

RECOMMENDED APPLICATIONS

CROP	INSECT	Pints COTNION-M E 2		
FIELD CROPS				
alfalfa weevil		1 to 3	Apply specified dosage per acre using a minimum of 10 gallons of water per acre when applying with ground equipment, and a minimum of 5 gallons per acre for aerial applications for alfalfa weevils and at least 1 gallon per acre for the other insects listed. It may be necessary to use 20 to 25 gallons of water per acre on heavy growth for control of alfalfa weevil or Egyptian alfalfa weevil with ground equipment.	
Aphids Leafhoppers Mites		1 to 2		
Alfalfa Clover	Egyptian alfalfa weevil	1 1/2 to 3	Apply twice per cutting at the 1 pint rate at intervals of 10 to 11 days. Do not apply more than twice per cutting at the 1 pint rate. Apply only once per cutting at rates above 1 pint per acre. Do not apply within 14 days of harvest at the rates of 1 to 1 1/2 pints per acre, or within 16 days at the rate of 2 pints per acre. Do not apply rates above 2 pints per acre within 21 days of harvest.	
	Alfalfa plant bug Flea hopper Grasshoppers Lygus bugs Spittlebug	2 to 3		
Cotton (Conventional or Low Volume Spray)	Aphids Boll weevil Brown cotton leafworm Cotton flea hopper Rapid plant bug Stink bug bollworm	Cotton leafworm Lygus bugs Mites Thrips Tarnished plant bug Pink bollworm	1 1 to 2 2 2 to 4	Apply specified dosage per acre by air or ground equipment in at least 1 gallon of water. For early-season control of bollworm and pink bollworm use 2 to 3 pints and for mid-to-late season applications, use 3 to 4 pints. Repeat as necessary. Do not apply within 1 day of picking. Cotton receiving late season applications should not be pastured and gin trash from this cotton should not be fed.
Cotton (Ultra Low Volume Spray)	Boll weevil	1 1/2 to 1	COTNION-M E 2 may be used undiluted in any ground or aerial spray equipment that has been adapted and calibrated for ultra-low-volume spraying. Spray machines must be equipped with accepted low volume devices that will produce droplets within the range of 30 to 100 microns in size. ULV aerial applications should be made at altitudes of 10 to 20 feet. Repeat applications as necessary, but not within 2 days of hand-picking. Cotton may be machine harvested anytime after application. Do not graze livestock in treated areas. Do not feed gin trash to livestock. Early and Mid-season control: Apply specified dosage per acre in accordance with local recommendations. Dormant Weevil Control: The one-pint-per-acre rate only is recommended for control of diapausing boll weevils. Schedule applications in accordance with local recommendations.	
Barley Oats Rye Wheat	Cereal leaf beetle	1	Apply specified dosage per acre by air or ground equipment in sufficient water for complete coverage but not less than 1 gallon per acre. Do not apply more than once per season. Do not harvest for food, feed, forage or graze within 30 days of treatment.	
Soybeans	Aphids Bean leaf beetle Green cloverworm Leafhoppers Mexican bean beetle	Leaf Miner Leaf rollers Stink bugs Velvet bean caterpillar 2 to 3	1 1/2 to 2	Apply specified dosage per acre by air or ground equipment in sufficient water to give complete coverage but not less than 1 gallon per acre. Repeat as necessary. Do not apply within 45 days of harvest. Do not graze or feed treated vines to livestock.
Sugarcane (Conventional spray) Florida and Louisiana only	Sugarcane borer	1	Apply specified dosage per acre by air application using a minimum of 2 gallons of water per acre. For best results applications should be made at approximately cane top level and not more than 10 feet above cane top level. Do not apply more than 5 times per season nor within 30 days of harvest. Bagasse from sugarcane treated may be used for feed of cattle, goats and sheep. Consult your State Agricultural Extension Service or Experiment Station for specific use information. Apply specified dosage per acre undiluted. COTNION-M E 2 may be used undiluted in an aerial spray equipment that has been adapted and calibrated for ultra-low	

CROP	INSECT	Pints COTNION M E 2		
Pecans	Aphids Fall webworm Hickory shuckworm Leaf miners May beetles Mites Pecan casebearer	Southern green stink bug Spittlebug Twig girdlers Walnut caterpillar	1 1/2 to 2 1/4	Apply specified dosage in 100 gallons of water as a full coverage spray* using not more than 1800 gallons of finished spray per acre. Repeat as necessary. Do not apply after husks split. Where more than 22 1/2 pints are applied per acre in a single application, do not graze livestock in treated groves. Where 22 1/2 pints or less are applied per acre, livestock may be grazed in treated groves after a 21 day post-treatment interval.
Walnuts	Aphids Codling moth European red mite Filbertworm		1 1/2 to 3 3/4	Apply specified dosage in 100 gallons of water as a full coverage spray* using not more than 1100 gallons of finished spray per acre. Repeat as necessary. Do not apply after husks split. Do not graze livestock in treated groves for 21 days after treatment.
VEGETABLES				
Artichokes	Plume moth		6	Apply specified dosage per acre by air or ground equipment in sufficient water for complete coverage but not less than 1 gallon per acre. Repeat as necessary. Do not apply within 30 days of harvest. Do not feed or ensile treated forage.
	Leaf rollers Mites		1 to 2	
Beans (snap & dried)	Aphids Bean leaf beetle Green cloverworm Mexican bean beetle Spotted cucumber beetle Striped cucumber beetle	Leafhoppers Leaf miners Stink bugs Velvet bean caterpillar Tarnished plant bug Western striped cucumber beetle	1 1/2 to 2 2	Apply specified dosage per acre by air or ground equipment in sufficient water to give complete coverage, but not less than 1 gallon per acre. Repeat as necessary. Do not apply to snap beans within 7 days of harvest, nor to dry beans within 30 days of harvest. Do not exceed 4 applications on dry beans. Do not feed or ensile treated forage.
Broccoli Brussels sprouts Cabbage Cauliflower	Aphids Cabbage looper Diamondback moth imported cabbageworm Cabbage maggot Cabbage maggot (Transplant fields in California only)		2 to 3 1 1/2	Apply specified dosage per acre in sufficient water for complete coverage, but not less than 1 gallon per acre. Repeat as necessary. Do not apply within 7 days of harvest for Brussels sprouts, 15 days of harvest for broccoli and cauliflower, nor within 21 days of harvest for cabbage. Mix specified dosage in 50 gallons of water. Apply 4 to 6 ounces of this emulsion per plant immediately after transplanting. Apply specified dosage in 300 to 400 gallons of water per acre as a soil drench in the rows when damage first appears. Additional applications may be necessary. Do not apply within 21 days of harvest.
Broccoli Brussels sprouts Cabbage Cauliflower	Cabbage maggot (Direct Seeded Fields in California only)		1 1/2	Apply specified dosage per acre in sufficient water for uniform distribution. Mix in the upper 2 inches of soil prior to seeding or spray in the seed row at planting time. Usually 2 to 3 additional sprays are necessary during the growing season depending upon time of year and maggot population. Do not apply within 21 days of harvest.
Celery	Aphids Leaf miners Leaf hoppers	Spittlebugs Tarnished plant bug	2	Apply specified dosage in 100 gallons of water as a full coverage spray* using not more than 200 gallons of finished spray per acre. Repeat as necessary, but not within 14 days of harvest.
Black-eyed peas (Southern peas) Crowder peas	Corn earworm Cowpea curculionid Leaf miners Stink bugs		3 to 4 1 1/2 to 2	Apply specified dosage per acre by air or ground equipment in sufficient water for complete coverage but not less than 1 gallon per acre. Do not apply more than 4 times per season nor within 30 days of harvest. Do not use vines for feed or forage nor pasture treated peas.
Cucumbers	Spotted cucumber beetle Striped cucumber beetle Western cucumber beetle		2	Apply specified dosage per acre by air or ground equipment in sufficient water for complete coverage but not less than 1 gallon per acre. Do not apply more than 3 times per season nor within 1 day of harvest.
Eggplant	Leaf miners European corn borer Flea beetle		1 1/2 to 2	Apply specified dosage per acre by air or ground equipment in sufficient water to give complete coverage but not less than 1 gallon per acre. Repeat as necessary. Do

Sugarcane(1) (Ultra Low Volume spray) (Florida and Louisiana only)	Sugarcane borer	3	Apply specified dosage per acre undiluted. COTNION-M E-2 may be used undiluted in any aerial spray equipment that has been adapted and calibrated for ultra low-volume spraying. Planes must be equipped with accepted low volume devices that will produce droplets within the range of 30 to 100 microns in size. For best results, applications should be made at approximately cane-top level, and not more than 10 feet above cane-top level. Do not apply more than 5 times per season, nor within 30 days of harvest. Bagasse from sugarcane treated may be used for feed of cattle, sheep and goats. Consult your State Agricultural Extension Service or Experiment Station for specific use information.
	Aphids Grasshopper Tobacco hornworm Tobacco flea beetle	2 to 3	Apply specified dosage per acre by air or ground equipment in sufficient water for complete coverage, but not less than 1 gallon per acre. Treat for hornworms as soon as egg masses or worms are first found. Repeat as necessary, but not within 6 days of harvest. Prime before treating.
Tobacco	Tobacco budworm	3	
FRUIT	Aphids Cottony peach scale European fruit lecanium scale Forbes scale Lesser peach tree borer Mites Peach tree borer	<i>Platynota flavidana</i> leaf roller Plum curculio Red-banded leaf roller San Jose scale Stink bug Tarnished plant bug Terrapin scale Walnut scale White peach scale	1 to 1-1 4
Apricots Nectarines Peaches	Leaf miner Peach twig borer	1 to 1-1 2	Apply specified dosage in 100 gallons of water as a full coverage spray* using not more than 800 gallons of finished spray per acre. Repeat as necessary. Do not apply more than 8 times per season, within 21 days of harvest for apricots, nectarines, and peaches, nor within 15 days of harvest for plums and prunes. Apply the 1/2-pint rate for oriental fruit moth of peach twig borer on apricots, nectarines and peaches only before mid-season. For control of peach tree borer, apply 2 or 3 sprays to trunk from ground to scaffold limbs, timed with moth flight. For scale control, apply when crawlers are present.
Nectarines	Thrips	1 to 1-1 4	
Plums Prunes	Aphids Eye-spotted bud moth Forbes scale Fruit tree leaf roller Lesser peach tree borer Peach twig borer Plum curculio	Red banded leaf roller San Jose scale Stink bug Mites Orange tortrix Peach tree borer Tarnished plant bug Tussock moth	1 to 2
	American plum borer	2	
Blackberries Boysenberries Loganberries Raspberries	Leafhoppers Leaf miners Aphids Obscure root weevil	Leaf rollers	1 1-1 4 1-1 4 to 2 2
			Apply specified dosage per acre by air or ground equipment using approximately 200 gallons of water for good coverage. Where ground conditions dictate an air application use specified rate in a minimum of 1 gallon of water per acre. Repeat as necessary, but not within 14 days of harvest.
Blackberries Boysenberries Loganberries Raspberries	Raspberry crown root borer Obscure root weevil	4 to 8 2	For control of root weevils and borers prior to harvest, apply specified dosage per acre to lower portion of canes and to the soil beneath the plants, using approximately 200 gallons of water. Do not apply more than twice per season. Do not make applications within 3 days of harvest at rates up to 4 pints per acre. Rates above 4 pints per acre should be applied only before fruit set, or after crop is harvested.
Blueberries (Eastern & North Central states only)	Blueberry maggot Fruitworms Lecanium Scale Plum curculio	2 to 3	Apply specified dosage per acre using approximately 200 gallons of water for good coverage. Where ground conditions dictate an air application use specified rate in a minimum of 1 gallon of water per acre. Repeat as necessary, but not more than 4 times per season, nor within 3 days of harvest. If maggot control is desired, applications of dust formulation are necessary. For blueberry maggot control, do not make more than two spray applications per season, with the last spray no later than June 15.
Cranberries	Cranberry fruitworm <i>Sparganotheca ferruginea</i> Tipworm Fireworm	2 to 4 4	Apply specified dosage per acre using approximately 200 gallons of water for good coverage. Where ground conditions dictate an air application use specified rate in a minimum of 1 gallon of water per acre. Repeat as necessary. Do not apply within 10 days of harvest.
	Eye spotted bud moth Forbes scale Mites	Lesser peach tree borer	Apply specified dosage in 100 gallons of water as a full

Eggplant	Leaf miners European corn borer Flea beetles	1-1/2 to 2 2	Apply specified dosage per acre by air or ground equipment in sufficient water to give complete coverage but not less than 1 gallon per acre. Repeat as necessary. Do not apply after fruit set.
Onions (green & dry)	Thrips	2 to 3	Apply specified dosage per acre by air or ground equipment in sufficient water to give complete coverage but not less than 1 gallon per acre. Do not apply more than 3 times per season nor within 28 days of harvest of dry onions or 7 days of harvest of green onions.
Peppers	Leaf miners European corn borer Flea beetles	1-1 2 to 2 2	Apply specified dosage per acre by air or ground equipment in sufficient water to give complete coverage but not less than 1 gallon per acre. A maximum of 4 treatments may be made up to within 3 days of harvest. Where more than 4 applications are required, do not apply last spray within 14 days of harvest.
Potatoes	Colorado potato beetle Banded cucumber beetle Leaf miners Aphids European corn borer Flea beetle Tuberworm	1-1 2 1-1 2 to 2 2 to 3 2-1 4 to 3	Apply specified dosage per acre by air or ground equipment in sufficient water for complete coverage but not less than 1 gallon per acre. Repeat as necessary. Do not apply within 7 days of harvest.
Spinach	Aphids Leaf miners Mites	1-1/2 to 2	Apply specified dosage per acre by air or ground equipment in sufficient water for complete coverage but not less than 1 gallon per acre. Repeat as necessary. Do not apply within 14 days of harvest.
Tomatoes	Colorado potato beetle Banded cucumber beetle <i>Drasophila</i> Aphids European corn borer Flea beetles Tuberworm Corn earworm Fruitworm Hornworm	1-1 4 1-1 2 to 2 2 to 3 2-1 4 to 3 3 to 6	Apply specified dosage per acre by air or ground equipment in sufficient water for complete coverage, but not less than 1 gallon per acre. Repeat as necessary. The high rates should be used where heavy infestations of late instar lepidopterous larvae (large worms) and pin worms are present. Rates of 3 pints per acre or less may be applied up to day of harvest. Rates above 3 pints per acre require an interval of 14 days between application and harvest.
MELONS Honeydew melons Muskmelons (cantaloupe) Watermelons Other melons	Leafhoppers Rindworms Spotted cucumber beetle Striped cucumber beetle Leaf miners Western striped cucumber beetle	1-1/2 to 2 2	Apply specified dosage per acre by air or ground equipment in sufficient water to give complete coverage but not less than 1 gallon per acre. Repeat as necessary up to the day of harvest but not more than 4 times per season.
ORNAMENTALS	Aphids <i>Cercospora</i> scale Euonymus scale Juniper scale Lace bugs Leafhoppers	Mites Olive scale Oystershell scale <i>Psyllid</i> scale Thrips	1-1 2 to 2
Ornamentals Nursery plants Forest and Shade trees	Brown soft scale Black pine leaf scale	Putnam scale European pine scale	4 1-1 4
	Cone midge Cone moth	3 to 6	Apply specified dosage per 100 gallons of water. Time applications to coincide with moth flight when cones are open for pollination. Thorough coverage of cones is necessary for maximum control. Repeat as necessary.
	European pine needle moth Nantucket pine tip moth	2 to 3	Apply specified dosage per acre in sufficient water for good coverage. Time applications to coincide with moth flights. For application to individual trees, use 1 table spoon per gallon of water.
			Injury to hollyhock or Amaranth tender may occur under some conditions. Do not allow children or pets in treated area until water has been washed into soil and treated area is dry.
Slash pine	Cone worm Fruitworm	6	Apply specified dosage per 100 gallons of water. Thorough coverage of cones is necessary for maximum control. Repeat as necessary.

* This concentration of material is for use with low volume type sprayers. When lower volumes of spray are applied per acre with conventional sprayers, increase the concentration of the spray mixture in order to apply amount per acre equivalent to a full coverage spray. Where conditions dictate an air application, apply dosage per acre equivalent to a full coverage ground spray in not less than one gallon of water per acre.

Blueberries (Eastern & North Central states only)	Blueberry maggot Fruitworms Lecanium Scale Plum curculio	2 to 3	Apply specified dosage per acre, using approximately 200 gallons of water for good coverage. Where ground conditions dictate an air application, use specified rate in a minimum of 1 gallon of water per acre. Repeat as necessary, but not more than 4 times per season, nor within 3 days of harvest. If multiple late-season applications of dust formulations are to made for blueberry maggot control, do not make more than two spray applications per season, with the last spray no later than June 15.
Cranberries	Cranberry fruitworm <i>Sparganothia sulfureana</i> Tipworm	2 to 4	Apply specified dosage per acre, using approximately 200 gallons of water for good coverage. Where ground conditions dictate an air application use specified rate in a minimum of 1 gallon of water per acre. Repeat as necessary. Do not apply within 21 days of harvest.
	Fireworms	4	
Cherries	Eye-spotted bud moth Forbes scale Fruit flies Fruit tree leaf roller	1 to 2	Apply specified dosage in 100 gallons of water as a full coverage spray* using not more than 800 gallons of finished spray per acre. Repeat, as necessary. Do not apply more than 8 times per season nor within 15 days of harvest.
	Cherry leaf miner	1	
Citrus Fruits	Aphids Black scale Brown soft scale Chaff scale Citricola scale Citrus mealybug Citrus rust mite Citrus thrips Cottony cushion scale European brown snail	1 to 1-1/2	Apply specified dosage in 100 gallons of water as a full coverage spray* using not more than 2000 gallons of finished spray per acre. A single application per year may be applied up to within 7 days of picking. Where 2 applications are required, the second spray should not be applied within 28 days of harvest. Do not apply more than twice per fruit year. Do not pick fruit or do other work involving contact with the tree, such as pruning, within 7 days of treatment.
	California red scale	1-1/2	
Grapes	Grape berry moth Grape cane girdlers Grape mealybug	1 to 2	Apply specified dosage in 100 gallons of water as a full coverage spray* using not more than 300 gallons of finished spray per acre. Repeat as necessary but not more than 3 times per season. Minimum dosage specified may be applied up to harvest. Higher rates up to 1 1/2 pints require a 10-day interval to harvest and above 1 1/2 pints a 28-day interval to harvest.
	Aphids Meadow spittlebug Oblique banded leaf roller Obscure root weevil	2	
Strawberries	Omnivorous leaf tier Pea leaf weevil Small black (grass) weevil Strawberry leaf rollers Whitefly	2	Apply specified dosage in 200 gallons of water per acre as a full coverage spray*. Where ground conditions dictate an air application, use specified rate in a minimum of 1 gallon of water per acre. Repeat as necessary. Do not apply within 5 days of harvest.
NUTS Almonds	Peach twig borer	1 1/2 to 2	Apply specified dosage in 100 gallons of water as a full coverage spray*, using not more than 500 gallons of finished spray per acre. Do not apply more than twice per season nor within 60 days of harvest. Allow 30 days between applications.
Filberts (Pacific Northwest only)	Apple mealybug Filbert aphid Filbert leaf roller Filbertworm	1 to 3	Apply specified dosage in 100 gallons of water as a full coverage spray* using not more than 1000 gallons of finished spray per acre. Repeat as necessary. Do not apply within 30 days of harvest. Do not graze livestock in treated groves for 21 days after treatment.

	Cone midge Cone moth	8 to 16	Apply specified dosage per 100 gallons of water. Time applications to coincide with moth flight when cones are open for pollination. Thorough coverage of cones is necessary for maximum control. Repeat as necessary.
	European pine shoot moth Nantucket pine tip moth	1-1/2 to 3	Apply specified dosage per acre in sufficient water for good coverage. Time applications to coincide with moth flights. For application to individual trees, use 1 table-spoon per gallon of water.
Injury to hawthorn or American linden may occur under some conditions. Do not allow children or pets on treated area until material has been washed into soil and treated area is dry.			
Slash pine	Coneworm Seedworm	6	Apply specified dosage per 100 gallons of water. Thorough coverage of cones is necessary for maximum control. Repeat as necessary.

*This concentration if calculated for conventional hydraulic-type sprayers. When lower volumes of spray are applied per acre with concentrate sprayers, increase the concentration in the spray mixture in order to apply amount per acre equivalent to a full-coverage spray. Where conditions dictate an air application, apply dosage per acre equivalent to a full coverage ground spray in not less than one gallon of water per acre.

(1)Note: This formulation when used undiluted, may cause spotting of automobile finishes if prolonged exposure is permitted. Do not spray directly over automobiles. If accidental exposure does occur, automobiles should be washed immediately.

DIRECTIONS FOR USE

MIXING: COTNION-M E-2 emulsifiable insecticide forms an emulsion when diluted with water, and is suitable for use in all power operated ground sprayers and aircraft sprayers. To mix with water, pour the required amount of COTNION-M E-2 into full amount of water and then agitate. COTNION-M E-2 may also be applied undiluted as an ultra-low-volume spray with either ground or aircraft equipment that has been adapted and calibrated for ultra-low-volume spraying as described under "Recommended Applications" for those crops specified.

DOSAGE: Use specified dosage of COTNION-M E-2 in the amount of water necessary to give complete coverage of foliage. The type of equipment used will determine the concentration required.

SPRAYING: Work to windward. Protect sprayer operators from drift or mist. When low volumes of spray are applied complete coverage and thorough application are essential for most effective results. Schedule applications in accordance with local conditions. Consult your State Agricultural Extension Service or Experiment Station for specific use information in your area.

RESTRICTIONS: Do not use on other crops used for food or forage. Use only according to label directions. Application at rates above those shown may result in illegal crop residues. Do not graze livestock in treated orchards or groves for 21 days after treatment. Do not treat food crops grown in the greenhouse.

This product is toxic to fish, shrimp, crabs, birds and other wildlife. Birds and other wildlife in treated areas may be killed. Keep out of lakes, streams, or ponds. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from areas treated. Do not contaminate water by cleaning of equipment, or disposal of wastes. Apply this product only as specified on this label. Shrimp and crab may be killed at application rates recommended on this label. Do not apply where these are important resources.

This product is highly toxic to bees exposed to direct treatment or residues on crops. Protective information may be obtained from your Cooperative Agricultural Extension Service.

CONTAINER DISPOSAL DO NOT RE-USE THE CONTAINER - Completely empty the contents and bury the unused chemical at least 18 inches deep in an isolated location away from water supplies. Rinse empty drum by filling with water and add 1 cup of household lye to each 5 gallons of water. Bury rinse solution at least 18 inches deep in an isolated area away from water supply. Punch holes in the top and bottom of the can, crush the can, and bury deeply in an isolated location.

Do not use container in any connection with feed, food, and drinking water.

DANGER: Poisonous if swallowed, inhaled, or absorbed through the skin. Do not get in eyes or on skin. Do not breathe fumes or spray mist. Spray operator should work to windward to stay out of drift or mist.

When loading spray tank or handling the concentrate at any other time, wear water proof protective clothing, natural rubber gloves and goggles. A mask or respirator recommended by the U.S. Bureau of Mines for protection against GUTHION should also be worn when handling the concentrate.

Do not contaminate feed or foodstuffs. Keep out of reach of children and domestic animals. Keep all unprotected persons out of the operating area or vicinity where there may be danger of drift. Wash hands, arms, and face thoroughly with soap and warm water before eating or smoking. Wash all contaminated clothing with soap and hot water before reuse. Vacated areas should not be reentered for at least two days.

SYMPTOMS OF POISONING: A sense of "tightness" in the chest. Sweating. Contracted pupils. Stomach pains. Vomiting and diarrhea.

FIRST AID: In case of poisoning call a physician immediately. Have patient lie down and keep quiet. If swallowed, induce vomiting by giving a tablespoonful of salt in a glass of warm water. Administer milk or water freely and again induce vomiting until vomit fluid is clear. If on skin, remove contaminated clothing and wash skin immediately with soap and warm water. If eyes are contaminated, wash with flowing water for at least 15 minutes. Start artificial respiration immediately if person is not breathing.