



Aza-Direct

Biological Insecticide

AZADIRACHTIN-BASED BIOLOGICAL REPELLANT, ANTIFEEDANT AND INSECT GROWTH REGULATOR FOR USE ON GREENHOUSE AND OUTDOOR FOOD CROPS

 FOR ORGANIC PRODUCTION

ACTIVE INGREDIENT:	% By Wt.
Azadirachtin	1.2%
OTHER INGREDIENTS:	<u>98.8%</u>
	TOTAL 100.00%

Contains 0.0987 lb. azadirachtin per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID	
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 poison control center or doctor for further 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.
If in eyes	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.
If swallowed	Call a poison control center or doctor immediately for treatment advice. Have 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 doctor.
Have the product container or label with you when calling a poison control center or doctor or going for treatment. FOR MEDICAL EMERGENCIES INVOLVING THIS PRODUCT, CALL TOLL FREE 1-888-478-0798	

READ ALL DIRECTIONS BEFORE USING THIS PRODUCT

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

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Causes moderate eye irritation. Harmful if swallowed, absorbed through skin or if inhaled. Avoid breathing vapor. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

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

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and 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. Do not contaminate water when cleaning equipment or disposing of equipment washwater or rinsate.

USER SAFETY RECOMMENDATIONS

- 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.

NET CONTENTS _____ GALLONS

EPA Reg. No. 71908-1-10163
EPA Est. No. 67545-AZ-1



Produced For:
Gowan Company
P.O. Box 5569
Yuma, AZ 85366

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 state or tribal 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 (WPS).

Do not enter or allow entry into treated areas during the restricted entry interval (REI) of 4 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

NON-AGRICULTURAL USE REQUIREMENTS

These requirements apply to uses of this product that are NOT within the scope of the WPS for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses. For other uses, including golf courses and other non-agricultural uses, do not enter treated areas without protective clothing until sprays have dried.

PRODUCT MODE OF ACTION

AZA-DIRECT controls target pests on contact or by ingestion. The product acts on pests by way of repellence, antifeedance and interference with the molting process. The buyer or user is reminded that the degree of efficacy of the product is largely dependent on weather conditions, intensity of pest population, area of application, type of pest, and physical stages of pests and crops.

GENERAL INFORMATION

Read all directions before using this product.

Apply **AZA-DIRECT** as directed to any food or non-food crop up to and including the day of harvest, at a maximum rate of 3½ pints/Acre. Refer to the Use Site Section for a complete listing of crops.

MIXING

Shake well before using. Add required amount of **AZA-DIRECT** to a clean spray tank with at least one-half of the water to be sprayed. Constant agitation is required, particularly with tank mixes. Agitate the mixture thoroughly and then fill the tank with remaining water and continue agitation. Thorough mixing is necessary for uniform coverage. Non-uniform mixing can cause crop injury or can result in lowered effectiveness. For tank mixes, add other components to the tank containing the **AZA-DIRECT** spray mixture and agitate thoroughly. If tank mixture is allowed to sit, agitation is necessary prior to application. Adjusting the spray mixture pH between 5.5 and 7 will provide optimal performance. Always use this product promptly after mixing with water and do not let tank mix sit for any extended period.

COMPATIBILITY: **AZA-DIRECT** has been found to be compatible with most commonly used pesticides and fertilizers. To avoid problems, conduct a compatibility test before using this product in a tank mix with other pesticides or with fertilizers. To test for compatibility, mix a small amount of each product, in the appropriate proportions, in a small jar.

PHYTOTOXICITY: **AZA-DIRECT** has been evaluated for phytotoxicity on a wide range of crops and ornamentals. However, since testing on all varieties of all crops and ornamentals is not feasible, testing a small portion of the area to be treated for phytotoxicity is recommended before treating the entire area. Further, all possible combinations or sequences of pesticide sprays, including other fertilizers, surfactants, adjuvants and other pesticides, have not been tested, thus testing for phytotoxicity of spray mixtures is recommended. It is further recommended that spray equipment used to apply **AZA-DIRECT** be thoroughly cleaned before use. The addition of spray adjuvants may enhance control in some crops under ideal conditions. Addition of certain adjuvants may cause phytotoxicity therefore, the addition of crop oils and other adjuvants should be thoroughly tested before using. The addition of crop oils to spray mixtures is NOT recommended on ornamental crops. Captan, Bordeaux mixtures, and highly alkaline products may cause unacceptable phytotoxicity and/or reduced effectiveness on target pests. Tank mix combinations of **AZA-DIRECT** plus compounds known to be incompatible with oil-based formulations should be avoided or phytotoxicity may occur. "Waxy bloom" on certain crops and ornamental plants may be reduced after a **AZA-DIRECT** application.

APPLICATION INSTRUCTIONS

For optimal performance spray product as soon as possible when pests are expected or when pests first appear. For foliar applications, apply **AZA-DIRECT** in sufficient spray volume and with adequate spray pressure to ensure complete and thorough coverage of all plant surfaces including both the top and bottom of leaves. Avoid excessive runoff. Best results can be obtained following 2-3 applications made at 7-10 day intervals. When pest pressure is heavy or plant canopy is dense, use higher rates and increase spray frequency. Spraying in the morning or evening hours will provide the best results. Repeat application if rain occurs within two to three hours of spraying.

SPRAY DIRECTIONS

Apply **AZA-DIRECT** as a foliar spray or a drench to soil or non-soil media to control insects. When needed, soil drenches can also be used to control soil-borne pests, including soil-borne larvae of foliar insect pests. When applying as a drench, avoid excessive leaching. **AZA-DIRECT** can also be applied through sub-surface soil treatment equipment. Always follow equipment manufacturer's use directions. **AZA-DIRECT** may be applied using any powered or manual pesticide application equipment which includes, but is not restricted to, high volume, low volume, ultra-low volume, electrostatic, fogging and chemigation. Follow the original manufacturer's instructions when using these types of equipment.

RATES

Use **AZA-DIRECT** at 1-2 pints/acre for most pest and crop conditions. Under extremely heavy pest pressure up to 3½ pints may be used. Do not use less than 5 oz. per acre of **AZA-DIRECT** alone. When tank mixed with other insecticidal products, the rate of **AZA-DIRECT** may be reduced by ½, but not less than 4 oz. per acre. Use up to 2.6 oz./1000 square feet for manure and compost treatments.

GENERAL CHEMIGATION INSTRUCTIONS

Apply this product only through one or more of the following types of systems: low pressure, drip or sprinkler (including center pivot, lateral move, end tow, side (wheel) roll, traveler, 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 can result from non-uniform distribution of treated water.

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

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.

Dilute AZA-DIRECT with water before introduction into the system. Use the diluted mixture within 8 hours. Do not apply in irrigation water if the pH exceeds 7.0. The optimum pH range for application is 5.5-6.5. If needed, the pH of the irrigation water can be adjusted by use of a suitable buffering agent. Agitation is necessary. Apply at the rate recommended in APPLICATION INSTRUCTIONS using sufficient water to achieve an even distribution

For Chemigation Systems

Connected to Public Water Systems

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

Chemigation systems connected to public water systems must contain a functional, reduced pressure zone, back-flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distributed is adversely affected.

In addition, all directions and requirements specified for Sprinkler Irrigation Systems must be followed.

Sprinkler Irrigation Systems

The system must contain a functional check 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 that 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.

Center pivot, motorized lateral move, or traveling gun types of equipment: Inject into the system for one revolution or run. Shut off injection equipment after one revolution or run, but continue to operate irrigation system until **AZA-DIRECT** has been cleared from the last sprinkler head. Do not use end guns. The system should be run at maximum speed for a foliar application.

Wheel move, side roll, end tow, solid set, or hand move types of equipment: Adjust equipment to inject **AZA-DIRECT** over a 30-60 minute period. Shut off injection equipment. Continue to operate irrigation system until **AZA-DIRECT** has been cleared from the last sprinkler head. **AZA-DIRECT** can be injected at the end of the irrigation cycle or as a separate application. Do not use end guns. **AZA-DIRECT** must be premixed in a supply tank with water and other appropriate tank-mix chemicals. Agitation is necessary at all times.

Caution must be exercised in irrigation waters with a pH greater than 7. If the irrigation cycle will last longer than 8 hours and the AZA-DIRECT is premixed in the supply tank, the tank mix must be buffered to a pH of 6 or lower. Please contact your Gowan sales representative should this situation apply. Application should be in sufficient water and of sufficient duration to apply the recommended rate evenly over the entire treated area.

No field runoff can be permitted during chemigation.

USE SITES

AGRICULTURAL USE SITES – Use **AZA-DIRECT** on agricultural use sites including, but not limited to, the following:

BERRIES GROUP, such as: Blackberry, Blueberry, Currant, Elderberry, Gooseberry, Huckleberry, Loganberry, Raspberry (black and red), Note: For Strawberries – see miscellaneous.

BULB VEGETABLES, such as: Garlic, Leek, Onion (dry bulb, green and Welch), Shallot

CEREAL GRAINS and GRAINS GROUP, such as: Barley, Buckwheat, Corn, Millet (pearl and Proso), Oats, Popcorn, Rice, Rye, Sorghum (milo), Teosinte, Triticale, Wheat, Wild rice

CITRUS FRUITS, such as: Calamondin, Citrus citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (sour and sweet), Pummelo, Satsuma mandarin, White Sapote, UniQ Fruit

COTTON AND TOBACCO

CUCURBIT VEGETABLES, such as: Chayote, Chinese waxgourd, Citron melon, Cucumber, Gherkin, Gourd (edible), Muskmelon, Pumpkin, Squash (summer and winter), Watermelon

FORAGE CROPS, including but not limited to: Alfalfa, Clover, Trefoil or Vetch.

FRUITING VEGETABLES, such as: Eggplant, Groundcherry, Pepino, Pepper (including bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, Tomato

HERBS AND SPICES GROUP, such as: Allspice, Angelica, Anise (anise seed and star), Annatto (seed), Balm (lemon balm), Basil, Borage, Burnet, Camomile, Caper buds, Caraway, Caraway (black), Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chervil (dried), Chive, Chinese Chive, Cinnamon, Clary, Clove buds, Coriander (cilantro or Chinese parsley – leaf), Coriander (cilantro-seed), Costmary, Culantro (leaf and seed), Cumin, Curry (leaf), Dill (dillweed and seed), Fennel (common, Florence), Fenugreek, Grains of paradise, Horehound, Hyssop, Juniper berry, Lavender, Lemongrass, Lovage (leaf and seed), Mace, Marigold, Marjoram, Mustard (seed), Nasturtium, Nutmeg, Parsley (dried), Pennyroyal, Pepper (black and white), Poppy (seed), Rosemary, Rue, Saffron, Sage, Savory (summer and winter), Sweet bay (bay leaf), Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood

LEGUME VEGETABLES (Succulent or Dried), such as: Bean, Broad Bean, Chickpea, Guar, Jackbean, Lablab bean, Lentil, Pea, Pigeon Pea, Soybean, Sword bean

LEAFY AND BRASSICA (COLE) VEGETABLES, such as: Amaranth, Arugula, Broccoli, Broccoli raab (rapini), Brussels Sprouts, Cabbage, Cauliflower, Cardoon, Cavalo broccolo, Celery, Chinese Broccoli (gai lon), Chinese Cabbage (bok choy, Napa), Chinese mustard Cabbage (gai choy), Chinese Celery, Celtuce, Chervil, Chrysanthemum (edible-leaved, Garland), Collards, Corn salad, Cress (garden, upland), Dandelion, Dock (sorrel), Endive (escarole), Fennel (florence), Kale, Kohlrabi, Lettuce (head and leaf), Mizuna, Mustard Greens, Mustard Spinach, Orach, Parsley, Purslane (garden, winter), Radicchio (red chicory), Rape Greens, Rhubarb, Spinach, Spinach (New Zealand, vine), Swiss Chard, Turnip Greens

MISCELLANEOUS, such as: Asparagus, Avocado, Banana, Coffee, Cocoa, Cranberry, Fig, Globe artichoke, Grape, Hops, Kiwifruit, Mango, Mushroom, Okra, Olives, Papaya, Pawpaw, Peanut, Persimmon, Pineapple, Pomegranate, Strawberry, Tea, Water chestnut, Watercress, and all other food crops

POME FRUITS GROUP, such as: Apple, Crabapple, Loquat, Mayhaw, Quince, Oriental Pear, or Pear (*Comice varieties: DO NOT apply more than 24 fl oz/A. DO NOT apply after pink stage of flowering; test small areas of other varieties of pears for plant safety prior to full scale useage.*)

ROOT AND TUBER VEGETABLE GROUP, such as: Arracacha, Arrowroot, Artichoke (Jerusalem, Chinese), Beet (garden, sugar), Burdock (edible), Canna (edible), Carrot, Cassava (bitter and sweet), Celeriac (celery root), Chayote (root), Chervil, (turnip-rooted), Chicory, Chufa, Dasheen (taro), Ginger, Ginseng, Horseradish, Leren, Oriental Radish (daikon), Parsley (turnip-rooted), Parsnip, Potato, Radish, Rutabaga, Salsify (oyster plant, black, Spanish), Skirret, Sweet potato, Tanier, Turmeric, Turnip, Yam bean (jicama, manioc pea), Yam (true)

STONE FRUIT GROUP, such as: Apricot, Cherry (sweet and tart), Nectarine, Peach, Plum (Chickasaw, Damson, Japanese), Plumcot, Prune

TREE AND NUT GROUP, such as: Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut, Hickory nut, Macadamia nut (bush nut), Pecan, Walnut (black and English), Pistachios

TROPICAL FRUITS, such as: Papaya, Black Sapote, Canistel, Mamey Sapote, Mango, Sapodilla, Star Apple, Guava, Feijoa, Jaboticaba, Wax Jambu, Star Fruit, Passion Fruit, Acerola, Lychee, Longan, Spanish Lime, Rambutan, Pulasan, Sugar Apple, Atemoya, Custard Apple, Cherimoya, Ilima, Soursop, and Biriba.

CHRISTMAS TREES AND CHRISTMAS TREE PLANTATIONS

NON-CROP USE SITES – Use **AZA-DIRECT** on non-crop use sites including, but not limited to, the following:

UNCULTIVATED AGRICULTURAL AREAS, such as: farm yards, fuel storage areas, fence rows, rights-of-way, fallow land; soil bank land, barrier strips.

GENERAL SOIL TREATMENTS, such as: Manure, Composts, Cull piles, Mulches, soil application with no mention of crops to be grown (potting soil, topsoil)

PESTS

AZA-DIRECT may be used against the following pests:

Aphids (such as pea aphid, Rosy Apple Aphid), Beetles (such as Japanese beetle), Borers, (such as peachtree borers, peach twig borers), True Bugs, (such as Lygus bugs, stink bugs), Caterpillars, (such as leafrollers, cutworms, loopers, armyworms), Flies (such as walnut husk fly, leafminers and fungus gnats), Leafhoppers, Leafminers, Whiteflies, Mealy Bugs, Midges, Mites, Psyllids (such as pear psylla), Weevils, Scales (such as San Jose scale), Thrips, (such as western flower thrips), and all other insect pests.

STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by pesticide storage or disposal. Open dumping is prohibited. Do not reuse container.

PESTICIDE STORAGE: Do not store this product above 105°F or below -15°F for extended periods of time. Keep containers tightly closed and in original containers when not in use.

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

CONTAINER DISPOSAL:

Metal - Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

Plastic - Triple rinse (or equivalent). Then 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.

Glass - Triple rinse (or equivalent). Then dispose of in a sanitary landfill or by other approved State and local procedures.

NOTICE ON CONDITIONS OF SALE

Our recommendations for use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice. The buyer must assume all responsibility, including injury or damage, resulting from its misuse as such, or in combination with other materials.

Contains NeemAzal by Parry

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