat mound more than once per season.</p>

OUTDOOR AND PERIMETER SPRAY

Location	Insects	Amount ORTHENE 75 S Per Gallon	Time of Application	Recommended Application
Outdoor and perimeter area.	Wasp	1.6 oz. (0.10 lbs.)	Treat early or late in the day, as wasp are generally less active during these times.	Apply specified amount of ORTHENE 75 S Soluble Powder per each gallon of water used. Apply as a spot treatment to the nest, nest entrance, and surrounding areas where the wasps alight.
	Ants, Including Imported Fire Ants and Harvester Ants Crickets Cockroaches Earwigs Pillbugs	1.6 oz. (0.10 lbs.)	As the insects appear.	<p>Apply specified amount of ORTHENE 75 S Soluble Powder per each gallon of water used.</p> <p>Apply to a band of soil 6 to 10 feet adjacent to the structure and to a height of 2 to 3 feet on the foundation where pests may be active or may find entrance. Also apply as a residual spray or with a paint brush to surfaces of buildings, window frames, shutters, entryways, screens, eaves, patios, garages, carports, around garage areas and other areas where these pests congregate.</p>

OUTDOOR FLORAL CROPS AND GROUND COVERS

Plants	Insects	Amount ORTHENE 75 S Per 100 Gals.	Time of Application	Recommended Application
Chrysanthemums Daisies Dahlies Easter Lily Gladioli Gypsophila Pachysandra Pansy Peony Roses Sedum Statice Strawflower Yarrow Zinnia	Aphids Thrips Lygus	2/3 lb. (10.5 oz.)	As insects begin to appear. Repeat applications may be necessary.	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer as a full coverage spray. Multiple applications may cause slight tip burn or marginal leaf necrosis on some varieties. Test on a few plants to determine varietal susceptibility.
Roses Boston Ivy	Japanese Beetle	1 - 1/3 lbs. (21.3 oz.)	As the Japanese Beetles begin to appear. Repeat applications at 2 week intervals may be necessary.	

GREENHOUSE FLORAL AND FOLIAGE PLANT CROPS

Plant	Insects	Amount ORTHENE 75 S Per 100 Gals.	Time of Application	Recommended Application
Roses	Leafrollers	2/3 to 1 lb. (10.5 to 16 oz.)	As leafrollers begin to appear. Use the higher amount when the large larvae are present.	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer as a full coverage spray.
Foliage Plants, Anthuriums, Cacti, Orchids, Poinsettia	Aphids	1/3 lb. (5.3 oz.)	As aphids begin to appear.	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer as a full coverage spray. The addition of a wetting agent may be required on difficult to wet foliage.
	Mealybugs Thrips Whiteflies	2/3 lb. (10.5 oz.)	As the insects begin to appear. A repeat application, at a 2 week interval, may be necessary for control of mealybugs and whiteflies.	Caution: Phytotoxicity has occurred on the following foliage plants: Bletchum gibbum, Cissus antarctica, Ficus triangularis, Fittonia verschaffelti, Maranta leuconeura kerchoveana, Pachystachya lutea, Plectranthus australis, Polypodium aureus, Polystichum, Pteris ensiformis, Tolmiea menziesii. Before treating large plantings spray only a few plants and observe two weeks for varietal phytotoxicity. Application of ORTHENE 75 S Soluble Powder on Poinsettias after bract formation may result in phytotoxicity on certain varieties.
	Scales (Crawlers)	2/3 lb. (10.5 oz.)	As crawlers begin to appear. Repeat applications, at a 2 week or more interval, may be necessary where there is continuous crawler production.	
	Sweet Potato Whiteflies (Except CA and NY)	1/3 lb. (5.3 oz.) plus TAME 2.4 EC Spray 10 2/3 fl. oz. (0.2 lb. ai)	Apply when insects first appear. If a population is well established, make one application of the tank mix and follow 5 to 7 days later with TAME alone at 16 fl. oz./100 gals. See TAME label for instructions.	
			For sweet potato whitefly control, apply the specified amount of ORTHENE 75 S Soluble Powder plus TAME 2.4 EC Spray as a tank mix at a volume necessary to obtain good coverage. Follow the TAME label for specific instructions on the alternation of TAME plus ORTHENE and TAME alone and the rotation instructions to avoid potential resistance.	

GREENHOUSE FLORAL AND FOLIAGE PLANT CROPS (Continued)

PLANTS	INSECTS	Amount ORTHENE 75 S Per 100 Gals.	TIME OF APPLICATION	RECOMMENDED APPLICATION
Roses Carnations Chrysanthemums	Aphids Thrips	2/3 lb. (10.5 oz.)	As aphids begin to appear. As thrips begin to appear or at the tight flower bud stage. Repeat applications may be necessary.	Apply the specified amount of ORTHENE 75 S Soluble Powder in 100 gals. water with a hydraulic sprayer as a full coverage spray. Do not apply more often than once every 28 days to Carnations and Chrysanthemums. Caution: Phytotoxicity has occurred on the following Chrysanthemum varieties: Albatross, Bonnie Jean, Dixie, Garland, Gem, Iceberg, Pride, Showoff, Statesman, Tally Ho, Westward Ho, and Wild Honey. Before treating large Chrysanthemum plantings, spray only a few plants and observe two weeks for varietal phytotoxicity. Do not apply to Chrysanthemums and Roses with open flowers.

Do not apply under conditions involving possible drift to food, forage or other plantings that might be damaged or the crops thereof rendered unfit for sale, use or consumption.

NOTE: This product is sold by weight and package is full when packed, but due to fluffy nature this material is inclined to settle.

STORAGE AND DISPOSAL

PROHIBITIONS

Do not contaminate water, food or feed by storage, disposal or cleaning of equipment.
Open dumping is prohibited.

STORAGE

Keep pesticide in original container.

Do not put concentrate or dilute into food or drink containers.

Store in cool, dry place. Protect from excessive heat.

Do not contaminate food or foodstuffs.

Do not store or transport near feed or food.

For help with any spill, leak, fire or exposure involving this material, call day or night 1-800-892-0099, or Chemtrec 1-800-424-9300.

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 canister into application equipment. Do not reuse container. Dispose of empty canister in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

IMPORTANT INFORMATION. READ BEFORE USING PRODUCT.

LIMITED WARRANTY: 1. Valent U.S.A. Corporation warrants that this product conforms to the chemical description on the label and is reasonably fit for use under average conditions when used strictly in accordance with the directions on the labeling. Valent does not make nor authorizes any agent or representative to make, any other warranty, guarantee or representation, express or implied, concerning this product. Specifically, **NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE IS MADE.**

2. Critical and unforeseeable factors beyond Valent's control prevent it from eliminating all risks in connection with the use of this product. Such risks include, but are not limited to, damage to plants and crops to which product is applied, lack of complete control over the handling and application of this product, and damage caused by drift to other plants or crops. Such risks occur even though the product is reasonably fit under average conditions for the uses stated on the labeling and even though label directions are followed. Buyer and user acknowledge and assume all risks and liability (except those assumed by Valent under 1 above) resulting from handling, storage, and use of the product.

3. Precautions stated on the labeling should be followed to avoid hazardous exposure to the product.

Copyright© 1994 by Valent U.S.A. Corporation.

AMBUSH® — Reg. TM of Zeneca Inc. Ag Products for permethrin insecticide.

AMMO® — Reg. TM of FMC Agri Chemical Group for cypermethrin insecticide.

ASANA® — Reg. TM of E. I. duPont de Nemours & Co., Inc. for esfenvalerate insecticide.

BAYTHROID® — Reg. TM of Miles Inc. for cyfluthrin synthetic pyrethroid.

CAPTURE® — Reg. TM of FMC Agri Chemical Group for bifenthrin insecticide miticide.

CYMBUSH® — Reg. TM of the Zeneca Inc. Ag Products for cypermethrin insecticide.

KARATE® — Reg. TM of Zeneca Ag Products U.K. for lambda-cyhalothrin insecticide.

LORSBAN® — Reg. TM of Dow Chemical Company for chlorpyrifos insecticide.

ORTHENE® — Reg. TM of Monsanto Company for acephate insecticide.

POUNCE® — Reg. TM of FMC Agri Chemical Group for permethrin insecticide.

PYDRIN® — Reg. TM of E. I. duPont de Nemours & Co., Inc. for fenvalerate insecticide.

SCOUT® — Reg. TM of Hoechst-Roussel Agri-Vet Co. for tralomethrin pyrethroid insecticide.

Manufactured for

Valent U.S.A. Corporation

Walnut Creek, CA 94596-8025

Form R1011A1.2 Made in U.S.A.

EPA Reg. No. 59639-26

EPA Est. No. 39578-TX-01