

352-515

02/01/2001

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

FEB 1 2001

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Linda S. Mullin
Product Registration Manager
DuPont Agricultural Products
Registration & Regulatory Affairs
Walker's Mill, Barley Mill Plaza
P.O. Box 80038
Wilmington, DE 19880-038

Subject: Amendment: Label Revisions
DuPont Asana XL Insecticide
EPA Registration No. 352-515
Your submission dated October 24, 2000

Dear Ms. Mullin:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, is acceptable, subject to the comments listed below. A stamped copy of the labeling is enclosed for your records.

1. Change the heading "Statement of Practical Treatment" to "First Aid".
2. Move the statements "Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Remove contaminated clothing and wash clothing before reuse." to the "Precautionary Statements" section of your label.

If you have any questions, please call Dr. William Sproat of my team at 703-308-8587.

Sincerely,

A handwritten signature in black ink, appearing to read "George T. LaRocca".

George T. LaRocca
Product Manager 13
Insecticide Branch
Registration Division (7505C)

Enclosure

7505C
SPROAT
02/01/01

2/17

RESTRICTED USE PESTICIDE

DUE TO TOXICITY TO FISH AND AQUATIC ORGANISMS.

For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

ACC...
with...
in EPA...



FEB 1 2001

Asana[®] XL

352-515 insecticide

This product contains 0.66 lbs. Active Ingredient per gallon.
0.66 Emulsible Concentrate

Active Ingredient	By Weight
Esfenvalerate	
(S)-cyano (3-phenoxyphenyl) methyl	
(S)-4-chloro-alpha-(1-methylethyl) benzeneacetate	8.4%
Inert Ingredients*	91.6%
TOTAL	100 %

* CONTAINS XYLENE RANGE AROMATIC SOLVENT

EPA Reg. No. 352-515

KEEP OUT OF REACH OF CHILDREN

WARNING AVISO

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

FIRST AID

IF SWALLOWED

- Call a poison control center or doctor immediately for treatment advice.
- Have a person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by a poison control center or a doctor.
- Do not give anything by mouth to an unconscious person.

IF INHALED

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.
- Call a poison control center or doctor for further treatment advice.

IF IN EYES

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes.
- Call a poison control center for treatment advice.

IF ON SKIN OR CLOTHING

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN

If on skin, after drying apply vitamin E cream or oil if available. If not available, apply vegetable oil liberally over painful areas. The oil or cream may be used repeatedly until relief is achieved.

PRECAUTIONARY STATEMENTS

FIRST AID (cont'd)

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING! May be fatal if swallowed. Harmful if inhaled. Do not get in eyes, on skin, or on clothing. Avoid breathing spray mist.

For medical emergencies involving this product, call toll free 1-800-441-3637.

PERSONAL PROTECTIVE EQUIPMENT

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

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Chemical-resistant gloves, such as Barrier Laminate or Neoprene Rubber or Nitrile Rubber or Viton.
- Shoes plus socks.
- Protective eyewear.

Discard clothing or 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 thoroughly with soap and water after handling and 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 contaminated clothing and wash clothing before reuse.

ENGINEERING CONTROL 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 part 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or when disposing of equipment washwaters.

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 if bees are visiting the treatment area.

WILDLIFE PROTECTION IS EVERYONE'S RESPONSIBILITY

3/17

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with the 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 12 hours.

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

- Coveralls.
- Chemical-resistant gloves, such as Barrier Laminate or Neoprene Rubber or Nitrile Rubber or Viton.
- Shoes plus socks.
- Protective eyewear.

GENERAL INFORMATION

DuPont ASANA® XL Insecticide 0.66 Emulsible Concentrate contains 0.66 pounds of active ingredient per gallon. For the applications given below, mix the required amount of ASANA® XL in sufficient diluent to provide uniform coverage (Refer to Use Tables). ASANA® XL may be applied by ground or aerial application equipment.

RESISTANCE

Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

INTEGRATED PEST MANAGEMENT

DuPont recommends the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an Integrated Pest Management (IPM) program which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

SPRAY PREPARATION

Spray equipment must be clean and free of previous pesticide deposits before applying ASANA® XL.

SPRAY TANK CLEANOUT

Immediately following application of ASANA® XL, thoroughly clean all mixing and spray equipment. Flush the tank, pump, hoses, and boom with several changes of water after removing nozzle tips and screens (clean these parts separately). Take all necessary precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

TANK MIXING

Do not tank mix ASANA® XL with fungicides containing fentin hydroxide (triphenyltin hydroxide) such as "Super Tin" as crop injury may result.

ASANA® XL may be tank mixed with the DuPont herbicide products listed below when insect populations require control concurrent with the need for weed control. Follow all herbicide and ASANA® XL label directions regarding proper usage. A "jar test" for physical compatibility should be conducted before field mixtures are made and applications initiated. For best results, use of spray equipment having continuous agitation is recommended.

ASANA® XL may be used in combination with 2,4-D herbicides providing that the following mixing directions are followed: 1) Do not apply the combination in a volume of water less than 2 gallons per acre total spray. 2) Always mix the ASANA® XL thoroughly in the total volume of spray water first, followed by the addition of the 2,4-D herbicide. Because of the availability of a great variety of 2,4-D herbicide products, a jar test for physical compatibility should be conducted before field mixtures of a particular combination are made.

BLADEX®4L HERBICIDE	VELPAR® HERBICIDE
CLASSIC® HERBICIDE	VELPAR® L HERBICIDE

4/17

CHEMIGATION

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) row, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. ASANA® XL may be premixed in a supply tank with water, oil, fertilizer, or other appropriate tank mixed agricultural chemicals. A pretest of physical compatibility for untried tank mixes is advised. Agitation may be necessary. Application should be in sufficient water and of sufficient duration to apply the recommended rate evenly to the entire treated area. No run-off can be permitted during chemigation. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. Do not apply when wind speed favors drift beyond the area intended for treatment.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Do not connect an irrigation system (including greenhouse systems) used for ASANA® XL application to a public water system.

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.

CROP ROTATION

ALL ROTATION CROPS MAY BE PLANTED IMMEDIATELY FOLLOWING LAST APPLICATION.

SPRAY RECOMMENDATIONS AND PRECAUTIONS

- All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMANENT STREAMS, MARSHES, OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.

- Do not apply by ground within 25 feet, or by air within 150 feet of lakes; reservoirs; rivers; permanent streams, marshes, or natural ponds; estuaries and commercial fish farm ponds. Increase the buffer zone to 450 feet when ultralow volume (ULV) application is made.
- For aerial applications, the spray boom should be mounted on the aircraft so as to minimize drift caused by wing tip vortices. The minimum practical boom length should be used, and must not exceed 75% of wing span or rotor diameter.
- Use the largest droplet size consistent with good pest control. Formation of very small droplets may be minimized by appropriate nozzle selection, by orientating nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.
- Spray should be released at the lowest height consistent with pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided.
- Make aerial or ground applications when the wind velocity favors on-target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid applications when wind gusts approach 15 mph.
- Risk of exposure to aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.
- Do not cultivate within 10 feet of the aquatic area so as to allow growth of a vegetative filter strip.
- Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift to aquatic areas. Avoid spraying during conditions of low humidity and/or high temperature.
- Do not make aerial or ground applications during temperature inversions. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

5/17

SPECIFIC USES—COTTON

Crop	Insect	Application Rate		Acres treated per gal of ASANA® XL	Last Application (days to harvest)
		lb ai/acre	fl oz/acre		
Cotton	Cotton Bollworm Tobacco Budworm Boll Weevil Beet Armyworm* Cabbage Looper Saltmarsh Caterpillar Cotton Leafworm Cutworms Lygus Bugs Plant Bugs Thrips (on seedling cotton) Leafhoppers Fleahoppers Grasshoppers Whitefly** Cotton Aphid** Pink Bollworm	0.03 - 0.05	5.8 - 9.6	22 - 13	21
	NOTE: For light infestations of the above insects	0.02	3.9	33	
	Cotton Leaf Perforator	0.03	5.8	22	
	<p>To control Boll Weevil infestations, a 3 to 5 day interval between applications may be necessary. May be applied in water or nonvolatile vegetable oils. When applying ASANA® XL in an oil carrier, apply a total spray volume of at least 1 qt per acre. When applying ASANA® XL in a water carrier, apply at least 1 gal per acre by air (at least 3 gal per acre in Arizona and 5 gal per acre in California) or 4 gal per acre by ground. Do not apply more than 0.5 lb ai per acre per season. Do not graze livestock on treated fields or feed treated trash. ASANA® XL can provide contact ovicidal effect on Heliothis spp. eggs when applied according to label directions for control of tobacco budworm; application should be timed to correspond with peak egg deposition to achieve maximum ovicidal effect. Use on this pest stage (egg) is not registered in California.</p> <p>Do not make more than a total of 10 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing season. Synthetic pyrethroid products include "Ambush" insecticide, "Ammo" insecticide, ASANA® XL insecticide, "Baythroid" emulsifiable pyrethroid insecticide, "Capture" insecticide/miticide, "Danitol 2.4 EC" Spray insecticide/miticide, "Decis" insecticide, "Fury" insecticide, "Karate" insecticide, "Mustang" insecticide, "Pounce" insecticide and "Scout Xtra" insecticide.</p>				

*Aids in control.
 **Aids in suppression.

6/17

SPECIFIC USES - FIELD CROPS

Crop	Insect	Application Rate		Acres treated per gal of ASANA® XL	Last Application (days to harvest)
		lb ai/acre	fl oz/acre		
Corn (field)†	Cutworm Grasshopper Corn Earworm Stalk Borer Flea Beetle Corn Rootworm (adult control) Chinch Bug Southwestern Corn Borer Armyworm (True Armyworm) Corn Leaf Aphid Oat Bird-Cherry Aphid	0.03 - 0.05	5.8 - 9.6	22-13	21
	<p>Cutworm, Grasshopper - Applications for cutworm control may be applied before, during, or after planting as required to protect emerging or emerged corn seedlings. Physical compatibility with herbicides and/or fertilizers should be determined prior to tank mixing ASANA® XL with these products. Follow all herbicide/fertilizer recommendations and directions regarding proper usage.</p> <p>Corn Earworm - First application should be at or before silking. Subsequent applications should be made at 3 - 5 day intervals until silking is completed. Repeat applications may be applied if economically damaging populations exist.</p> <p>Stalk Borer, Flea Beetle - Application must be made early in migration from grassy areas to corn, before borers enter the plant. More than one application may be necessary.</p> <p>Adult Corn Rootworm - Apply at the first sign of silk feeding. Reinfestation may occur. Should reinfestation occur, apply as necessary to maintain control.</p> <p>ASANA® XL may be tank-mixed with Parathion (methyl and/or ethyl) and applied on field corn (and seed corn) where supplemental control of Adult Corn Rootworm is desired in conjunction with insects controlled by ASANA® XL when used alone.</p> <p>Refer to the ASANA® XL and Parathion (methyl or ethyl) labels for appropriate rates of the individual products for controlling the respective insects.</p> <p>Chinch Bug - Over the top sprays, as used for control of ear and stalk infesting corn pests, are not adequate for chinch bug control. It is very important that the spray be directed at the base of the plant through the use of drop nozzles or some other mechanism. Repeat as necessary to control migrating chinch bugs.</p> <p>Southwestern Corn Borer - Two or more applications may be required. For moderate to heavy infestations, higher rates (0.036-0.05 lb ai per acre) are recommended.</p> <p>Corn Leaf Aphid, Oat Bird-Cherry Aphid - For optimum results, direct the spray at the aphid population so as to achieve maximum coverage of the exposed insects. Aphids not contacted by the spray, such as in whorls and leaf axils, may not be adequately controlled.</p>				
	European Corn Borer	0.04 - 0.05	7.8 - 9.6	16 - 13	
	<p>First brood: Spray while eggs are in the blackhead stage or before the larvae enter the whorl. Application by ground equipment is suggested. Good coverage of both upper and lower leaf surfaces is essential. This can be accomplished with drop nozzles over the row and on each side of the corn plant. Multiple applications may be required when egg laying is prolonged or where moderate to heavy populations are present. A higher rate is recommended for moderate to heavy populations. Proper coverage by ground equipment usually requires 20 - 30 gallons of carrier. Once larvae enter the whorl, foliar sprays will not provide adequate control.</p> <p>Second brood: Make applications when sufficient egg masses are found. Spray when eggs are in the blackhead stage or starting to hatch. When egg laying is prolonged or a third generation is present, additional sprays may be required. A higher rate is recommended for moderate to heavy populations. Good coverage above, below, and in the ear zone is essential. This usually requires 2 - 3 gallons of carrier by air. If ground equipment is used, drop nozzles on each side of the plant will provide best coverage.</p> <p>ASANA® XL may be tank-mixed with Parathion (methyl and/or ethyl) and applied on field corn (and seed corn) where supplemental control of European Corn Borer is desired in conjunction with insects controlled by ASANA® XL when used alone.</p> <p>Refer to the ASANA® XL and Parathion (methyl or ethyl) labels for appropriate rates of the individual products for controlling the respective insects.</p>				
	Western Bean Cutworm	0.015 - 0.03	2.9 - 5.8	44 - 22	
	Apply before larvae enter the ear.				
	†Do not apply more than 0.25 lb ai per acre per season.				

7/17

Crop	Insect	Application Rate		Acres treated per gal of ASANA® XL	Last Application (days to harvest)
		lb a./acre	fl oz/acre		
Corn (seed)	For specific insect control recommendations refer to Field Corn (above). Follow directions carefully.				21
	Multiple applications and/or shortened intervals between sprays must be used to insure proper insect control. Do not apply more than 0.25 lb a.i. per acre per season.				
Corn (pop)	For specific insect control recommendations refer to Field Corn (above). Follow directions carefully.				1
	Multiple applications and/or shortened intervals between sprays must be used to insure proper insect control. Do not apply more than 0.5 lb a.i. per acre per season.				
Peanuts	Corn Earworm Red-necked Peanut Worm Potato Leafhopper Velvetbean Caterpillar	0.015 - 0.03	2.9 - 5.8	44 - 22	21
	Beet Armyworm* Granulate Cutworm Grasshoppers Cutworms	0.03 - 0.05	5.8 - 9.6	22 - 13	
	Lesser Cornstalk Borer* Fall Armyworm**	0.05	9.6	13	
	Do not feed or graze livestock on treated vines. Do not apply more than 0.15 lb a.i. per acre per season. *Aids in control. **Aids in control. For heavy infestations use of DuPont LANNATE® Insecticide is recommended. Please refer to the LANNATE® label for use instructions.				
Sorghum (Grain) West of Mississippi River and East of Rocky Mountains and in the state of MS	Sorghum Midge	0.015 - 0.03	2.9 - 5.8	44 - 22	21
	Corn Earworm (headworm) Cutworms Chinch Bugs	0.03 - 0.05	5.8 - 9.6	22 - 13	
	Do not apply more than 0.15 lb a.i. per acre per season. When applying in nonvolatile vegetable oils use a total spray volume of 1 or more qts per acre. Chinch Bug Control: For optimum results, spray should be directed at base of plants.				
Soybean	Mexican Bean Beetle Green Cloverworm Velvetbean Caterpillar Potato Leafhopper Saltmarsh Caterpillar Woollybear Caterpillar	0.015 - 0.03	2.9 - 5.8	44 - 22	21
	Cabbage Looper Corn Earworm Southern Green Stinkbug Bean Leaf Beetle Cutworms Three-cornered Alfalfa Hopper Beet Armyworm* Grasshoppers Japanese Beetle (adult)	0.03 - 0.05	5.8 - 9.6	22 - 13	
	When applying in nonvolatile vegetable oils, use a total spray volume of at least 1 qt. Do not feed or graze livestock on treated fields. Do not apply more than 0.2 lb ai per acre per season. *Aids in control.				
Sugar Beets	Grasshoppers Beet Armyworm* Leafhoppers Cutworms (seedling spray) Saltmarsh Caterpillar Cabbage Looper Beet Webworm Flea Beetle	0.03 - 0.05	5.8 - 9.6	22 - 13	21
	Do not apply more than 0.15 lb ai/acre per season. Apply with ground or air equipment using sufficient water to provide uniform coverage (minimum of 2 gal of water per acre). *Aids in control.				
Sugarcane	Sugarcane Borer	0.03 - 0.05	5.8 - 9.6	22 - 13	21
	Do not apply more than 0.2 lb ai/acre per season.				

8/17

Crop	Insect	Application Rate		Acres treated per gal of ASANA® XL	Last Application (days to harvest)
		lb ai/acre	fl oz/acre		
Sunflower	Sunflower Beetle	0.0075 - 0.03	1.45 - 5.8	88 - 22	28
	Grasshoppers Cutworms Heliothis (complex) Sunflower Moth Sunflower Seed Weevil Banded Sunflower Moth Beet Armyworm* Sunflower Maggot Leafhoppers Sunflower Stem Weevil	0.03 - 0.05	5.3 - 9.6	22 - 13	
Do not apply more than 0.2 lb. ai/acre per season *Aids in control.					

9/17

SPECIFIC USES - FRUITS AND NUTS

DILUTE SPRAY: Apply specified dosage per 100 gallons of water in a uniform spray applied to the point of drip with conventional ground equipment. Do not exceed maximum number of gallons per acre indicated.

NOTE: In order to apply the correct amount of DuPont ASANA® XL insecticide to your orchard you must know the number of gallons of water needed to spray one acre of your trees to the point of drip. If you do not already know this gallonage, you should conduct a test to determine it. If you do not know how to conduct such a test with your equipment, you should ask for assistance from your equipment dealer or State Extension specialist.

CONCENTRATE SPRAY: APPLY SPECIFIED DOSAGE PER ACRE IN NO LESS THAN 30 GALS. OF WATER PER ACRE BY GROUND. WHEN APPLYING "ASANA" XL BY AIR. CONSULT YOUR COOPERATIVE EXTENSION SERVICE FOR APPLICATION GUIDELINES.

Crop	Insect	Application Rate			Acres treated per gal of ASANA® XL	Last Application (days to harvest)
		Concentrate Spray		Dilute Spray		
		lb ai /acre	fl oz /acre	fl oz /100 gal		
APPLES	Oblique Banded Leafroller Codling Moth Variegated Leafroller White Apple Leafhopper Tentiform Leaf Miner San Jose Scale (fruit infestations only) Apple Aphid Tufted Apple Bud Moth Plum Curculio Oriental Fruit Moth Apple Maggot Red - Banded Leafroller Lesser Appleworm Green Fruitworm Rosy Apple Aphid Plant Bugs (Tarnished Plant Bug, Stink Bugs) Periodical Cicada	0.025 - 0.075	4.8 - 14.5	2.0 - 5.8	26 - 9	21
	Apple Ermine Moth (ID, OR & WA only)			3.0		
	Tufted Apple Bud Moth (overwintering) (MD, NC, NJ, PA, VA, WV only)	0.04 - 0.075	8.0 - 14.5		16 - 9	
<p>Do not feed or graze livestock on treated orchard floors. Do not apply more than 0.525 lbs. a.i. per acre per season. For dilute spray apply 200 - 600 gals per acre, but do not apply more than 14.5 fl. oz. of ASANA® XL per acre per treatment. <u>Plant Bug, Rosy Apple Aphid Control</u>--Time of application is critical in achieving control. Use prebloom and post bloom spray timings recommended by State Extension Services. <u>Apple Ermine Moth</u>--Apply with 2 to 4 gallons of superior spray oil in 100 gallons of water in a spray-to-wet application to insure thorough coverage of all stems and branches where Apple Ermine Moth hibernacula are found. When using on apple nursery stock, do not treat bundled plants since it is difficult to achieve a full coverage application which could result in less than complete control. Make first application in the fall after 90% of leaf fall has occurred—usually after October 15. Make a second application 7 to 14 days later. Note: Overwintering larvae do not die until approximately 30 days after application. <u>Tufted Apple Bud Moth (overwintering)</u>--For use on apple for the control of overwintering larvae of the tufted apple bud moth with directed ground application to the apple orchard floor. Make one application of ASANA® XL at either pink stage of apple or at petal fall stage of apple. Use the lower rate on small larvae (pink stage of apple) and/or on lower populations. Use the higher rate on larger larvae (petal fall stage of apple) and/or on moderate to high populations. Apply specified dosage per acre to the orchard floor in no less than 30 gals of water per acre by ground to obtain uniform coverage. Apply treatment in a band from trunk to drip line to allow coverage of areas where overwintering tufted apple bud moth are found. PRECAUTIONARY STATEMENT--BENEFICIAL INSECTS: Application of ASANA® XL to the groundcover at the pink stage of apple development may be toxic to overwintering <i>Stethorus punctum</i>. <i>S. punctum</i> is a coccinellid insect and the major predator of spider mites in the MD, NC, NJ, PA, VA and WV fruit growing areas. This predator overwinters in the same areas of the orchard groundcover as the tufted apple bud moth and moves into apple trees from mid-April through mid-May when maximum daily temperatures exceed 68°F. Emergence from the groundcover is 20-70% complete by the pink stage and 90-100% complete by petal fall on the apple cultivar Yorking.</p>						

10/17

Crop	Insect	Application Rate			Acres treated per gal of ASANA® XL	Last Application (days to harvest)
		Concentrate Spray		Dilute Spray		
		lb ai /acre	fl oz /acre	fl oz /100 gal		
BLUEBERRY	Aphids (NJ only) Blueberry Spanworm Cherry Fruitworm* Cranberry Fruitworm Cranberry Weevil* Grasshoppers Leafhoppers Red Striped Fireworm*	0.025 - 0.05	4.8 - 9.6		26 - 13	14
	Blueberry Maggot	0.05	9.6		13	
	Black Vine Weevil (adult control) Strawberry Root Weevil (adult control) (OR, WA only)	0.05	9.6		13	
	Do not apply more than 0.2 lb ai/acre per season (38.4 fluid ounces of product per acre per season). Use of ground application is recommended; for ground application use a minimum of 50 gals water per acre. Do not apply this product through any type of irrigation system. Note: ASANA® XL can act as a bee repellent, do not apply within 7 days of pollination. Apply as a pre-bloom or post-bloom spray only. *Aids in control. Black vine weevil & strawberry root weevil (adult control) (OR, WA only): Look for leaf notching beginning in late May to early June as the first sign of weevil feeding. Also check for adults on or just below the soil surface around the base of plants. Apply ASANA® XL within two to three weeks of first sign of infestation. Do not apply by air; apply by ground using a minimum of 50 gallons of water per acre. Direct spray to provide full coverage of foliage and soil area around base of plants. Best results are from applications made after dark when temperatures are warm and weevils are actively feeding. Root weevils emerge over a several week period, make additional applications when signs of new feeding appear.					
CANE BERRIES (blackberries, raspberries, boysenberries, dewberries, loganberries, youngberries, and varieties of these) (OR & WA only)	Oblique Banded Leafroller	0.025 - 0.05	4.8 - 9.6		26 - 13	7
	Orange Tortrix Aphids					
	Adult Root Weevils*	0.05	9.6		13	
*Aids in control. Do not apply by air. Do not apply more than 0.15 lb ai per acre per season. Do not apply this product through any type of irrigation system. Oblique Banded Leafroller Orange Tortrix and Aphids: Apply as a full coverage spray in a minimum of 50 gallons of water with ground equipment only. Apply no earlier than 12 days before harvest and no later than 7 days before harvest. Adult Root Weevils: Look for leaf notching beginning in late May to early June as the first sign of weevil feeding. Also check for adults on or just below the soil surface around the base of plants. Apply ASANA® XL within two to three weeks of infestation. Apply by ground using a minimum of 50 gallons of water per acre. Direct spray to provide thorough coverage of all plant foliage and the soil area around the base of the plant. Best results are from applications made after dark when temperatures are warm and weevils are actively feeding. Root weevils emerge over a period of several weeks; make subsequent applications when signs of new feeding appear. NOTE: ASANA® XL can act as a bee repellent, do not apply within 7 days of pollination. Apply as a pre-bloom or post-bloom spray only. Remove bees prior to application. For maximum safety to bees, apply ASANA® XL in the evening after sunset.						
PEAR	Pear Psylla Codling Moth Green Fruitworm Plum Curculio Leafrollers Pear Slug Periodical Cicada	0.025 - 0.075	4.8 - 14.5	2.0 - 5.8	26 - 9	28
	Do not apply more than 0.375 lbs. a.i. per acre per season. Do not apply more than 0.225 lb. a.i. per acre between bloom and harvest. Do not feed or graze livestock on treated orchard floors. For dilute spray apply 200 - 600 gals per acre, but do not apply more than 14.5 fl. oz. of ASANA® XL per acre per treatment.					
PEAR (Dormant)	Pear Psylla	0.05 - 0.1	9.6 - 19.2	7.3 - 12.8	13.2 - 6.6	
Apply during dormant to prebloom (white bud) stage only. Do not apply more than 0.2 lb a.i. per acre per season. Do not graze orchard floor. For dilute spray apply 150 - 250 gals per acre, but do not apply more than 19.2 fl. oz. of ASANA® XL per acre per treatment.						

Crop	Insect	Application Rate			Acres treated per gal of ASANA® XL	Last Application (days to harvest)
		Concentrate Spray		Dilute Spray		
		lb ai /acre	fl oz /acre	fl oz /100 gal		
STONE FRUITS (including apricots, cherries, nectarines, peaches, plums, prune plums)	Peach Twig Borer Oriental Fruit Moth Peach Tree Borer Plum Curculio Lesser Peach Tree Borer Periodical Cicada Cherry Fruit Fly Western Cherry Fruit Fly American Plum Borer Black Cherry Aphid Leafrollers Leafhoppers Green Fruitworm Plant Bugs (Tarnished Plant Bug, Stink Bugs)	0.025 - 0.075	4.8 - 14.5	2.0 - 5.8	26 - 9	14
	Peach Twig Borer (Dormant) (CA only)	0.04 - 0.075	8 - 14.5	3.1 - 5.8	16 - 9	
	Tufted Apple Bud Moth (overwintering) (Peach only) (MD, NC, NJ, PA, VA and WV only)	0.04 - 0.075	8.0 - 14.5		16 - 9	
<p>Do not apply more than 0.375 lbs a.i. per acre per season with no more than 0.3 lbs. a.i. per acre per season between bloom and harvest. For dilute spray apply 200 - 400 gals per acre, but do not apply more than 14.5 fl. oz of ASANA® XL per acre per treatment. Do not graze livestock on treated orchard floors.</p> <p><u>Peach Tree Borer, American Plum Borer, Lesser Peach Tree Borer Control</u> - Apply as directed trunk and scaffold limb spray. Thorough coverage of trunk and scaffold limbs is required.</p> <p><u>Peach Twig Borer, Plum Curculio, Oriental Fruit Moth, Cherry Fruit Fly, Western Cherry Fruit Fly, Leafrollers, Black Cherry Aphid, Periodical Cicada Control</u> - Apply by ground sprayer to achieve thorough coverage of all aerial portions of the tree.</p> <p><u>Plant Bug Control</u> - Time of application is critical in achieving control. Use prebloom and postbloom spray timings recommended by State Extension Services.</p> <p><u>Peach Twig Borer (Dormant)</u>--Make application with an EPA registered dormant oil; for specific recommendations on use of oil consult manufacturer's label. For best performance, ground application equipment is recommended.</p> <p><u>Tufted Apple Bud Moth (overwintering)</u>--For use on peach for the control of overwintering larvae of the tufted apple bud moth with directed ground application to the peach orchard floor. Make one application of ASANA® XL at either popcorn stage of peach or at shucksplit stage of peach. Use the lower rate on small larvae (popcorn stage of peach) and/or on lower populations. Use the higher rate on larger larvae (shucksplit stage of peach) and/or on moderate to high populations. Apply specified dosage per acre to the orchard floor in no less than 30 gals of water per acre by ground to obtain uniform coverage. Apply treatment in a band from trunk to drip line to allow coverage of areas where overwintering tufted apple bud moth are found. PRECAUTIONARY STATEMENT-BENEFICIAL INSECTS: Application of ASANA® XL to the groundcover at the popcorn stage of peach development may be toxic to overwintering <i>Stethorus punctum</i>. <i>S. punctum</i> is a coccinellid insect and the major predator of spider mites in the MD, NC, NJ, PA, VA and WV fruit growing areas. This predator overwinters in the same areas of the orchard groundcover as the tufted apple bud moth and moves into peach trees from mid-April through mid-May when maximum daily temperatures exceed 68°F. Emergence from the groundcover is 90-100% complete by shucksplit. Shucksplit is the preferred timing to minimize predator toxicity.</p>						
Almonds	Navel Orangeworm Peach Twig Borer Peach Twig Borer (Dormant) (CA only)	0.05 - 0.1	9.6 - 19.2	7.3 - 12.8	13.2 - 6.6	21
	<p>Do not apply more than 0.2 lb. a.i. per acre per season. Do not graze livestock on treated orchard floors.</p> <p><u>Peach Twig Borer (Dormant)</u>--Make application with an EPA registered dormant oil; for specific recommendations on use of oil consult manufacturer's label. For best performance, ground application equipment is recommended.</p>					
Filberts	Filbert Worm Oblique Banded Leafroller	0.05 - 0.1	9.6 - 19.2	7.3 - 12.8	13.2 - 6.6	21
	<p>Make first application after emergence of filbert worm moths in early summer. Do not apply a second treatment earlier than three weeks after the first. Do not apply more than 0.2 lb. a.i. per acre per season. For dilute spray, apply 200 - 400 gals. per acre, but do not apply more than 19.2 fl. oz of ASANA® XL per acre per treatment. Do not graze livestock on treated orchard floors.</p>					

12/17

Crop	Insect	Application Rate			Acres treated per gal of ASANA® XL	Last Application (days to harvest)
		Concentrate Spray		Dilute Spray		
		lb ai /acre	fl oz /acre	fl oz /100 gal		
Pecans	Pecan Weevil Hickory Shuckworm Pecan Nut Casebearer Pecan Aphids Pecan Spittlebug Pecan Stem Phylloxera Pecan Leaf Phylloxera	0.025 - 0.075	4.8 - 14.5	2.0 - 5.8	26 - 9	21
	Do not feed or graze livestock on treated orchard floors. Do not apply more than 0.3 lbs. a.i. per acre per season. For dilute spray apply 200 - 600 gals per acre, but do not apply more than 14.5 fl. oz. of ASANA® XL per acre per treatment. Phylloxera - Correct timing of spray applications is critical in achieving optimum control of leaf and stem phylloxera. Consult local spray recommendations for correct times of application.					
Walnuts	Walnut Aphid Walnut Husk Fly Codling Moth Navel Orangeworm	0.05 - 0.1	9.6 - 19.2	4.0	13 - 6	21
	Do not apply more than 0.2 lb. a.i. per acre per season. For dilute sprays, apply 200 - 400 gals per acre. Do not feed or graze livestock on treated crop floors. NOTE: Use of baits in Walnut Husk fly sprays is recommended where endorsed by local Agricultural Extension Service. CONCENTRATE SPRAY: Apply specified dosage per acre in no less than 30 gals. of water per acre by ground or 5 gals. of water per acre by air.					

SPECIFIC USES—VEGETABLE CROPS

Crop	Insect	Application Rate		Acres treated per gal of ASANA® XL	Last Application (days to harvest)
		lb ai/acre	fl oz/acre		
Artichoke	Artichoke Plume Moth	0.03 - 0.05	5.8 - 9.6	22 - 13	1
	Do not apply more often than each 14 days. Apply no more than 0.15 lb. ai/acre between bud formation and harvest of an individual fruit. Apply in a minimum of 10 gallons per acre by air and 50 - 200 gallons per acre by ground (use sufficient water to obtain coverage without excessive runoff).				
Beans, Dry Peas, Dry Lentils	Mexican Bean Beetle Saltmarsh Caterpillar	0.015 - 0.03	2.9 - 5.8	44 - 22	21
	Corn Earworm Potato Leafhopper Pea Aphid Grasshoppers Leafhoppers Cowpea Curculio Cutworms Cabbage Looper Western Bean Cutworm Velvetbean Caterpillar Beet Armyworm* Cucumber Beetle Corn Rootworm (Adults) Painted Lady Butterfly (larvae) Green Cloverworm	0.03 - 0.05	5.8 - 9.6	22 - 13	
	Pea Weevil (ID, OR & WA only) Pea Leaf Weevil (ID, OR & WA only)	0.025 - 0.05	4.8 - 9.6	26 - 13	
	Leafhoppers (MI only)	0.015 - 0.05	2.9 - 9.6	44 - 13	
	Do not apply more than 0.2 lb a.i. per acre per season. Do not feed or graze livestock on treated vines. *Aids in control. Pea Weevil & Pea Leaf Weevil (ID, OR & WA) - Time of application is critical in achieving control of pea weevil. For optimum results, apply at bloom prior to detecting adult pea weevils. Once adult pea weevil populations reach a level of 2 or more adults per 25 sweeps, control may be reduced. Leafhoppers (MI only) - ASANA® XL may be tank mixed with DuPont BENLATE® Fungicide. Follow all ASANA® XL and BENLATE® label directions regarding proper usage. A "jar test" for physical compatibility should be conducted before field mixtures are made and applications initiated. Order of addition of tank mix components may affect compatibility. For best results, use of spray equipment having continuous agitation is recommended.				

13/17

Crop	Insect	Application Rate		Acres treated per gal of ASANA® XL	Last Application (days to harvest)
		lb ai/acre	fl oz/acre		
Beans, Snap	Mexican Bean Beetle Saltmarsh Caterpillar	0.015 - 0.03	2.9 - 5.8	44 - 22	3
	Potato Leafhopper European Corn Borer Corn Earworm Cucumber Beetle (adults) Flea Beetle Green Cloverworm Cutworm (seedling spray) Grasshoppers Pea Aphid Leafhopper Cabbage Looper Western Bean Cutworm Velvet Bean Caterpillar Beet Armyworm* Cucumber Beetle Corn Rootworm (adults) Leafminer (Guam only)	0.03 - 0.05	5.8 - 9.6	22 - 13	
Do not apply more than 0.2 lb ai per acre per season. Do not allow livestock to graze treated bean fields. Do not harvest treated bean vines for livestock forage, fodder, or hay. *Aids in control.					
Broccoli, (including Chinese Broccoli) Cabbage, Cauliflower, Chinese Cabbage (tight headed varieties only)	Imported Cabbageworm	0.015 - 0.03	2.9 - 5.8	44 - 22	3
	Cabbage Looper Beet Armyworm* Alfalfa Looper Flea Beetle Grasshoppers Cutworm	0.03 - 0.05	5.8 - 9.6	22 - 13	
Do not apply more than 0.4 lbs. a.i. per acre per season. *Aids in control.					
Carrots	Aster Leafhopper Cutworms Leafhoppers	0.03 - 0.05	5.8 - 9.6	22 - 13	7
	Carrot Weevil*	0.05	9.6	13	
Do not apply more than 0.5 lb ai/acre per season. For aerial application apply in a minimum of 5 gals water per acre. *Carrot Weevil - Begin treatment when weevils become active. Thorough spray coverage of crown area is essential. Use of ground application is recommended.					
Collards	Imported Cabbageworm Cabbage Looper Beet Armyworm* Alfalfa Looper Flea Beetle Grasshopper Cutworm	0.03 - 0.05	5.8 - 9.6	22 - 13	7
	Do not feed livestock on treated plant parts. Do not apply more than 0.2 lbs. a.i. per acre per season. For aerial application apply in a minimum of 5 gals water per acre. *Aids in control.				
CUCUMBER, MELONS (Cantaloupe, Honeydew Melons, Watermelon, Muskmelon), PUMPKIN, SQUASH (Summer, Winter)	Pickleworm Rindworms Leafhoppers Corn Earworm Cabbage Looper Squash Bug Cutworms (seedling spray) Cucumber Beetle (adults) Grasshoppers Plant Bugs (Lygus Bugs, Stink Bugs) Squash Vine Borer	0.03 - 0.05	5.8 - 9.6	22 - 13	3
	Do not apply more than 0.25 lbs. a.i. per acre per season.				

14/17

Crop	Insect	Application Rate		Acres treated per gal of ASANA® XL	Last Application (days to harvest)
		lb ai/acre	fl oz/acre		
Eggplant	Colorado Potato Beetle Flea Beetles Corn Earworm Loopers European Corn Borer	0.03 - 0.05	5.8 - 9.6	22 - 13	7
	Apply when insects are observed or when insect damage is observed. Repeat applications at 7 to 10 day intervals to achieve control. Do not apply more than 0.35 lbs. a.i. per acre per season.				
Kohlrabi (TX only)	Cabbage Looper	0.03 - 0.05	5.8 - 9.6	22 - 13	3
	Do not apply more than 0.4 lbs. a.i. per acre per season.				
Lentils	See "Beans, Dry"				
Lettuce, Head AZ, CA, CO, FL, NM & TX ONLY	Cabbage Looper Alfalfa Looper Heliothis spp. Beet Armyworm*	0.025 - 0.05	4.8 - 9.6	26 - 13	7
	Do not apply more than 0.35 lbs. a.i. per acre per season. *Aids in control.				
Mustard Greens	Cabbage Looper Imported Cabbageworm	0.05	9.6	13	7
	Do not apply more than 0.2 lbs/a.i. per acre per season.				
Peas, Dry	See "Beans, Dry"				
Peas, Green	Pea Aphid Green Cloverworm	0.015 - 0.03	2.9 - 5.8	44 - 22	3
	Cabbage Looper Celery Looper Alfalfa Looper Cutworms Armyworm Corn Earworm Imported Cabbageworm Alfalfa Caterpillar	0.03 - 0.05	5.8 - 9.6	22 - 13	
	Pea Weevil (ID, OR & WA only) Pea Leaf Weevil (ID, OR & WA only)	0.025 - 0.05	4.8 - 9.6	26 - 13	
	Do not apply more than 0.1 lb ai/acre per season. Do not feed treated pea vines to livestock. Pea Weevil & Pea Leaf Weevil (ID, OR & WA only) - Time of application is critical in achieving control of pea weevil. For optimum results, apply at bloom prior to detecting adult pea weevils. Once adult pea weevil populations reach a level of 2 or more adults per 25 sweeps, control may be reduced.				
Pepper	European Corn Borer Beet Armyworm* Flea Beetles Corn Earworm Loopers Colorado Potato Beetle Pepper Weevil* Cucumber Beetle (adults) Southern Armyworm	0.03 - 0.05	5.8 - 9.6	22 - 13	7
	Apply when insects are observed or when insect damage is observed. Repeat applications at 7 to 10 day intervals to achieve control. Do not apply more than 0.35 lbs. a.i. per acre per season. *Aids in control.				

15/17

Crop	Insect	Application Rate		Acres treated per gal of ASANA® XL	Last Application (days to harvest)
		lb a/acre	fl oz/acre		
Potato	Potato Psyllid Potato Tuberworm	0.015 - 0.03	2.9 - 5.8	44 - 22	7
	Flea beetles Tarnished Plant Bug Cabbage Looper Potato Aphid Potato Leafhopper Cucumber Beetle (adult control) Grasshoppers European Corn Borer Beet Armyworm* Western Yellow-Striped Armyworm Buckthorn Aphid Cutworms Colorado Potato Beetle	0.03 - 0.05	5.8 - 9.6	22 - 13	
	Colorado Potato Beetle (Long Island, NY only)	0.05	9.6	13	
	Do not apply more than 0.35 lb. a.i. per acre per season. *Aids in control.				
Radishes	Armyworms Beetles	0.03 - 0.05	5.8 - 9.6	22 - 13	7
	Do not apply more than 0.1 lb. a.i/acre per season.				
Sweet Corn†	Corn Earworm Southwestern Corn Borer European Corn Borer Beet Armyworm* Flea Beetles Sap Beetles (adults) Banded Cucumber Beetle Tarnished Plant Bug	0.03 - 0.05	5.8 - 9.6	22 - 13	1
	Begin applications either before or at time of silking and continue as necessary to maintain control. For protection against corn borers other than at silking time, treat when necessary to maintain control. For additional information consult directions for use under field corn. *Aids in control.				
	Stalk Borer Cutworms Corn Rootworms (adults) Grasshoppers Chinch Bugs Armyworm	0.03 - 0.05	5.8 - 9.6	22 - 13	
	Western Bean Cutworm	0.015 - 0.03	2.9 - 5.8	44 - 22	
	For additional information consult directions for use under field corn.				
	Corn Leaf Aphid Oat Bird-Cherry Aphid	0.03 - 0.05	5.8 - 9.6	22 - 13	
	For optimum results, direct the spray at the aphid population so as to achieve maximum coverage of the exposed insects. Aphids not contacted by the spray, such as in whorls and leaf axils, may not be adequately controlled.				
	† Do not apply more than 0.5 lb a.i. per acre per season.				
Tomato	Tomato Hornworm Tobacco Hornworm	0.015 - 0.03	2.9 - 5.8	44 - 22	1
	Tomato Pinworm Flea Beetle Tomato Fruitworm Colorado Potato Beetle Cutworms Cabbage Looper Southern Armyworm Beet Armyworm* Western Yellow-Striped Armyworm Grasshoppers Whitefly Potato Aphid	0.03 - 0.05	5.8 - 9.6	22 - 13	
	Vegetable Leafminer**	0.05	9.6	13	
	Do not apply more than 0.5 lbs. a.i. per acre per season. *Aids in control. **ASANA® XL is not recommended for use on the Vegetable Leafminer in Florida.				

11/6/17

Crop	Insect	Application Rate		Acres treated per gal of ASANA® XL	Last Application (days to harvest)
		lb ai/acre	fl oz/acre		
Turnips (TX only)	Imported cabbageworm	0.03 - 0.05	5.8 - 9.6	22 - 13	7
	Armyworm Flea beetle				
Do not apply more than 0.4 lbs a.i. per acre per season.					

SPECIALTY USES

Crop	Insect	Application Rate		Acres treated per gal of ASANA® XL
		lb ai/acre	fl oz/acre	
NON-CROPLAND (excluding public land such as forests, parks, or recreational)	Grasshoppers Saltmarsh Caterpillar	0.015 - 0.03	2.9 - 5.8	44 - 22
	Armyworms Army Cutworms Chinch Bugs	0.03 - 0.05	5.8 - 9.6	22 - 13
	Spray non-cropland adjacent to tilled areas to control migrating insects (Grasshoppers, Armyworms) which are a threat to crops. Repeat applications as necessary to maintain control. Do not apply more than 0.5 lbs. active ingredient per acre per year. Do not feed treated crop to livestock. Refer to Spray Recommendations and Precautions when applying to areas adjacent to water.			

Crop	Insect	Application Rate		
		High Volume Sprays		Low Volume Sprays (Mistblower) lb ai/acre
		lb ai/100 gal	fl oz/100 gal	
CHRISTMAS TREE PLANTINGS, CONIFER SEED ORCHARDS, FOREST TREE NURSERIES, CONIFER PLANTATIONS	Nantucket Pine Tip Moth and other Pine Tip Moths Spittlebugs Pineleaf Chermid Redheaded Pine Sawfly Balsam Woolly Adelgid Pine Chafer Red Pine Sawfly Pine Conelet Bug European Pine Sawfly Cranberry Girdler (adult control) Pine Needle Midge Balsam Twig Aphid Spruce budworm	0.03 - 0.05	5.8 - 9.6	0.03 - 0.05
	Spray in sufficient gallonage to obtain good coverage of entire tree.			
	Pales Weevil Northern Pine Weevil	0.03 - 0.05	5.8 - 9.6	
	Dilute formulation in kerosene (rather than in water), and spray tree stumps to control developing larvae. Use sufficient spray volume to cover stump thoroughly.			
	Coneworm Seedbug Seed Chalcid	Application Rate 9.6 fl oz/100 gals water for high volume sprayers. 52 fl oz/100 gals water for low volume sprayers. 0.19 lb. ai/acre application in not less than 10 gals of water for aerial applications.		
Apply first application within 1 week of female flower closure or peak pollen flight for Webbing Coneworm control. For other Coneworms and Seedbugs, apply first application within 30 days following female flower closure. Repeat application at intervals of 4 weeks but do not apply more than 1.6 lbs. ai per acre per year. For Seed Chalcid control, apply when all cones are pendant, and repeat at 1 - 2 week intervals for 2 or more sprays, or as needed. Apply approximately 5 - 10 gals of the 9.6 fl oz/100 gal dilution per tree with high volume sprayers. With low volume sprayers apply 100 gals of the 52 fl oz/100 gal dilution per acre. Do not graze or harvest cover crop. Refer to Spray Recommendations and Precautions when applying to areas adjacent to water.				

STORAGE AND DISPOSAL

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

STORAGE: Store in a secure, dry and temperate area. Store in original container. Keep container closed when not in use. Do not store near food or feed. Do not use or store around the home. Avoid contact with water. In case of spill or leak, soak up with sand, earth or synthetic absorbent (do not use alkaline absorbents) and dispose of wastes in compliance with local, State and Federal regulations.

PRODUCT DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Triple rinse (or equivalent), then offer for recycling or reconditioning if container reuse is permitted. If container reuse is prohibited, puncture metal containers and dispose of in a sanitary landfill, or by other approved State and local procedures. Dispose of plastic containers in a sanitary landfill, or by incineration if allowed by State and local authorities. If burned, stay out of smoke.

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