81899-4 7/28/2014 1/27

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

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

JUL 28 2014

N. Bhushan Mandava, Ph.D
Soluneem, Inc.
c/o Mandava Associates, LLC
1050 Connecticut Avenue, N.W., Suite 1000
Washington, D.C. 20036

Subject: Label Amendment to Add New Pest – Emerald Ash Borer
Product Name: SoluNeem
EPA Reg. No: 81899-4
Your Submission Dated February 24, 2014

Dear Dr. Mandava:

The amendment referred to above, submitted in connection with registration under FIFRA section 3(c)(5), is acceptable provided that you:

1. Submit and/or cite all data required for registration of your product under FIFRA section 3(c)(5) and section 4 when the Agency requires all registrants of similar products to submit such data.

2. Submit three (3) copies of your final printed labeling before you release the product for shipment. Final printed labeling means the label or labeling of the product when distributed or sold. Clearly legible reproductions or photo reductions will be accepted for unusual labels, such as those silk-screened directly onto glass or metal containers or large bags or drum labels.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions. Should you have any questions regarding this action, you may contact Gina Burnett at (703) 605-0513 or via email at burnett.gina@epa.gov. A stamped copy of the label is enclosed for your records.

Sincerely,

Linda A. Hollis, Chief
Biochemical Pesticides Branch
Biopesticides and Pollution
Prevention Division (7511P)

CONCURRENCES								
SYMBOL ►	7511P	7511P						
SURNAME ►	Burnett	GOLE						
DATE ►	7/23/14	7/24/14						

EPA Form 1320-1A (1/90) OFFICIAL FILE COPY

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Master Label

[SoluNeem]
[alternate brand name: Azasol]

This product is botanically derived from the Neem plant "*Azadirachta Indica*" Azadiractin, a botanical insecticide.

Sublabel A: For Agricultural and Commercial Use
Sublabel B: For Residential Use

ACTIVE INGREDIENT: Azadirachtin 6.0%
OTHER INGREDIENTS: 94.0%
100.0%

SoluNeem Inc.
1050 Bridgeway
Sausalito, CA 9496

EPA Registration Number: 81899-4
EPA Establishment No. :

Net Contents: _____

Batch/Lot No._____

ACCEPTED
JUL 28 2014
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 81899-4

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Sub Label A

This sub-label bears direction agricultural/commercial use with specific application rates associated with the package size and area to be treated.

SoluNeem
[alternate brand name: Azasol]

This product is botanically derived from the Neem plant "*Azadirachta Indica*" Azadiractin, a botanical insecticide.

[Product Features]

- **Non-oil based, water soluble powder**
- **Effective on a very wide spectrum of insects**
- **Use as a spray, drench, tree injection or chemigation**
- **May be applied as directed to any food crop up to and including the day of harvest**

For use on turf grass, outdoor shrubs, trees and ornamentals
For ornamental greenhouse, shade house, interiors cape and nursery use
For mushroom house use
For use on outdoor food crops
For control, growth control, antifeedant and repelling Insects such as aphids, armyworms, beetles, budworms, cutworms, fungus gnats, leafhoppers, leafminers, leafrollers, lepidopterous larvae, loopers, mushroom flies, sawflies, thrips, webworms, whiteflies and other pests as listed; and plant parasitic nematodes such as dagger, golden, and root knot nematodes in vegetables, fruits, nuts, coconuts, agronomic crops and ornamental plants. For residential and commercial lawn, flowers and vegetable gardens, farms, forests, sod farms, nurseries, greenhouse food and ornamental plants, mushrooms, nursery plants, interiorscapes, landscapes, turfgrasses and golf courses.

ACTIVE INGREDIENT: Azadirachtin	6.0%
OTHER INGREDIENTS:	94.0%
	100.0%

KEEP OUT OF REACH OF CHILDREN
CAUTION

FIRST AID

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 of 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 the first 5 minutes, then continue rinsing eye. •Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergencies, phone 24 hours a day, National Pesticide Telecommunication Network at 1-800-858-7378.

See Side/Back Panel for First Aid and Precautionary Statements

SoluNeem Inc.
1050 Bridgeway
Sausalito, CA 94965
Net Contents:_____

EPA Registration Number: 81899-4
EPA Establishment. No. :

Batch/Lot No._____

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PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Avoid breathing spray mist. Remove contaminated clothing and wash clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

Long-sleeved shirt and long pants
Socks and shoes
Chemical resistant gloves

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

USER SAFETY RECOMMENDATIONS

Users Should: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. Terrestrial uses, do not apply directly to water, 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. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash waters.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.
Do not apply this product through any irrigation system unless the chemigation instructions on this label are followed. 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 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:

Long-sleeved shirt and long pants
Socks and shoes
Chemical resistant gloves

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NON-AGRICULTURAL USE REQUIREMENTS

These requirements apply to uses of this product that are NOT within 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 DESCRIPTION

SoluNeem is a pale yellow/white, amorphous powder containing 6% by weight azadirachtin. It will instantly dissolve in water to give a solution that is ready for spray applications for pest control. Non-Oil based and highly effective as a powder.
Use Soluneem for pre-harvest treatment of fruits and vegetables in case of sudden pest infestations. SoluNeem is effective on a very wide spectrum of insects and pests as listed on this label.

Use SoluNeem on a wide variety of plants as listed indoors and outdoors. If plans are made to use SoluNeem on plants not listed on this label, it is recommended that a small area such as a leaf, stem, or branch be "test sprayed", first, and checked several days later to make sure that leaf wilting or damage does not occur.

When used as directed, SoluNeem will destroy targeted insect larvae when they, (1), eat sprayed plants, or (2), come in contact with the spray. SoluNeem eliminates insects by stopping the insect's growth, and is effective on all insects listed, insect larval stages and pupae.

MODE OF ACTION

SoluNeem controls insects in the larval, pupal, and nymphal stages by interfering with the metabolism of ecdysone. Insects typically die between larval to larval, larval to pupal, nymph to nymph molts, or during adult eclosion.

COMPATIBILITY

SoluNeem has been found to be compatible with the most commonly used non-alkaline insecticides, fungicides and water soluble fertilizers in the neutral pH range. Check compatibility by using the correct proportion of each the products application rate in a quart or gallon container. Solubilize SoluNeem first in the mixture. Test the tank-mix combinations for possible adverse effects (such as settling out, flocculation, etc.) and for phytotoxic effects on a small sample of plants prior to use. As environmental conditions can alter the interactions between compounds, test compatibility for both new and previously used combinations. Avoid mixtures of several materials and very concentrated spray mixtures.

Do not use SoluNeem with Bordeaux mixture, triphenyltin hydroxide, lime sulfur, Rayplex iron or other highly alkaline materials. Use mildly alkaline mixtures immediately after mixing to prevent loss of insecticidal activity.

When using SoluNeem in combination with other products, use SoluNeem at the rate, or half the rate, specified in the Use Rate table. Follow the directions for use, precautions and limitations for use on all of the product labels used in the combination. Some suggested tank mix combinations are as follows:
SoluNeem plus endosulfan*
SoluNeem plus chlorpyrifos*
SoluNeem plus acephate*
SoluNeem plus Bacillus thuringiensis* (BT)
SoluNeem plus bifenthrin*
SoluNeem plus esfenvalerate*
SoluNeem plus abamectin*
SoluNeem plus diflubenzuron*
SoluNeem plus pyrethrum + piperonyl butoxide (for fogging use)*

- Always follow the manufacturer's Directions for Use and Precautionary Statements.

Use SoluNeem on vegetables, coconut palms and other food crops with such chemicals as Endosulfan.

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APPLICATION INSTRUCTIONS

SoluNeem is exempt from tolerances and my be applied as directed to any food crop up to and including the day of harvest at a rate not exceeding 0.75 lb (20 grams active ingredient) per acre per application.

READ ALL DIRECTIONS AND PRECAUTIONS BEFORE USE

To apply SoluNeem select a suitable power or pump pressure try sprayer or a hand held trigger type sprayer that will deliver a forceful, fine, leaf and fruit covering, wetting, spray mist. To get thorough spray coverage on waxy or pubescent plant surfaces the addition of small amount of a suitable sticker agent (such as NuFilm P) added to the spray mix, at the recommended rates may give better foliage, insect coverage and control.

APPLICATION METHOD AND EQUIPMENT: Apply SoluNeem as a foliar spray or a drench to soil or soil-less media (e.g., greenhouses and mushoom houses) to control insects and nematodes. When needed, drench soil to control soil-borne pests, including soil-borne larvae of foliar insect pests. When applying as a drench, avoid excessive leaching. Apply SoluNeem through sub-surface soil treatment equipment (e.g. turf grass). To repel adult flies, apply through fogging equipment. Always follow equipment manufacturers use directions.

Apply SoluNeem by 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 recommendations when using these types of equipment.

For optimum results, 2 to 3 applications made at 7 to 10 day intervals is recommended, unless otherwise specified. Foliar applications should be made to both sides of leaves. In addition, a sticker agent used as per the manufacturer's recommendations may improve product performance.

APPLICATION METHOD AND EQUIPMENT: Apply SoluNeem as a foliar spray to control insects and nematodes. Apply SoluNeem through sub-surface soil treatment equipment (e.g. lawn grass). To repel adult flies, apply through fogging equipment. Always follow equipment manufacturers use directions.

Apply SoluNeem by using any powered or manual pesticide application equipment. Follow the original manufacturer's recommendations when using these types of equipment.

For optimum results, 2 to 3 applications made at 7 to 10 day intervals is recommended, unless otherwise specified. Foliar applications should be made to both sides of leaves. In addition, a sticker agent used as per the manufacturer's recommendations may improve product performance.

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AZASOL USE RATE RECOMMENDATIONS FOR KEY PESTS BY USE SITE

AzaSol is intended for use on outdoor plants and food crops, mushroom houses, plants grown indoors or in greenhouses, shade cloth, interiors capes and nurseries. It can be used to control any of the following insects and nematodes.

AzaSol label rates specify dry ounce (weight/acre (high rate) and tsp or tbsp/1000 sq. ft. (low rate). These label rates provide a high and low dose application of Azasol.

Abbreviation & Conversion Table	
tsp	teaspoon
tbsp	tablespoon
A	acre
3 tsp = 1 tbsp	
1 A = 43,560 sq. ft.	

High Rate
6oz/ 50 gal water / Acre (6oz. is approximately 170 tsp / 50 gal water /acre) (approximately 4 tsp / 1000 sq ft.)

Low Rate
1 tsp/ 1 gal water / 1000 sq. ft. (1 tsp. is approximately 44 tsp / 44 gal water / acre)

USE RECOMMENDATION:

Low Rate (Recommended for preventative treatments before signs of infestation.)
1 tsp/ 1000 sq. ft.

Medium Rate (Recommended for most treatments. For preventative to medium infestations when pests are present.)
2-3 tsp/ 1000 sq. ft.

High Rate (Recommended for difficult to manage pests or high infestations.)
4 tsp/ 1000 sq. ft.

Use the tables below to determine the appropriate use rate for your site / pest combination.

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SOLUNEEM USE RATE RECOMMENDATIONS FOR KEY PESTS BY USE SITE

Soluneem is intended for use on outdoor plants and food crops, mushroom houses, plants grown indoors or in greenhouses, shade cloth, interiors capes and nurseries. It can be used to control any of the following insects and nematodes.

Use the tables below to determine the appropriate use rate for your site / pest combination.

SOLUNEEM PEST CONTROL CHART: USE RATES for indoor and outdoor plants including, FOOD CROPS, TREES, TURFGRASS, NURSERY, GREENHOUSE, INTERIORSCAPE, & LANDSCAPE PLANTS.

PEST	RATES: SoluNeem™ oz's./Acre-tsp./1,000 sq ft.	COMMENTS For Spray, Drench or Chemigation.
WHITEFLIES, such as: Greenhouse whiteflies, Silverleaf white flies, Woolly whiteflies.	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Make sure that spray covers upper, lower and all surfaces of leaves fruit and twigs.
LEAF MINERS, such as Azalea leafminers, Birch leafminers, Citrus leafminers, Serpentine leafminers	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Apply to new growth in spring before new larvae enter plant foliage. Repeat application at 10 to 14 day intervals if new infestations are expected.
SCALE, Crawlers: such as Brown Soft Scale, California red scale, Coffee Scale, Olive Scale, San Jose Scale.	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Make sure to thoroughly spray upper, lower and all surfaces of leaves and twigs.
MEALY BUGS Such as Citrus Mealybugs	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Spray to thoroughly cover twigs and leaves.
THRIPS, such as: Citrus thrips, Onion thrips, thrips palmi,	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Spray in spring when young nymphs first appear on foliage.
APHIDS, such as: Cotton aphids, Green peach aphids, Pea aphids, Potato aphids	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Spray to wet lower side of leaves when "leaf curl" first appears.
PSYLLIDS, such as: Pear psylla	Same as above	Spray for new "instar" nymphs appearing on new discolored foliage.
BUGS, Nymphs of: such as Box-elder bugs, Chinch bugs, lygus bugs, spittle bugs, stink bugs,	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Spray early when nymphs are young. Soluneem™ will control "instar" growth until they die.
FLIES, Larvae of: such as Blueberry Maggot, Cherry Maggot, Crane Flies, Fruit flies, Midges, Onion Maggots, Tip worms, Walnut husk fly larvae.	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	For Food and Non-food crops spary when larvae first appear.
SAWFLIES, Larvae of: such as: European Pine Sawflies, Yellow headed pine sawflies,	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Spray when first larvae appear when plants start new growth.
CATERPILLARS, Such as: Armyworms, Artichoke plume moth, Bagworms, Bollworms, Budworms, Cabbage butterflies, Cabbage loopers, Cankerworms, Caseworms, Corn Earworms,	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Spray when first larvae worms appear. Repeat applications in 7 to 10 days. For continued pest control in the spring or fall when insect infestations are expected spray ornamentals and other plants at intervals of 2 to 3 weeks.

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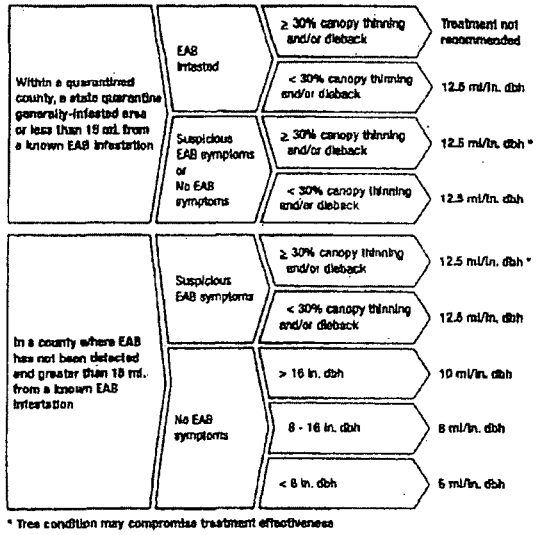
Cutworms, Diamond back moths, Fireworms, Fruitworms, Grapeleaf skeletonizer, Gypsy moths, Hornworms, Imported Cabbage worm, leaf perforators, Leafrollers, Melonworms, Navel orangeworms, Oblique banded Leafrollers, Omnivorous Leafrollers, oriental fruit moths, Pickleworms, Pine tip moths, Pinworms, Red banded leaf rollers, Sod webworms, Soybean loopers, Tent Caterpillars, Tobacco budworms, Tussocks moth larvae.		
BEETLES, Larvae of: such as Bark beetles, Blueberry Flea beetles, Boll weevils, Colarado potato beetles, Flea beetles, Japanese beetles, Leaf beetles, Mexican, bean beetles, Phylloxera, Rose Chafers, Twig girdlers	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Spray when pests first appear. For Food Crops. Repeat application after 7 to 10 days. Do not use with oil! Make sure that all plant surfaces are thoroughly spray treated. Repeat in 5 to 7 days if required.
WEEVILS, Such as Black vine weevils, Pepper weevils, Strawberry vine weevils.	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Foliar anti-feedant sprays will stop adult feeding. Make at least 3 to 4 applications 10 days apart.
BORERS, Larvae such as: Peach twig borer, Peach tree borers, Cranberry borers,	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Thoroughly spray in spring after egg hatch to control young larvae.
Emerald Ash Borer.		
MOLE CRICKETS, nymphs and young "in-stars". Turf Treatment.	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	For turfgrass, spry to drench turf for young cricket nymphs in spring. Stops young from growth to adults.
MUSHROOM FLIES, Nematodes and Phorid Flies	Mix ½ oz. in 1 to 2 gallon of water and mist over, (or drench) 1,000 sq ft.	See "For Mushrooms" Section on this label.

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USE SITES FOR SOLUNEEM

SoluNeem can be used on Green-house: food crops, such as: Brassica (cole) crops, cucurbits, eggplants, herbs and spices, legumes, peppers, tomatoes.

MUSHROOMS, Varieties such as: Agaricus, enoki, maitake, oyster, shitake, and other specialty mushrooms

FOOD CROPS, including:.....
Root, and tuber vegetables, such as: Artichoke, beets carrots, ginger, horseradish, potatoes, radishes, rutabagas, sweet potatoes. turmeric, turnips, yams.
Leafy vegetables (including Brassica leafy vegetables), such as: Amaranth, broccoli, Brussels sprouts, cabbage, cauliflower, celery,' chervil, Chinese cabbage, collards, cress, endives, fennel, kale, kohlrabi. lettuce, mizuna ('mustard greens, parsley, purslane, rape greens, rhubarb, spinach, Swiss chard.
Legume vegetables, such as: beans (field, kidney etc.), chick-peas, cowpeas, guar, jackbeans, lablab beans, lentils, peas, pigeon peas, soybeans, sword beans.
Fruiting vegetables, such as: Eggplants, ground-cherries, pepinos, peppers, pimentos, tomatillos, tomatoes.
Cucurbit vegetables, such as: bitter melons, Chayotes, Chinese wax gourds, citron melons, cucumbers, gherkins, gourds, **muskmelons** (such as cantaloupes, casabas cranshaw etc.) pumpkins, squash, watermelons.
Citrus fruits, such as: Calamondins, citrus citrons, citrus hybrids, Grapefruits, Kumquats, Lemons, Limes, Mandarins, Oranges, pumellos, satasuma mandarins.
Pome fruits, such as: Apples, crabapples, loquats, mayhaws, oriental pears, pears, quinces.
Stone fruits, such as: Apricots, cherries, nectarines, peaches, plums, prunes.
Berries, such as: Blackberries, caneberries, blueberries, currants, cranberries, elderberries, gooseberries, huckleberries, loganberries, rasberries, strawberries, youngberries.
Cereal grains, such as: Barley, buckwheat, corn, millet, oats, popcorn, rice, rye, sorghum, teosinites, triticale hybrids, wheat, wild rice.
Herbs and spices, including but not limited to: allspice, ahgelica, anise, annatto, balm, basil, black and white peppers, borage, burnet, camomile, caper buds, cardamom, caraway, cassla, catnip, celery seeds, chervil, chives, cinnamon, caraway, cloves, corrianer (cilantro), costmary, cumin, curry leaf, dills, fennels, fenugreek, grains of paradise, horehound, hyssop, juniper berry, lavender, lemongrass, lovage, mace, marigolds, marjoram, mustard seeds, nasturtium, nutmeg, parsley, pennyroyal, pepper (black & white), poppy seeds, rosemary, rue, saffron, sage, savory, sweet bay (bay leaf), tansy, tarragon, thyme, vanilla, wintergreen, woodruff, wormwood.
Bulb vegetables such as Garlic, leek, onions, shallots.
Nuts, such as: Almonds, beechnuts, Brazil nuts, butternuts, cashews, chestnuts, chinquapin, Coconuts, filberts, hickorynuts, Imacadamia, pecans, pistachios, walnuts.
Oilseed crops such as: Canola, castor, crambe, guar, jojoba, peanuts, rape, safflower, sesame, soybean, sunflower.
Tropical fruits: such as Atemoyas, bananas, breadfruits, cherimoyas, durians, guavas, malangas, mangos, papayas, passionfruits, starfruits.
Other food & non-food crops: such as Asparagus, avocados, birdseed, cacao, coffee, edible flowers, feijoa, figs, ginseng, grapes, guayule, hops, kiwis, okras, olives, palms, papayas, pawpaws, persimmons, pineapples, rambutans, sugarcane, tamarillos, tea, tobacco, water chestnuts, watercress.
Ornamental Plants: such as: African violets, ageratum, aster, aucuba, begonia, cacti, calendula, calla, carnation, ceanothus, chrysanthemum, cineraria, coleus, cyclamen, daffodil, dahlia, delphinium, ficus, foliage plants, fuschia, gardenia, geranium, gloxinia, hyacinth, hydrangea, iris, ivy, lily, maidenhair fern, marigold, narcissus, orchid, pansy, pelargonium, peony, phlox, pittisporum, poinsettia, pyracantha, rubber plant, snapdragon, stock, tulip, wandering jew, yew, yucca, zinnia.
Ornamental Trees and Shrubs: such as: Andromeda, Arbovitae, ash, Austrian pine, azalea, beech, birch, birdsnest spruce, blue spruce, bouginvillia, boxwood, butternut, camellia, cedar, chamaecyprus, dogwood, douglas fir, elm, euonymus, firethorn, forsythia, hackberry, hawthorn, hemlock, hickory, holly, honeylocust, horsechestnut, ilex, juniper, larch laurel, lilac, linden, London plane, magnolia, manvilla, maple, mimosa, mountain ash, myrtle, oak, pachysandra, peach, pine, phinota, pines, plane tree, poplar, privet, quince, rhododendron, roses, spruce, sycamore, white cedar and white pine.

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FOR TURF GRASSES

Bent grass	
Bermuda grass	Fescue
Bluegrass, annual	Ryegrass; annual
& perennial	Ryegrass; perennial
Buffalo grass	St. Augustine grass
Centipede grass	Wheat grass
	Zoysia grass

For control of Sod Webworms, Cutworms, Aphids, Leafhoppers, ants, and chiggers: use a suitable pressure sprayer and mix 1 tbsp. in 2 to 3 gal. of water and apply to 2,500 sq. ft. of turf. Apply when insect larvae first appear and if necessary repeat application in 10 to 14 days. The use of an approved "spreader sticker" may help the spray to penetrate turf down to the larvae/worm feeding area.

***SouluNeem*™ for Mushrooms and the Mushroom House**

For Mushroom Flies, Nematodes and Phorid Flies use SoluNeem™ at the rate indicated on the PEST CONTROL CHART as a drench to the casing layer, media or compost. Make 4 to 5 applications 7 to 10 days apart.
To repel fly adults, apply with fogging equipment at the first sign of activity. Can be applied between breaks up to the final flush.

AzaSol Application by Trunk Injection

Directions for Use

Inject into the trunk flare or within 36" of the soil level. Place the injection sites in the first few sapwood elements (growth rings). Drill holes using a clean sharp drill bit (brad point drill bits are recommended). Drill through the bark and into the sapwood. When using the Arborjet Arborplug, drill a minimum of 16 mm (5/8") into the sapwood. Trunk inject product into the tree's sapwood, the conductive tissue that moves water to the canopy.

Calculating Application Rate

The dosage and number of application sites are based on tree diameter (dbh). To determine the number of application sites and dose rate per tree:

1. **Determine the Tree Diameter (DBH):**
   Measure the tree diameter in inches (or centimeters) at chest height [54" (135 cm) from the ground] to find the diameter at breast height (dbh). If measuring tree circumference, divide the circumference by 3 to obtain the dbh.
2. **Calculate # of Injection Sites:**
   By Micro-injection (QUIK-jet®, Air/Hydraulic): Calculate the number of injection sites by dividing the dbh in inches by 2 (or cm dbh by 5). This is equivalent to one drill hole for every 6" (15 cm) of tree circumference. By Micro-infusion® (Tree I.V.): Calculate the number of injection sites by dividing the dbh in inches by 3 (or cm dbh by 7.5). This is equivalent to one drill hole for every 8" (20 cm) of tree circumference.
3. **Determine the Dose:**
   Measure the amount of AzaSol needed following the table: *Use Rate Recommendations for Tree Injection*
4. **Determine Dose per Injection Site:**
   Divide the total dose by the number of injection sites to determine the dosage per injection site

In resinous conifers (such as pine and spruce) you may inject each site shortly after drilling to avoid slow uptake on account of resin flow. In palms, only one injection site is generally required.

1. Locate the application site 1-3' (30-90 cm) from the soil level
2. Drill depth is 1/3 the total diameter or 4" (10 cm) deep into the stem (whichever is less).
3. Refer to table: *Use Rate Recommendations for Palm Injection* for dosages to apply.

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Application Equipment
AzaSol may be used with the Arborjet Tree Injection Systems or with other tree injection devices that meet the label requirements. For all injection systems, read carefully and follow the manufacturer's direction for use.

Mixing Procedures for Tree Injections
Prepare the injection solution by mixing 8 level teaspoons (8 grams) of AzaSol in 3.38 fl. oz. (100 mls) of water. Only mix the amount you plan to use so for smaller amounts refer to the table: *Use Rate*

Recommendations for Tree Injection.
Application in Trees

1. Inject 4 mls of solution every 6" (15 cm) of stem circumference in trees <8" dbh (20cm).
2. Inject 6 mls of solution every 6" (15 cm) of stem circumference in trees 8-16" dbh (15 – 40cm).
3. Inject 8 mls of solution every 6" (15 cm) of stem circumference in trees >16" dbh (>40cm).

Use Rate Recommendations for Tree Injection

DBH"	cm DBH	level tsp. AzaSol	Milliliters of water	ml/2.5 cm (inch) DBH	Average Number of injects	ml/inject
5	12.5	2	12	2	3	4
6	15.0	2	12	2	3	4
7	17.5	2	16	2	4	4
8	20.0	4	24	3	4	6
9	22.5	4	30	3	5	6
10	25.0	4	30	3	5	6
11	27.5	6	36	3	6	6
12	30.0	6	36	3	6	6
13	32.5	6	42	3	7	6
14	35.0	6	42	3	7	6
15	37.5	8	48	3	8	6
16	40.0	8	48	3	8	6
17	42.5	10	72	4	9	8
18	45.0	12	72	4	9	8
19	47.5	12	80	4	10	8
20	50.0	12	80	4	10	8
21	52.5	14	88	4	11	8
22	55.0	14	88	4	11	8
23	57.5	14	96	4	12	8
24	60.0	16	96	4	12	8
25	62.5	16	104	4	13	8

For Trees larger than 25" (62.5 cm) dbh apply 4 ml/2.5 cm (inch) dbh.

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Use Rate Recommendations for Palm Injection

Canopy or Tree Size	Tsp AzaSol	Milliliters of water	Minimum Number of Injection Points Needed
Small Canopy or Tree	2	10	1
Medium Canopy or Tree	4	20	1
Large Canopy or Tree	6	30	1

Packet Size	Mylar Packet	Water Soluble Packet
0.07 oz. packets (approx. 2tsp)	not available	yes
0.75 oz. packets (approx. 22tsp)	yes	yes
3.00 oz. packets (approx. 85tsp)	yes	yes

Dose/Rate

Spray Applications

AzaSol is measured in dry ounces (weight) and approximate teaspoons for each packet size. Packet sizes come in Depending on the type of pest and timing of treatment you may use low, medium, or high rates of application.
NOTE: Low Rates are recommended for preventative treatments before signs of insects. **Medium Rates** are recommended for most treatments for preventative to medium infestations when pests are present. **High Rates** are recommended for difficult to manage pests or for heavy infestations.

AzaSol packet recommendations for mixing, and dosing in spray applications.
Packet sizes are recommended by using the most economical size and no partial packets.

	Low Rate		Medium Rate		High Rate	
Sq Ft.	AzaSol	Water	AzaSol	Water	AzaSol	Water
1,000			(1) 2tsp packet	1-2 gal	(2) 2tsp packets	1-4 gal
5,000	(3) 2tsp packets	5-10 gal	(5) 2tsp packets	5-10 gal	(1) 0.75 oz packet	10-20 gal
10,000	(5) 2tsp packets	10-20 gal	(1) 0.75oz packet	10-20 gal	(2) 0.75 oz packets	20-40 gal
20,000	(1) 0.75oz packet	20-40 gal	(2) 0.75 oz packets	20-40 gal	(1) 3.00 oz. packet	50-100 gal
(1Acre) 43,560	(2) 0.75 oz packets	50-100 gal	(1) 3.00 oz. packet	50-100 gal	(2) 3.00 oz. packets	100-200 gal

NOTE: Packets are sold in water soluble packets and re-sealable packets. Use the entire contents when using water soluble packets. Water soluble packets should NOT be used in partial amounts since they are not re-sealable. ONLY re-sealable packets of this product should be used in partial amounts.

Low Rate: 0.07 oz. (approx. 2 tsp) / 2-4 gal of water / 2,000 sq ft. or
Medium Rate: 0.07 oz. (appox. 2 tsp) / 1-2 gal of water / 1,000 sq ft.
High Rate: 0.14 oz. (appox. 4 tsp) / 2-4 gal of water / 1,000 sq ft.

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Mixing

Re-sealable Mylar Packets:
AzaSol is sealed in mylar packets to ensure air tight and water tight seal to protect powdered AzaSol. Carefully open mylar packet and dispense the powder into the mixing tank. You can use the entire contents or you can measure a partial amount to meet mixing and rates specified for application. Airborn powder: You can reduce the amount of air born powder by avoiding windy conditions, using the entire contents of packet, and by emptying contents into a partially filled tank. Agitate tank mix.

Water Soluble Packets:
Water soluble packets CANNOT be used in partial amounts. Use the entire contents of each water soluble packet. Refer to the rate chart for rate of application and for the amount of water to use for each packet. Agitate tank until entire packet has dissolved.
Operate the agitator while mixing. Water soluble packets should completely dissolve within a few minutes from the time they are added to the water. Cooler water temperatures will increase the time needed for the packet to dissolve completely.

AzaSol is packaged in a water soluble packet for your convenience. Place the packet directly into water, agitate vigorously to dissolve packet, and apply the mix solution. Do not cut water soluble packets open, they are designed to be placed directly into the tank with water. Follow label use rates for specific pests and applications.

Keep water soluble packets in a sealed container, and avoid storing packets near any moisture. Do not allow packets to become wet prior to adding into the tank. Do not handle the packets with wet hands or wet gloves. Rough handling may cause packets to break.

It's recommended to use a sticking agent to increase product coverage on plant tissue

CHEMIGATION OF SOLUNEEM

General Information

Apply this product only through drip (trickle) or sprinkler (center pivot, lateral move, end tow, side roll, traveler, big gun, solid set, or hand move), flood (basin) irrigation systems. 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. If you have questions about calibration, you should contact State Extension Service Specialists, equipment manufacturers or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. 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.

Solubilize SoluNeem 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 for application is a range of 5.5 to 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 stated in the Directions for Use using sufficient water to achieve an even distribution within an 8 hour period. Do not apply SoluNeem at a rate that exceeds 20 grams active ingredient per acre. If applying SoluNeem in combination with other products refer to the compatibility statement in the Directions for Use section.

OBSERVE THE FOLLOWING PRECAUTIONS IF YOUR CHEMIGATION SYSTEM IS CONNECTED TO A PUBLIC WATER SYSTEM

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 a year.

Chemigation systems connected to a public water systems must contain a functional, reduced-pressure zone (RPZ) , backflow preventer 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 of overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

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, or in the cases where there is not a water pump, 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 speeds favor drift beyond the area intended for treatment.

STATEMENTS CONCERNING THE OPERATION OF SPRINKLER CHEMIGATION; DRIP (TRICKLE); UTILIZING A PRESSURIZED WATER AND PESTICIDE INJECTION 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 back flow. 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.

STATEMENTS CONCERNING THE OPERATION OF FLOOD (BASIN) IRRIGATION UTILIZING GRAVITY FLOW OR PRESSURIZED WATER AND PESTICIDE INJECTION SYSTEM.

Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from back flow if water flow stops.

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements.

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

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

c. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side to 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.

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

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e. 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.

f. 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.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Do not store this product above 100°F or below 20°F for extended periods of time. Store product in the original labeled container in a cool, dry, locked place out of reach of children. Keep containers tightly closed when not is use.

PESTICIDE DISPOSAL: Pesticide wastes may be hazardous. 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 HANDLING: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

IMPORTANT: PLEASE READ BEFORE USE

To the extent consistent with applicable laws, SoluNeem, Inc. warrants that (a) this product conforms to the chemical description on its label; (b) this product is reasonably fit for the purposes stated on its label, subject to the inherent risks referred to herein, when used in accordance with its directions; and (c) that the directions, cautions and other statements on this label are based upon responsible experts' evaluations of reasonable tests of effectiveness, of toxicity to laboratory animals and plants, and upon reports of field experience. Testing has not been performed on all varieties of food crops, and plants, in all states, or under all application, weather and crop conditions. There are no express warranties other than those set forth herein. Soluneem, Inc. neither makes nor intends, nor does it authorize any agent or representative to make, any other warranty, express or implied. SoluNeem, Inc. expressly excludes and disclaims all implied warranties of merchantability, fitness for particular purpose, or any other warranty of quality of performance.

This warranty does not extend to, and the user shall be solely responsible for, any loss or damage that results from the use of this product in any manner that is inconsistent with this label's directions, or cautions.

[Optional Marketing Claims]

- AzaSol is uniquely developed using a patent protected process.
- AzaSol is in azadirachtin pest control.
- A way to keep insects away.
- Keep insects away with Azadirachtin
- Apply as a Spray, Soil drench, or Injection to Trees, Shrubs, Lawns and Gardens
- A water soluble product botanically derived from the neem plant, *Azadirachtin indica.*
- AzaSol's solubility provides superior flow and absorption into plant tissue
- Botanical Insecticide, Repellent, Anti-feedant and Insect Growth Regulator (IGR)
- Completely water soluble and does not separate like emulsifiable concentrates (EC).
- Available from Arborjet, Inc. 99 Blueberry Hill Road, Woburn, MA 01801

ARBORjET
Revolutionary Plant Health Solutions

Sub Label B

This sub-label bears direction for residential use with specific application rates associated with the package size and area to be treated.

SoluNeem
[alternate brand name: Azasol]

This product is botanically derived from the Neem plant "*Azadirachta Indica*" Azadiractin, a botanical insecticide.

[Product Features]

- **Non-oil based, water soluble powder**
- **Effective on a very wide spectrum of insects**
- **Use as a spray or drench**
- **May be applied as directed to any food crop up to and including the day of harvest**

For use on turf grass, outdoor shrubs, trees and ornamentals
For use on outdoor food crops
For control, growth control, antifeedant and repelling Insects such as aphids, armyworms, beetles, budworms, cutworms, fungus gnats, leafhoppers, leafminers, leafrollers, lepidopterous larvae, loopers, mushroom flies, sawflies, thrips, webworms, whiteflies and other pests as listed; and plant parasitic nematodes such as dagger, golden, and root knot nematodes in vegetables, fruits, nuts, coconuts, and ornamental plants. For residential lawn, flowers and vegetable gardens and ornamental plants.

ACTIVE INGREDIENT: Azadirachtin	6.0%
OTHER INGREDIENTS:	94.0%
	100.0%

KEEP OUT OF REACH OF CHILDREN
CAUTION

FIRST AID

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 of 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 the first 5 minutes, then continue rinsing eye. •Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
For medical emergencies, phone 24 hours a day, National Pesticide Telecommunication Network at 1-800-858-7378

See Side/Back Panel for First Aid and Precautionary Statements

SoluNeem Inc.
1050 Bridgeway
Sausalito, CA 94965
Net Contents: _____

EPA Registration Number: 81899-4
EPA Establishment No. :

Batch/Lot No._____

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PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Avoid breathing spray mist. Remove contaminated clothing and wash clothing before reuse.

USER SAFETY RECOMMENDATIONS

Users Should: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to birds and aquatic invertebrates. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

DIRECTIONS FOR USE

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

PRODUCT DESCRIPTION

SoluNeem is a pale yellow/white, amorphous powder containing 6% by weight azadirachtin. It will instantly dissolve in water to give a solution that is ready for spray applications for pest control. Non-Oil based and highly effective as a powder.

Use Soluneem for pre-harvest treatment of fruits and vegetables in case of sudden pest infestations. SoluNeem is effective on a very wide spectrum of insects and pests as listed on this label.

Use SoluNeem on a wide variety of plants as listed indoors and outdoors. If plans are made to use SoluNeem on plants not listed on this label, it is recommended that a small area such as a leaf, stem, or branch be "test sprayed", first, and checked several days later to make sure that leaf wilting or damage does not occur.

When used as directed, SoluNeem will destroy targeted insect larvae when they, (1), eat sprayed plants, or (2), come in contact with the spray. SoluNeem eliminates insects by stopping the insect's growth, and is effective on all insects listed, insect larval stages and pupae.

APPLICATION INSTRUCTIONS

READ ALL DIRECTIONS AND PRECAUTIONS BEFORE USE

To apply SoluNeem select a suitable a hand held trigger type sprayer that will deliver a forceful, fine, leaf and fruit covering, wetting, spray mist. To get thorough spray coverage on waxy or pubescent plant surfaces the addition of small amount of a suitable sticker agent (such as NuFilm P) added to the spray mix, at the recommended rates may give better foliage, insect coverage and control.

APPLICATION METHOD AND EQUIPMENT: Apply SoluNeem as a foliar spray to control insects and nematodes. Apply SoluNeem through sub-surface soil treatment equipment (e.g. lawn grass). To repel adult flies, apply through fogging equipment. Always follow equipment manufacturers use directions.

Apply SoluNeem by using any powered or manual pesticide application equipment. Follow the original manufacturer's recommendations when using these types of equipment.

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For optimum results, 2 to 3 applications made at 7 to 10 day intervals is recommended, unless otherwise specified. Foliar applications should be made to both sides of leaves. In addition, a sticker agent used as per the manufacturer's recommendations may improve product performance.

SOLUNEEM USE RATE RECOMMENDATIONS FOR KEY PESTS BY USE SITE

Soluneem is intended for use on outdoor plants and food crops, mushroom houses, plants grown indoors or in greenhouses, shade cloth, interiors capes and nurseries. It can be used to control any of the following insects and nematodes.

Soluneem label rates specify dry ounce (weight/acre (high rate) and tsp or tbsp/1000 sq. ft. (low rate). These label rates provide a high and low dose application of Soluneem.

Abbreviation & Conversion Table	
tsp	teaspoon
tbsp	tablespoon
A	acre
3 tsp = 1 tbsp	
1 A = 43,560 sq. ft.	

High Rate
6oz/ 50 gal water / Acre (6oz. is approximately 170 tsp./ 50 gal water /acre) (approximately 4 tsp / 1000 sq ft.)

Low Rate
1 tsp/ 1 gal water / 1000 sq. ft. (1 tsp. is approximately 44 tsp / 44 gal water / acre)

USE RECOMMENDATION:

Low Rate (Recommended for preventative treatments before signs of infestation.)
1 tsp / 1000 sq ft.

Medium Rate (Recommended for most treatments. For preventative to medium infestations when pests are present.) 2-3 tsp / 1000 sq ft.

High Rate (Recommended for difficult to manage pests or high infestations)
4 tsp / 1000 sq ft.

Use the tables below to determine the appropriate use rate for your site / pest combination.

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SOLUNEEM USE RATE RECOMMENDATIONS FOR KEY PESTS BY USE SITE

Soluneem is intended for use on outdoor plants and food crops, and plants grown indoors It can be used to control any of the following insects and nematodes.

Use the tables below to determine the appropriate use rate for your site / pest combination.

SOLUNEEM PEST CONTROL CHART: USE RATES for indoor and outdoor plants including, FOOD CROPS, TREES and TURFGRASS.

PEST	RATES: SoluNeem™ oz's./Acre-tsp./1,000 sq ft.	COMMENTS For Spray or Drench
WHITEFLIES, such as: Greenhouse whiteflies, Silverleaf white flies, Woolly whiteflies.	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Make sure that spray covers upper, lower and all surfaces of leaves fruit and twigs.
LEAF MINERS, such as Azalea leafminers, Birch leafminers, Citrus leafminers, Serpentine leafminers	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Apply to new growth in spring before new larvae enter plant foliage. Repeat application at 10 to 14 day intervals if new infestations are expected.
SCALE, Crawlers: such as Brown Soft Scale, California red scale, Coffee Scale, Olive Scale, San Jose Scale.	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft .	Make sure to thoroughly spray upper, lower and all surfaces of leaves and twigs.
MEALY BUGS Such as Citrus Mealybugs.	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Spray to thoroughly cover twigs and leaves.
THRIPS, such as: Citrus thrips, Onion thrips, thrips palmi,	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Spray in spring when young nymphs first appear on foliage.
APHIDS, such as: Cotton aphids, Green peach aphids, Pea aphids, Potato aphids	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Spray to wet lower side of leaves when "leaf curl" first appears.
PSYLLIDS, such as: Pear psylla	Same as above	Spray for new "instar" nymphs appearing on new discolored foliage.
BUGS, Nymphs of: such as Box-elder bugs, Chinch bugs, lygus bugs, spittle bugs, stink bugs,	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Spray early when nymphs are young. Soluneem™ will control "instar" growth until they die.
FLIES, Larvae of: such as Blueberry Maggot, Cherry Maggot, Crane Flies, Fruit flies, Midges, Onion Maggots, Tip worms, Walnut husk fly larvae.	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	For Food and Non-food crops spray when larvae first appear.
SAWFLIES, Larvae of: such as: European Pine Sawflies, Yellow headed pine sawflies,	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Spray when first larvae appear when plants start new growth.
CATERPILLARS, Such as: Armyworms, Artichoke plume moth, Bagworms, Bollworms, Budworms, Cabbage butterflies, Cabbage loopers, Cankerworms,	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Spray when first larvae worms appear. Repeat applications in 7 to 10 days. For continued pest control in the spring or fall when insect infestations are expected spray ornamentals and other

Caseworms, Corn Earworms, Cutworms, Diamond back moths, Fireworms, Fruitworms, Grapeleaf skeletonizer, Gypsy moths, Hornworms, Imported Cabbage worm, leaf perforators, Leafrollers, Melonworms, Navel orangeworms, Oblique banded Leafrollers, Omnivorous Leafrollers, oriental fruit moths, Pickleworms, Pine tip moths, Pinworms, Red banded leaf rollers, Sod webworms, Soybean loopers, Tent Caterpillars, Tobacco budworms, Tussocks moth larvae.		plants at intervals of 2 to 3 weeks.
BEETLES, Larvae of: such as Bark beetles, Blueberry Flea beetles, Boll weevils, Colorado potato beetles, Flea beetles, Japanese beetles, Leaf beetles, Mexican, bean beetles, Phylloxera, Rose Chafers, Twig girdlers	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Spray when pests first appear. For Food Crops. Repeat application after 7 to 10 days. Do not use with oil! Make sure that all plant surfaces are thoroughly spray treated. Repeat in 5 to 7 days if required.
WEEVILS, Such as Black vine weevils, Pepper weevils, Strawberry vine weevils.	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Foliar anti-feedant sprays will stop adult feeding. Make at least 3 to 4 applications 10 days apart.
BORERS, Larvae such as: Peach twig borer, Peach tree borers, Cranberry borers, Emerald Ash borer (see Table below).	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	Thoroughly spray in spring after egg hatch to control young larvae.
MOLE CRICKETS, nymphs and young "in-stars". Turf Treatment.	6 ounces in 50 gal water/A 1 tsp /1 gal. water/1,000 sq ft.	For turfgrass, spry to drench turf for young cricket nymphs in spring. Stops young from growth to adults.
MUSHROOM FLIES, Nematodes and Phorid Flies	Mix ½ oz. in 1 to 2 gallon of water and mist over, (or drench) 1,000 sq ft.	See "For Mushrooms" Section on this label.

APPLICATION RATES FOR EMERALD ASH BORER

Tree Circumference in Inches	Emerald Ash Borer Preventative Treatment (ml)	*Emerald Ash Borer Symptomatic or Attacked Tree Treatment (ml)
9	40	40
13	40	60
16	40	60
19	40	80
22	40	80
25	40	100
28	40	120
31	60	120
35	60	140
38	60	160
41	60	160

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44	80	180
47	80	180
50	80	200
53	80	220
57	100	220
60	100	240
63	100	260
66	100	260
69	120	280
72	120	280
75	120	300
79	120	320
82	140	320
85	140	340
88	140	360
91	140	360
94	160	380
97	160	380
100	160	400
104	160	420
107	180	420
110	180	440
113	180	460
116	180	460
119	200	480
122	200	480
126	200	500
157	260	620
188	300	760

*Emerald Ash Borer – Signs and Symptoms of Symptomatic or Attacked trees – A sign is physical damage to a tree, such as a gallery, A "D" shaped hole, or a feeding notch in the leaf, resulting from attack. A symptom is a tree's response to attack and includes premature yellowing of foliage, dead branches, thinning crowns, or bark cracks.

The effectiveness of SoluNeem in controlling Emerald Ash borer may be reduced when an ash tree has greater than 30% dead branches or thinning crown.

USE SITES FOR SOLUNEEM

SoluNeem can be used on Green-house: food crops, such as: Brassica (cole) crops, cucurbits, eggplants, herbs and spices, legumes, peppers, tomatoes.

MUSHROOMS, Varieties such as: Agaricus, enoki, maitake, oyster, shitake, and other specialty mushrooms

FOOD CROPS, including:
Root and tuber vegetables, such as: Artichoke, beets carrots, ginger, horseradish, potatoes, radishes, rutabagas, sweet potatoes. turmeric, turnips, yams.
Leafy vegetables (including Brassica leafy vegetables), such as: Amaranth, broccoli, Brussels sprouts, cabbage, cauliflower, celery,' chervil, Chinese cabbage, collards, cress, endives, fennel, kale, kohlrabi. lettuce, mizuna ('mustard greens, parsley, purslane, rape greens, rhubarb, spinach, Swiss chard.

Legume vegetables, such as: beans (field, kidney etc.), chick-peas, cowpeas, guar, jackbeans, lablab beans, lentils, peas, pigeon peas, soybeans, sword beans.
Fruiting vegetables such as: Eggplants, ground-cherries, pepinos, peppers, pimentos, tomatillos, and tomatoes.
Cucurbit vegetables, such as: bitter melons, Chayotes, Chinese wax gourds, citron melons, cucumbers, gherkins, gourds, **muskmelons** (such as cantaloupes, casabas cranshaw etc.) pumpkins, squash, watermelons.
Citrus fruits such as: Calamondins, citrus citrons, citrus hybrids, Grapefruits, Kumquats, Lemons, Limes, Mandarins, Oranges, pumellos, satasuma mandarins.
Pome fruits, such as: Apples, crabapples, loquats, mayhaws, oriental pears, pears, and quinces.
Stone fruits such as: Apricots, cherries, nectarines, peaches, plums, and prunes.
Berries such as: Blackberries, caneberries, blueberries, currants, cranberries, elderberries, gooseberries, huckleberries, loganberries, raspberries, strawberries, youngberries.
Cereal grains such as: Barley, buckwheat, corn, millet, oats, popcorn, rice, rye, sorghum, teosinites, triticale hybrids, wheat, and wild rice.
Herbs and spices, including but not limited to: allspice, ahgelica, anise, annatto, balm, basil, black and white peppers, borage, burnet, camomile, caper buds, cardamom, caraway, cassla, catnip, celery seeds, chervil, chives, cinnamon, caraway, cloves, corrianer (cilantro), costmary, cumin, curry leaf, dills, fennels, fenugreek, grains of paradise, horehound, hyssop, juniper berry, lavender, lemongrass, lovage, mace, marigolds, marjoram, mustard seeds, nasturtium, nutmeg, parsley, pennyroyal, pepper (black & white), poppy seeds, rosemary, rue, saffron, sage, savory, sweet bay (bay leaf), tansy, tarragon, thyme, vanilla, wintergreen, woodruff, wormwood.
Bulb vegetables such as: Garlic, leek, onions, shallots.
Nuts, such as: Almonds, beechnuts, Brazil nuts, butternuts, cashews, chestnuts, chinquapin, Coconuts, filberts, hickorynuts, Imacadamia, pecans, pistachios, walnuts.
Oilseed crops such as: Canola, castor, crambe, guar, jojoba, peanuts, rape, safflower, sesame, soybean, sunflower.
Tropical fruits: such as Atemoyas, bananas, breadfruits, cherimoyas, durians, guavas, malangas, mangos, papayas, passionfruits, starfruits.
Other food & non-food crops: such as Asparagus, avocados, birdseed, cacao, coffee, edible flowers, feijoa, figs, ginseng, grapes, guayule, hops, kiwis, okras, olives, palms, papayas, pawpaws, persimmons, pineapples, rambutans, sugarcane, tamarillos, tea, tobacco, water chestnuts, watercress.
Ornamental Plants: such as: African violets, ageratum, aster, aucuba, begonia, cacti, calendula, calla, carnation, ceanothus, chrysanthemum, cineraria, coleus, cyclamen, daffodil, dahlia, delphinium, ficus, foliage plants, fuschia, gardenia, geranium, gloxinia, hyacinth, hydrangea, iris, ivy, lily, maidenhair fern, marigold, narcissus, orchid, pansy, pelargonium, peony, phlox, pittisporum, poinsettia, pyracantha, rubber plant, snapdragon, stock, tulip, wandering jew, yew, yucca, zinnia.
Ornamental Trees and Shrubs: such as: Andromeda, Arbovitae, ash, Austrian pine, azalea, beech, birch, birdsnest spruce, blue spruce, bouginvillia, boxwood, butternut, camellia, cedar, chamaecyprus, dogwood, douglas fir, elm, euonymus, firethorn, forsythia, hackberry, hawthorn, hemlock, hickory, holly, honeylocust, horsechestnut, ilex, juniper, larch laurel, lilac, linden, London plane, magnolia, manvilla, maple, mimosa, mountain ash, myrtle, oak, pachysandra, peach, pine, phinota, pines, plane tree, poplar, privet, quince, rhododendron, roses, spruce, sycamore, white cedar and white pine.

FOR TURF GRASSES

Bent grass	
Bermuda grass	Fescue
Bluegrass, annual	Ryegrass; annual
& perennial	Ryegrass; perennial
Buffalo grass	St. Augustine grass
Centipede grass	Wheat grass
	Zoysia grass

For control of Sod Webworms, Cutworms, Aphids, Leafhoppers, ants, and chiggers: use a suitable pressure sprayer and mix 1 tbsp. in 2 to 3 gal. of water and apply to 2,500 sq ft of turf. Apply when insect larvae first appear and if necessary repeat application in 10 to 14 days. The use of an approved "spreader sticker" may help the spray to penetrate turf down to the larvae/worm feeding area.

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Packet Size	Mylar Packet	Water Soluble Packet
0.07 oz. packets (approx. 2tsp)	not available	yes
0.75 oz. packets (approx. 22tsp)	yes	yes
3.00 oz. packets (approx. 85tsp)	yes	yes

Dose/Rate

Spray Applications

Soluneem is measured in dry ounces (weight) and approximate teaspoons for each packet size. Packet sizes come in Depending on the type of pest and timing of treatment you may use low, medium, or high rates of application.
NOTE: Low Rates are recommended for preventative treatments before signs of insects. **Medium Rates** are recommended for most treatments for preventative to medium infestations when pests are present. **High Rates** are recommended for difficult to manage pests or for heavy infestations.

Soluneem packet recommendations for mixing and dosing in spray applications.
Packet sizes are recommended by using the most economical size and no partial packets.

	Low Rate		Medium Rate		High Rate	
Sq Ft.	Soluneem	Water	Soluneem	Water	Soluneem	Water
1,000			(1) 2tsp packet	1-2 gal	(2) 2tsp packets	1-4 gal
5,000	(3) 2tsp packets	5-10 gal	(5) 2tsp packets	5-10 gal	(1) 0.75 oz packet	10-20 gal
10,000	(5) 2tsp packets	10-20 gal	(1) 0.75oz packet	10-20 gal	(2) 0.75 oz packets	20-40 gal
20,000	(1) 0.75oz packet	20-40 gal	(2) 0.75 oz packets	20-40 gal	(1) 3.00 oz. packet	50-100 gal
(1Acre) 43,560	(2) 0.75 oz packets	50-100 gal	(1) 3.00 oz. packet	50-100 gal	(2) 3.00 oz. packets	100-200 gal

NOTE: Packets are sold in water soluble packets and re-sealable packets. Use the entire contents when using water soluble packets. Water soluble packets should NOT be used in partial amounts since they are not re-sealable. ONLY re-sealable packets of this product should be used in partial amounts.

Low Rate: 0.07 oz. (approx. 2 tsp) / 2-4 gal of water / 2,000 sq ft. or
Medium Rate: 0.07 oz. (approx. 2 tsp) / 1-2 gal of water / 1,000 sq ft.
High Rate: 0.14 oz. (approx. 4 tsp) / 2-4 gal of water / 1,000 sq ft.

Mixing

Re-sealable Mylar Packets:
Soluneem is sealed in mylar packets to ensure air tight and water tight seal to protect powdered Soluneem. Carefully open mylar packet and dispense the powder into the mixing tank. You can use the entire contents or you can measure a partial amount to meet mixing and rates specified for application. Airborne powder: You can reduce the amount of air born powder by avoiding windy conditions, using the entire contents of packet, and by emptying contents into a partially filled tank. Agitate tank mix.

Water Soluble Packets:
Water soluble packets CANNOT be used in partial amounts. Use the entire contents of each water soluble packet. Refer to the rate chart for rate of application and for the amount of water to use for each packet. Agitate tank until entire packet has dissolved.

Operate the agitator while mixing. Water soluble packets should completely dissolve within a few minutes from the time they are added to the water. Cooler water temperatures will increase the time needed for the packet to dissolve completely.

Retail Supplement

Soluneem is packaged in a water soluble packet for your convenience. Place the packet directly into water, agitate to dissolve packet, and apply the mix solution.

Net Contents:
0.28 oz. (approx. 8 tsp) of Soluneem
4 water soluble packets 0.07 oz. each (approx. 2 tsp each)
* Full contents treats up to 8,000 sq ft. for spray application (2-8 gallons)
* Full contents treats 1 medium size tree [dbh] for soil drench application (2 gallons)

NOTE: Low Rates are recommended for preventative treatments before signs of insects. **Medium Rates** are recommended for most treatments for preventative to medium infestations when pests are present. **High Rates** are recommended for difficult to manage pests or for heavy infestations.

Retail Directions: (0.07oz.) 2 teaspoon packet mixing and dosing for spray applications

2 tsp packets	Low Rate		Medium Rate		High Rate	
Sq Ft.	AzaSol	Water	AzaSol	Water	AzaSol	Water
1,000			(1) 2tsp packet	1-2 gal	(2) 2tsp packets	1-4 gal
2,000	(1) 2tsp packets	2-4 gal	(2) 2tsp packets	2-4 gal	(4) 2tsp packets	2-8 gal
5,000	(3) 2tsp packets	5-10 gal	(5) 2tsp packets	5-10 gal	(10) 2tsp packets	10-20 gal
10,000	(5) 2tsp packets	10-20 gal	(10) 2tsp packets	10-20 gal	(20) 2tsp packets	20-40 gal

NOTE: Packets are sold in water soluble packets. Use the entire contents when using water soluble packets. Water soluble packets should NOT be used in partial amounts since they are not re-sealable.

Low Rate: 0.07 oz. (approx. 2 tsp) / 2-4 gal of water / 2,000 sq ft. or
Medium Rate: 0.07 oz. (approx. 2 tsp) / 1-2 gal of water / 1,000 sq ft.
High Rate: 0.14 oz. (approx. 4 tsp) / 2-4 gal of water / 1,000 sq ft.

Soil Applications to Trees

Soil Drench	Pest	Comments
Small tree (2-7" DBH): 4 tsp / gal of water **Medium tree (8-15" DBH):** 8-10 tsp / gal of water **Large tree (16"+ DBH):** 16-22 tsp / gal of water	Ips engraver beetles Flatheaded borers (e.g., bronze birch borer) Leaf miners (e.g., birch leafminer)	Remove organic matter from the base of the tree, apply to soil around the tree base, 1 - 3 feet from trunk or inject (6" deep) into the soil working around the base of the tree. Make the first application to trees 1-2 weeks prior to expected adult emergence. For pests with multiple generations, repeat applications once every 3 to 4 weeks

	Leaf defoliating insects (including winter moth, fall webworm)	Remove organic matter from the base of the tree, apply to soil around the tree base, 1 - 3 feet from trunk or inject (6" deep) into the soil working around the base of the tree. Make application when caterpillars first hatch; prior to bud break.

Bark Spray Applications to Trees

Bark Spray	Pest	Comments
Small tree (2-7" DBH): 2 tsp / gal of water **Medium tree (8-15" DBH):** 4-5 tsp / gal of water **Large tree (16"+ DBH):** 8-11 tsp / gal of water	Conifer bark beetles (e.g., black turpentine beetle, mountain pine beetle) Flatheaded borers (e.g., bronze birch borer)	Spray the bole of tree thoroughly covering the bark from the ground up 20 feet Make the first application to trees 1-2 weeks prior to expected adult emergence. For pests with multiple generations, repeat applications once every 10 to 14 days

Applications to Lawns

Pest	Soil Drench	Comments
Annual Bluegrass Weevil	4-8 tsp / 2-3gal of water / 1,000 sq ft.	Make applications in early spring (in the northeast, 3rd or 4th week of April) when weevils first become active
White Grubs	4-8 tsp / 2-3gal of water / 1,000 sq ft.	Make applications in early spring and again in summer when larvae are feeding

Water Soluble Packet Supplement

Soluneem is packaged in a water soluble packet for your convenience. Place the packet directly into water, agitate vigorously to dissolve packet, and apply the mix solution. Do not cut water soluble packets open, they are designed to be placed directly into the tank with water. Follow label use rates for specific pests and applications.

Keep water soluble packets in a sealed container, and avoid storing packets near any moisture. Do not allow packets to become wet prior to adding into the tank. Do not handle the packets with wet hands or wet gloves. Rough handling may cause packets to break.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store product in the original labeled container in a cool, dry, locked place out of reach of children. Keep containers tightly closed when not is use.

PESTICIDE PRODUCT DISPOSAL: As a responsible environmental practice, where possible, it is recommended that all of the contents of the container be used, carefully following label directions and precautions.

CONTAINER HANDLING: IF EMPTY: Non-refillable container. Do not reuse this container. Place in trash or offer for recycling if available. **IF PARTLY FILLED:** Call your local waste agency or for disposal instructions. Never place unused product down any indoor or outdoor drain

IMPORTANT: PLEASE READ BEFORE USE

To the extent consistent with applicable laws, SoluNeem, Inc. warrants that (a) this product conforms to the chemical description on its label; (b) this product is reasonably fit for the purposes stated on its label, subject to the inherent risks referred to herein, when used in accordance with its directions; and (c) that the directions, cautions and other statements on this label are based upon responsible experts' evaluations of reasonable tests of effectiveness, of toxicity to laboratory animals and plants, and upon reports of field experience. Testing has not been performed on all varieties of food crops, and plants, in all states, or under all application, weather and crop conditions. There are no express warranties other than those set forth herein. Soluneem, Inc. neither makes nor intends, nor does it authorize any agent or representative to make, any other warranty, express or implied. SoluNeem, Inc. expressly excludes and disclaims all implied warranties of merchantability, fitness for particular purpose, or any other warranty of quality of performance.

This warranty does not extend to, and the user shall be solely responsible for, any loss or damage that result from the use of this product in any manner that is inconsistent with this label's directions, or cautions.

[Optional Marketing Claims]

- AzaSol is uniquely developed using a patent protected process.
- AzaSol is in azadirachtin pest control.
- A way to keep insects away.
- Keep insects away with Azadirachtin
- Apply as a Spray, Soil drench, or Injection to Trees, Shrubs, Lawns and Gardens
- A water soluble product botanically derived from the neem plant, *Azadirachtin indica.*
- AzaSol's solubility provides superior flow and absorption into plant tissue
- Botanical Insecticide, Repellent, Anti-feedant and Insect Growth Regulator (IGR)
- Completely water soluble and does not separate like emulsifiable concentrates (EC).
- Available from Arborjet, Inc. 99 Blueberry Hill Road, Woburn, MA 01801

ARBORJET
Revolutionary Plant Health Solutions