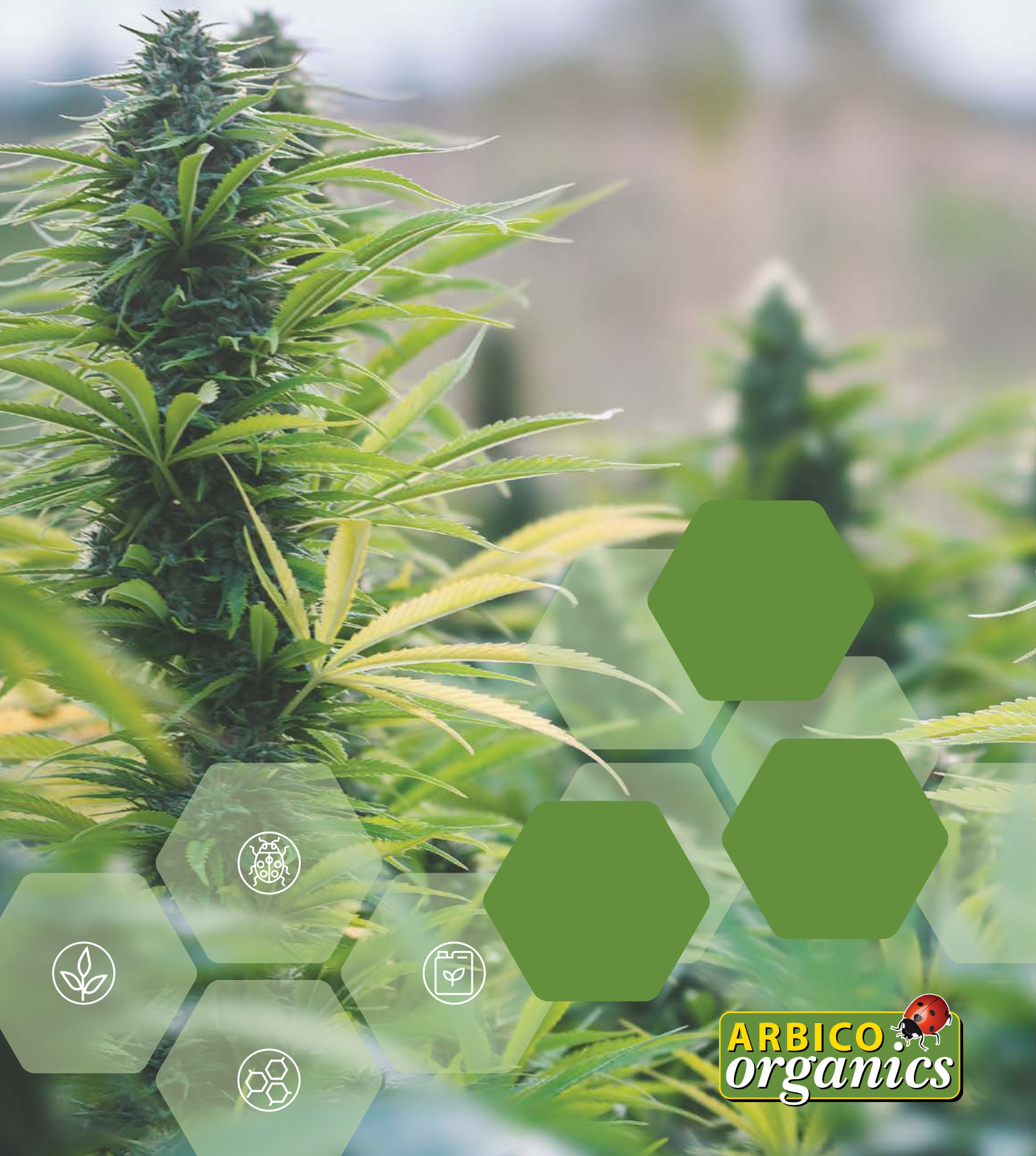


Cannabis & Hemp

NATURAL AND ORGANIC IPM SOLUTIONS FOR GROWERS



*Green is the prime color of
the world, and that from
which its loveliness arises.*



Guaranteed Live
Delivery



Customer
Service



Commitment
to Quality

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How To Contact Us:
800-827-2847
www.arbico-organics.com
customercare@arbico.com



TRAPPING/MONITORING

Early and correct identification of pests is a key to determining the best strategy for further action. Important information is gathered during inspection and should be consistently recorded in order to gather all pertinent information about the pest.



Know



Your



IDENTIFICATION

Accurately identifying which specific pest(s) you need to control is critical in determining the proper treatment protocol. For increased accuracy, use a microscope or loupe, or phone adapter such as Active Eye. Document plant symptoms or visual damage. Often multiple pests can be present.



ENVIRONMENT

Predatory insects, like many living things, have requirements for living environments. Optimal temperature and humidity along with the preferred food source ensures predators are performing at their best. Select the predatory insect or mite best suited to your temperature and humidity ranges. Conditions outside the optimal range for the predator may compromise their effectiveness.



Grow

POWERFUL PEST CONTROL



The Assassin Bug is a hardworking predator that feeds in all life stages. Great for greenhouse and indoor cultivations with wide temperature range activity and varied pests. Free Shipping!

ADVANTAGES

- Predatory in all life stages
- Wide variety of pests consumed
- Active in high temperatures/low humidities
- Not attracted to artificial light



Eggs

Assassin Bugs are delivered as egg clusters. Monitor for hatching up to 6 days.



Nymphs

Once hatched, Assassin Bug nymphs are visible and more easily monitored. Their two month life-span provides continuous control.



Adults

Assassin Bugs produce a resin on their legs and rostrum that increases ability to capture prey. Once captured, Assassin bugs pierce their prey with their rostrum and inject a digestive enzyme. This allows *Zelus* to kill insects much larger than themselves.

Assassin Bug - *Zelus renardii*



These Voracious Ambush Predators Will Stay In Your Crops & Devour A Wide Variety Of Pest Insects!

TARGET: Leafhoppers, aphids, early instar caterpillars, flies, mites in conjunction with mite predators, and most other pests.



DESCRIPTION: These hardworking ambush predators are an excellent addition to any growing area, large or small. Feasting on a variety of pests, assassin bugs stay put in order to knock out an infestation. With an approximate two-month lifespan, these generalist predators will live, eat and reproduce in the area of release. *Zelus* start eating immediately after hatching, and by the second instar they produce a resin on their legs, which turns them into a walking sticky trap. Once captured, their prey is pierced with their rostrum and a digestive enzyme is injected into the prey and the insect is quickly killed. This method of predation allows for *Zelus* to take out prey much larger than themselves. These generalist predators are voracious and can be used efficiently in gardens, fields, orchards and greenhouses.

SUGGESTED USE (Depending upon level of infestation): Use 500 eggs in a 2,000-3,000 square foot area every 2-3 weeks. Release preventively or at the first sign of an infestation. For heavy infestations, release 500-1,000 eggs weekly in no more than 2,000 square feet. Release 5-10 thousand eggs biweekly per acre. Shipped as eggs, these beneficial insects will typically hatch in under a week.

Temperature: 55-110°F

Relative Humidity: 10-75%

1000105	≈250 Eggs	\$25.00
1000106	≈500 Eggs	\$40.00
1000107	≈1,000 Eggs	\$65.00
1000109	≈2,000 Eggs	\$110.00
1000115	≈5,000 Eggs	\$262.50

*FREE SHIPPING in the contiguous 48 states. Ships Monday - Thursday via 2nd Day.

*For volume and continuity pricing
please call 1-800-827-2847.*



Aphid Control



DAMAGE

Each plant reacts differently to aphid infestations. Twisted, curled or swollen leaves and/or stems, decreased growth rates, mottled leaves, leaf yellowing or browning, stunted growth, wilting, low yields and death. Aphids can also vector bacterial and viral diseases adding to plant weakness.



CONTROL

- Monitor & Trap: Yellow sticky traps (or ribbons for rows) to monitor infestation levels.
- Biological Controls: Introduce Green lacewing preventatively to build a colony of predacious larvae. Minute Pirate Bug (*O. insidiosus*) for quicker control, or an Aphid Predator (*A. colemani*, *A. ervi*) for targeted control.
- Insecticides: Rotating applications of sprays including Neem, Insecticidal soap, *Beauveria bassiana*, pyrethrins and more depending on pest thresholds and other environmental factors.

Minute Pirate Bug - *Orius insidiosus*

Excellent General Predator In Field Crops & Greenhouses.

TARGET: Thrips, whiteflies, spider mites, aphids, psyllids, small caterpillars, insect eggs and others.

DESCRIPTION: Minute Pirate Bugs (*Orius spp.*) also known as flower bugs, are one of the most common general predators in field crops. Their diet consists of a variety of small pests. They are also known to attack adult thrips.

SUGGESTED USE (Depending upon level of infestation): Sold as adults. For maintenance, release 1 to 2 *Orius* per plant in greenhouses or 1 to 4 *Orius* per plant in hot spot areas outdoors. When treating a serious whitefly, aphid, thrips or other pest infestation, we recommend releasing up to 500 *Orius* per 250 sq. ft. area. For field crops, we recommend releasing between 100 and 2,000 *Orius* per acre, depending on the level of infestation.

Temperature: 64-82°F

Relative Humidity: Moderate ≈60%

1117001	≈500 Count	\$53.00
1117003	≈1,000 Count	\$88.00
1117004	≈2,000 Count	\$154.00

Overnight Shipping Required



Green Lacewings - *Chrysoperla rufilabris*, *Chrysoperla sp.*



Referred To As "Aphid-Lions," These Generalists Have Amazing Dispersal Abilities!

TARGET: Aphids, mealybugs, spider mites, leafhopper nymphs, moth eggs, scale thrips, whiteflies and more.

DESCRIPTION: Green lacewings are available in all three life stages: egg, larva and adult. Green lacewing larvae paralyze their prey with venom and then draw out the body fluids of the pest into their large hollow jaws. Each lacewing larva will devour 200 or more pests or pest eggs a week during their two to three week developmental period.



Temperature: Minimum: 60°F Best: 75-90°F **Relative Humidity:** 30-50%
Release Rate: Every 7-10 days

1110011	≈5,000 Eggs	\$27.00
1110016	≈10,000 Eggs	\$37.80
1110012	≈25,000 Eggs	\$63.00
1110013	≈50,000 Eggs	\$123.75
1110100	≈5,000 Eggs on Cards	\$30.00
1110102	≈10,000 Eggs on Cards	\$50.00
1110105	≈25,000 Eggs on Cards	\$100.00
1110005	Larval Frames ≈400 Larvae	\$25.00**
1110010	≈1,000 Larvae in Bottle	\$24.00**
1110030	≈5,000 Larvae in 5 Liter Bag	\$98.00**
1110006	≈100 Adults	\$45.00**
1110004	≈250 Adults	\$90.00**
1110007	≈500 Adults	\$170.00**

Green Lacewing Eggs Programs:

1110002	≈1,000 Eggs/week for min. 3 shipments (Price Per Shipment)	\$15.60
1110003	≈5,000 Eggs/week for min. 3 shipments (Price Per Shipment)	\$24.30
1110023	≈10,000 Eggs/week for min. 3 shipments (Price Per Shipment)	\$33.75

SUGGESTED USE (Depending upon level of infestation):

Eggs	Larvae
Gardens & Greenhouses	Gardens & Greenhouses
≈1k-2k Eggs/1,000 sq. ft.	≈2-4/sq. ft.
Farms	Farms
≈2,000-40,000/Acre	≈1,000-2,000/Acre
Adults	
Gardens & Greenhouses	Farms
≈1-3/sq. ft., 100/Tree	≈200-500/Acre

Larvae & Adults Require OVERNIGHT Shipping

*FREE SHIPPING in the contiguous 48 United States. Quantities of 1,000-25,000 eggs ship via USPS Priority only. Quantities of 50,000-250,000 ship via FedEx 2nd Day Air only. Expedited shipping available for an additional fee.

**FREE SHIPPING does not apply to Green Lacewing Adults, Green Lacewing Larval Frames and Green Lacewing Larvae in Bottle.

Aphid Predator - *Aphidoletes aphidimyza*

This Aphid Predator Attacks & Feeds On Over 60 Different Species Of Aphids.

TARGET: Over 60 different aphids, including green peach aphids (*Myzus persicae*) and hemlock woolly adelgid (*Adelges tsugae*).

DESCRIPTION: Predacious to aphids, these insects will inject a paralyzing toxin into pest's legs and feed on aphid body contents, causing eventual death.

SUGGESTED USE (Depending upon level of infestation): Apply to existing infestations weekly, until pests subside. Use ≈1-3/10 sq. ft., ≈2-3/10 sq. ft. or ≈4,500/acre.

Temperature: Warm 64-77°F **Relative Humidity:** Moderate ≈70%

1101001	≈1,000 Pupae	\$80.00
1101003	≈3,000 Pupae	\$207.00
1101002	4 x 250 Pupae in Blister Packs	\$60.00

Overnight Shipping Required



Aphidoletes aphidimyza

Aphid Parasite - *Aphidius colemani*

Exceptional In Greenhouses Producing Vegetables & Ornamentals.

TARGET: Aphids, especially melon and cotton aphids (*Aphis gossypii*).

DESCRIPTION: These tiny (1/8") parasitic wasps specifically target aphids to provide food and a place to oviposit. The adults respond to alarm signals from plants to locate the aphids and, once there, they feast on the honeydew produced by the aphids. The females will then lay their eggs inside aphid nymphs. The larvae will hatch and devour the aphid from inside, turning it into a mummy. The parasites are shipped to you in this stage; simply place them where the infestation is. Once mature, the adult wasp will chew its way out of the mummy and begin hunting aphids.

SUGGESTED USE (Depending upon level of infestation): Apply to existing infestations weekly, until pests subside. Use ≈1-8/1 sq. yd. or ≈500-3,000/acre.

Temperature: 70-77°F **Relative Humidity:** High ≈80%

1101302	≈500 Mummies	\$43.00
1101301	≈1,000 Mummies	\$54.00
1101303	≈5,000 Mummies	\$189.00
1101304	≈10,000 Mummies	\$340.00

Overnight Shipping Required



Aphidius colemani

Aphid Parasite - *Aphelinus abdominalis*

These Ravenous Predators Will Eat & Parasitize Aphid Nymphs!

TARGET: Aphids, including potato (*Macrosiphum euphorbiae*), foxglove (*Aulacorthum solani*), green peach (*Myzus persicae*), California laurel (*Euthoracaphis umbellulariae*), cotton (*Aphis gossypii*), melon (*Aphis gossypii*), bird cherry-oat (*Rhopalosiphum padi*), cereal (*Sitobion avenae*), and alfalfa aphids (*Acyrtosiphon pisum*).

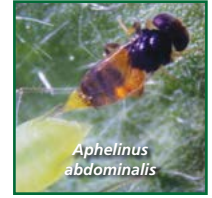
DESCRIPTION: Not great fliers, these parasitic wasps nevertheless can hunt down and destroy large numbers of aphids. These predators will not only lay their eggs in aphid nymphs, they will eat those that they don't parasitize. This secondary method of killing has a powerful effect on the aphid population and provides females with additional protein to develop more eggs. As the larvae matures inside the nymph, they feed on it, turning it into a mummy. The parasites are shipped in this stage; simply place them where the infestation is. The mature adult will chew a hole in the back of the mummy and emerge. This species is better able to handle high temperatures than the *Aphidius* species.

SUGGESTED USE (Depending upon level of infestation): Apply before the onset of infestation. Use ≈250/5,000 sq. ft. or ≈1,000-4,000/acre.

Temperature: 70-77°F **Relative Humidity:** Low-High ≈60-80%

1101101	≈250 Mummies	\$83.00
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Overnight Shipping Required



Aphelinus abdominalis

Aphid Parasite - *Aphidius ervi*

This Non-Stinging Parasitic Wasp Attacks Larger Aphid Species.

Image Citation: Alex Wild

TARGET: Aphids, especially potato (*Macrosiphum euphorbiae*), glasshouse potato (*Aulacorthum solani*), green peach (*Myzus persicae*), foxglove (*Aulacorthum solani*) and pea aphids (*Acyrtosiphon pisum*). Also attacks greenbug/wheat (*Shizaphis graminum*), yellow rose (*Rhodobium orientis*), English grain (*Sitobion avenae*) and other aphids.

DESCRIPTION: These mini-wasps (1/8") are vigorous fliers and will aggressively seek out aphid populations, no matter how small. Once they find the aphids, they feed on the honeydew produced by the aphids and lay their eggs inside the aphid nymphs. As the larvae feed on the nymphs from the inside, the nymph turns into a mummy. The parasites are shipped to you this stage; simply place them where the infestation is. Once mature, the adult wasp will chew its way out of the mummy and begin its own search for aphids.

SUGGESTED USE (Depending upon level of infestation): Apply to existing infestations weekly, until pests subside. Use ≈1-3/10 sq. ft. or 1-8/sq. yd.

Temperature: 64-75°F **Relative Humidity:** Moderate ≈70%

1001001	≈250 Mummies	\$65.00
1001002	≈500 Mummies	\$100.00
1001003	≈1,000 Mummies	\$150.00

Overnight Shipping Required



Aphidius ervi

Guard Your Grow

**Portable, Convenient, On the Spot
Detection!**



Active Eye 60X Clip-On Phone Microscope
2000200 \$8.99

Active Eye Microscope 100X
2000205 \$19.95

Selection Factors

INFESTATION

To determine your plan of action, it is critical to know the level and spread of the pest infestation. For high or established infestations, a knockdown spray may be necessary PRIOR to introducing predatory insects or mites. Know your state regulations and consider choosing a non-synthetic or biorational solution (see pages 33-40).

TIMING

Timing is everything. Applying compatible or soft sprays can help to bring pest populations down to a level in which predator introductions can thrive. When using sprays make sure there are no residual effects that will harm predators. Many biological sprays can be used in conjunction with predators, and cause no harm to their populations.

DELIVERY

Predatory mites are available in several types of delivery methods, including bulk tubes and bags, sachets, mini sachets and sachets on sticks. Bulk deliveries are cost-effective and good for targeting hot spots. Sachets offer continuous release over time for preventative and ongoing control within the plant canopy.

CONTINUITY

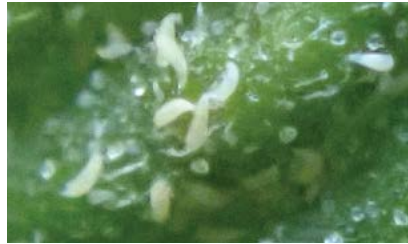
A single application of predatory insects will likely not provide the rate of consumption to compete with rapid pest reproduction rates. Repeated applications on a schedule allows for introduction of additional predators while others transition through life stages. Preplanned insect programs allow for growers to maintain consistent application schedules, avoiding surprise breakouts.

Damage & Symptoms



Spider Mites

Webbing, leaf edges curling or burned, slowed growth, speckled, leathery golden leaves.



Russet Mites

Leaflets curl, chlorosis, necrosis, lower leaves dry out, leaves look bronze in color.



Broad Mites

Flowers can wither, distorted leaves, leaves curled inward, dark & streaked foliage, compact leaf masses.

Mite Predator Application			
Mite Predator Species	Ideal Conditions	Application Rate	Notes
<i>Amblyseius andersoni</i>	43-100°F (68-77°F to hatch)	1 sachet per plant or tray, 3-5 mites per 10 sq. ft.	Best used preventively.
<i>Amblyseius swirskii</i>	68-95°F, 70% RH	10 per sq. ft. biweekly - weekly propagation	Active down to 60°F. Very voracious predator. Eliminate excess webbing or honeydew.
<i>Galendromus occidentalis</i>	75-110°F, 35-60% RH	1,000 per 500 sq. ft. indoors, 2,000-5,000 sq. per acre biweekly	Best for warm and dry climates. If used indoors, humidity must be higher than 30%.
<i>Mesoseiulus longipes</i>	65-90°F, 45-65% RH	1,000 per 300 sq. ft. 3-5 times biweekly	Indoors only - warmer climates.
<i>Neoseiulus (=Amblyseius) californicus</i>	70-90°F, 40-65% RH	1-2 sachets or 1-4 mites per plant	Use weekly until infestation subsides.
<i>Neoseiulus (=Amblyseius) fallacis</i>	60-85°F, 60-80% RH	2-5 per sq. ft.	Excellent dispersal ability. Works well for broad and russet mites.
<i>Phytoseiulus persimilis</i>	68-90°F, 60-90% RH	2+ mites per sq. ft. every 7-14 days	Can compete with <i>cucumeris</i> . Use 48 hours after knockdown spray.
<i>Feltiella acarisuga</i>	68-80°F, 50-80% RH	1 per sq. ft. weekly, 3 weeks min.	Eggs and larvae cannot survive temps above 86°F and below 30% RH
<i>Stethorus punctillum</i>	67-90° F, 30-90% RH	3-4 per 10 sq. ft., 100-200 per hot spot weekly for 4 weeks	Larvae and adults feed on mites. For best results use with <i>persimilis</i> .

MITE CONTROL

Mite Predator - *Amblyseius andersoni*

Great For Pre-Emergent Control Of Pest Mite Infestations!

TARGET: Various pest mites including broad mites, cyclamen mites, two-spotted spider mites, red spider mites, tomato russet mites and rust mites.

DESCRIPTION: This predatory mite is less than 1mm long and light brown. Adult females lay about 35 eggs in a lifetime, arranging eggs onto leaf hairs. This predatory mite feeds on all stages of pest mites, thrips, pollen and honeydew.

SUGGESTED USE (Depending upon level of infestation): For best results, apply as a preventative treatment of mite infestations. Sachets allow for controlled release of mites over 4-6 weeks. Apply at a rate of 1-2 mites per sq. ft. or 1 sachet per plant. Place sachets within plant canopy. Use sachets on sticks at 1 per propagation tray or where canopy cannot hold sachet on hook. Replace sachets every four weeks for continued control.

Temperature: Moderate 42-100°F **Relative Humidity:** High if in higher temps.

BULK SIZES:

1101324	≈25,000 in Tube	\$140.00
1101327	≈50,000 in 1 Liter Bottle	\$165.00
1101321	≈125,000 in 5 Liter Bag	\$375.00

CONTROLLED RELEASE:

1101323	≈25,000 in 200 Mini Sachets w/Hooks	\$155.00
1101350	≈25,000 in 200 Mini Sachets on Sticks	\$167.00
1101325	≈62,500 in 250 Sachets w/Hooks	\$225.00
1101355	≈125,000 in 1,000 Mini Sachets on Sticks	\$695.00
1101322	≈125,250 in 6 x 328 ft. Strips of Sachets	\$670.00

Overnight Shipping Required



Amblyseius andersoni

Spider Mite Destroyer - *Feltiella acarisuga*

We Recommend This Predator When Spider Mite Infestations Are Widespread.

TARGET: Two spotted spider mites, carmine spider mites, European red mites; various mites.

DESCRIPTION: The larvae of this tiny gall-midge feeds on two-spotted spider mites and various other species of spider mites. Recommended to be used with *P. persimilis* when spider mite infestations are severe to rapidly knock back the pest mites. *Feltiella* works best on plants that have hairy stems. Adults do not prey on spider mites, but search for colonies and deposit eggs next to them. Eggs hatch in 2 days and larvae feed on all stages of spider mites for 4-6 days. The entire life cycle is about 15 days.

SUGGESTED USE (Depending upon level of infestation): For light infestations, introduce <1/1,000 sq. ft. or 500/acre every 7 days, for at least 3 weeks. For heavy infestations, introduce 2-3/1,000 sq. ft. or 1,000/acre every 7 days, for at least 3 weeks.

Temperature: Moderate 60-77°F **Relative Humidity:** High 50-90%

1155701	≈250 Count	\$144.00
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Overnight Shipping Required



Feltiella acarisuga

Mite Predator - *Neoseiulus (=Amblyseius) californicus*

Good For Areas Where Temperatures Fluctuate Greatly Such As Deserts.

TARGET: Various spider mites, cyclamen mites, broad mites and russet mites.

DESCRIPTION: This tiny, ivory, pear-shaped predatory mite feeds on a variety of pests on crops including: cucumbers, tomatoes, strawberries, tropical foliage plants, and greenhouse roses. Although adults consume prey at a relatively slow rate of about one egg per day, they can survive longer under starvation conditions. During their lifetime of about 20 days, females will lay approx. 1-3 eggs per day. Eggs hatch within a few days and adulthood is reached in about 4-12 days.

SUGGESTED USE (Depending upon level of infestation): Use ≈1,000 per 4,500 sq. ft. in greenhouses to treat for broad mite. Use ≈10,000 per acre to treat for cyclamen mites on strawberries. Use weekly until infestation subsides.

Temperature: Warm 50-105°F **Relative Humidity:** 40-80%

1151213	≈2,000 Count	\$43.00
1151209	≈5,000 Count	\$65.50
1151210	≈10,000 Count	\$106.00
1151212	≈25,000 Count	\$128.00
1151215	≈25,000 in 200 Mini Sachets	\$162.00

Overnight Shipping Required



Neoseiulus (=Amblyseius) californicus

Mite Predator - *Neoseiulus (=Amblyseius) fallacis*

An Excellent Mite Predator For Control Of Many Different Types Of Mites.

Image Citation: Photo by Dr. Art Agnello, Cornell University

TARGET: Two spotted spider mites, broad mites, cyclamen mites, hemp russet mites; various mites.

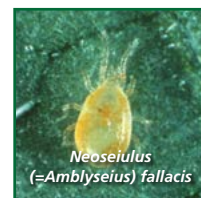
DESCRIPTION: This predatory mite effectively suppresses cyclamen mites in strawberry fields, broad mites in greenhouse crops, European red mites and two-spotted spider mites in orchards, spider mites on roses and vegetable crops in greenhouses and general mite problems on mint and hops in northern climates. Eggs and nymphs are difficult to see as they are small and almost transparent. Adults are pear-shaped and ivory until feeding, when they take on the red or brown coloration of their prey. Adult females consume around 2-16 pest mites per day and lay ≈20-60 eggs during a 14-60 day life-cycle. The transition from egg to adult stage takes about 7-9 days.

SUGGESTED USE (Depending upon level of infestation): Good for cold climates! Use preventatively; over-winters and sustains on pollen. Release at the start and end of the season. Use ≈1,000 per 4,500 sq. ft. or 10,000 per acre.

Temperature: Moderate 50-80°F **Relative Humidity:** Minimum 50%

1151400	≈500 Count	\$38.00
1151401	≈1,000 Count	\$52.00
1151402	≈2,000 Count	\$98.00

Overnight Shipping Required



Neoseiulus (=Amblyseius) fallacis

Mite Predator - *Phytoseiulus persimilis*

TARGET: Two spotted spider mites and various other mites.



DESCRIPTION: These predatory mites have high consumption rates, feeding on approx. 5-20 pests and pest eggs per day! Females will lay about 60 eggs throughout their 50-day lifespan. They will not enter a diapause stage in enclosed or greenhouse settings; making them active year round. Adults will begin feeding as soon as they are applied.

***P. persimilis* PLUS** is reared in an innovative way to include mobile mites (adults and juveniles) as well as eggs. *P. persimilis* PLUS arrives pale and changes to orange/red after predation begins. Adults begin feeding upon dispersal. Eggs can mature in about a week (at temps between 70-80°F). The variety of life stages allow for both immediate and ongoing control as the mites mature.

***P. persimilis* PLUS Sachets**

PLUS Controlled Release sachet mites emerge between 8 - 12 days after application. Best for preventative use. PLUS RAPID Release sachets are used for hot spot treatment with emergence around 3-5 days.

SUGGESTED USE (Depending upon level of infestation):

	Bulk	Sachets
Low Infestation	1-3 Mites per sq.ft.	1 Controlled Release Sachet per 50 sq.ft.
Moderate Infestation/ Speckling	5+ Mites per sq.ft.	1 Rapid Release Sachet per 20 sq.ft.
Webbing/Outbreak	10+ Mites per sq.ft. after knockdown/cleaning	1 Rapid Release Sachet per 10 sq.ft.
Outdoor Crops	20,000 - 200,000 Mites per acre depending on infestation level	
Clones		1 Sachet per plant

Temperature: Moderate: 68-90°F **Relative Humidity:** High: 60-90%

P. PERSIMILIS PLUS BULK SIZES:

1151250	PLUS ≈2000 Bottle	\$23.00
1151251	PLUS ≈4000 Bottle	\$40.00
1151252	PLUS ≈10,000 Bottle	\$85.00
1151253	PLUS ≈20,000 Bottle	\$120.00
1151254	PLUS ≈100,000 Bottle	\$500.00

P. PERSIMILIS PLUS CONTROLLED RELEASE:

1151235	PLUS ≈5,000 in 50 sachets w/hooks	\$50.00
1151236	PLUS ≈10,000 in 100 sachets w/hooks	\$95.00
1151230	PLUS ≈25,000 in 250 sachets w/hooks	\$225.00
1151231	PLUS ≈50,000 in 500 sachets w/hooks	\$387.50

P. PERSIMILIS PLUS RAPID RELEASE:

1151245	PLUS RAPID ≈5,000 in 50 sachets w/hooks	\$50.00
1151246	PLUS RAPID ≈10,000 in 100 sachets w/hooks	\$95.00
1151240	PLUS RAPID ≈25,000 in 250 sachets w/hooks	\$225.00
1151241	PLUS RAPID ≈50,000 in 500 sachets w/hooks	\$387.50

OVERNIGHT SHIPPING REQUIRED

*The Mite Predator with
the Highest Consumption
and Dispersal Rate.*

Photos courtesy of Biobee Ltd.

Thrips Control



DAMAGE

Adult and larval stages of thrips feed on foliage and flowers causing extensive damage in a short time period. Stippling, silvering of the leaves, or discolored patches on the leaf surfaces, as well as the unique twisting they cause on new growth. Proactive control is important to limit risk of thrips vectoring disease through feeding.



CONTROL

- Monitor & Trap: Blue or yellow sticky traps to kill reproducing adults and monitor control interventions.
- Biological Controls: Sf Beneficial Nematodes control developing thrips. *N. cucumeris* is best used when pest levels are moderate or minimal.
- Insecticides: PFR-97 20% WDG (*Isaria fumosorosea*), pg. 38, controls thrips and other soft-bodied insects with minimal impact on beneficials. Repeated applications of Neem or Azadiractin for severe infestations requiring fast knockdown.

Thrips & Whitefly Predator - *Amblyseius swirskii*

For Use On A Variety Of Pest Mites, Thrips & Whiteflies.

TARGET: Western flower thrips, onion thrips, broad mites, hemp russet mites, glasshouse whiteflies, tobacco whiteflies or silverleaf whiteflies.

DESCRIPTION: These predacious mites feed on various pest insects in their developing adult stages, pollen and mold. They may consume about 10 thrips or whitefly larvae a day and up to about 20 whitefly eggs per day. They will not undergo diapause, and can be used in protected crops in cooler growing areas.

SUGGESTED USE (Depending upon level of infestation): Introduce before the onset of infestation, when temperatures are no lower than 60°F. Apply at a rate of 10 mites per sq. ft. every other week as needed, or apply continuous release sachets every 2-4 weeks. Use 1 sachet per plant, or 1 per 3 plants if canopy is touching. Use sachets on sticks during propagation or where canopy cannot support hooks. Not recommended for use on infestations in tomato crops.

Temperature: Moderate 68-95°F

Relative Humidity: 70%

BULK SIZES:

1101312	≈25,000 in Tube	\$68.00
1101319	≈50,000 in Tube	\$120.00
1101311	≈125,000 in 5 Liter Bag	\$240.00
1101309	≈200,000 Bulk	\$340.00

CONTROLLED RELEASE:

1101317	≈50,000 in 200 Mini Sachets w/Hooks	\$135.00
1101308	≈62,500 in 250 Mini Sachets w/Hooks	\$170.00
1101318	≈62,500 in 500 Mini Sachets on Sticks	\$230.00
1101306	≈125,000 in 500 Mini Sachets w/Hooks	\$250.00
1101316	≈125,000 in 1,000 Mini Sachets w/Hooks	\$350.00
1101314	≈125,250 in 6 x 328 ft. Strips of Sachets	\$475.00
1101315	≈250,000 in 1,000 Mini Sachets w/Hooks	\$480.00

Overnight Shipping Required



Thrips Predator - *Amblyseius cucumeris*

These Beneficial Mites Consume Vast Quantities Of Thrips.

TARGET: Prefers greenhouse and western flower thrips. They will also eat spider mites, russet mites and pollen.

DESCRIPTION: Tan colored adult females lay about 35 small white eggs throughout their lifespan of about 30 days. During the 7-10 day nymph stage, predation begins. Adults will consume about 1 pest a day. Predators are shipped as adults.

SUGGESTED USE (Depending upon level of infestation): For best results, apply before onset of thrips infestation. For prevention, use at a rate of 10-20 mites per sq. ft. at weekly intervals. Use continuous release sachets at 1 per 3 sq. ft. for 3-6 weeks. Spot treat with 10-40 mites per sq. ft. weekly until infestation subsides. Monitor with blue sticky traps (see page 23).

Temperature: Moderate 66-80°F **Relative Humidity:** Moderate 65-72%

BULK SIZES:

1152207	≈25,000 in Bran/Vermiculite Mix	\$30.00
1152204	≈50,000 in Bran/Vermiculite Mix	\$38.50
1152224	≈50,000 in Vermiculite	\$45.00
1152205	≈100,000 in Bran	\$60.00
1152206	≈250,000 in Bran/Vermiculite Mix	\$115.00
1152223	≈250,000 in Vermiculite	\$120.00
1152209	≈500,000 in Bran/Vermiculite Mix	\$200.00

CONTROLLED RELEASE:

1152225	≈125,000 in 500 Mini Sachets on Sticks	\$105.00
1152201	≈200,000 in 200 Sachets w/Hooks	\$90.00
1152221	≈200,000 in 400 Mini Sachets w/Hooks	\$80.00
1152222	≈250,000 in 1,000 Sachets w/Hooks	\$135.00
1152226	≈250,000 in 1,000 Mini Sachets on Sticks	\$140.00
1152228	≈500,000 in 500 Sachets w/Hooks	\$185.00
1152227	≈500,000 in 2,000 Mini Sachets on Sticks	\$275.00
1152220	≈1,602,000 in 6 x 525 ft. Strips of Sachets	\$600.00

Overnight Shipping Required



Fungus Gnat Control



DAMAGE

Sudden wilting, poor growth, chlorosis (yellowing), and foliage loss. Larval feeding can cause significant root damage and severely inhibit nutrient uptake.



CONTROL

- Monitor & Trap: Use yellow sticky traps to kill reproducing adults. Gridded traps to monitor infestation level and effectiveness of controls.
- Cultural Controls: Avoid overwatering and correct drainage issues.
- Biological Controls: Sf Beneficial Nematodes for larval control, *S. scimitus* for larvae and pupae.
- Insecticides: Bti (*Bacillus thuringiensis israelensis*) can be used in conjunction with biological control for increased control. Drench with SNS 203 Root Drench (pg. 31) for infestations of multiple soil pests.

Rove Beetle - *Dalotia coriaria* (= *Atheta coriaria*)

For Indoor Control Of Soil Dwelling Pests!

TARGET: Fungus gnats (sciarid flies), thrips and shore flies.

DESCRIPTION: "Rove beetles" will feed on small soil-dwelling pest larvae and eggs. Adults are a brown-black color, 3-4 mm long and winged. They are predacious in all stages and develop from egg to adult in about 21 days; passing through three larval instars prior to pupation and adulthood. Adults consume about 150 pest fungus gnat eggs per day. Compatible with *Stratiolaelaps scimitus* (= *Hypoaspis miles*). Winged adults have high dispersal and colonization rates and are not recommended for outdoor use.



SUGGESTED USE (Depending upon level of infestation): Use season-long, in covered crops such as ornamentals, cucumbers, strawberries and mushrooms. Apply directly to growing medium surface. Apply approx. 1-5 predators per sq. ft. For high infestation, increase application rate and consider pairing with another suitable predator or parasite like *S. scimitus*, beneficial nematodes, or specific mite predators.

Temperature: Moderate 55-80°F **Relative Humidity:** 50-80%

1101330	≈500 Adults	\$54.00
1101331	≈1,000 Adults	\$78.00
1101332	≈3,000 Adults	\$170.00
1101334	≈5,000 Adults	\$250.00

Overnight Shipping Required

Fungus Gnat Predator - *Stratiolaelaps scimitus* (= *Hypoaspis miles*)

Stop Destructive Fungus Gnats & Thrips In Their Developing Soil Stages.

TARGET: Fungus gnats, western flower thrips, springtails, mold mites, spider mites, cactus root mealybugs, strawberry root weevils and black vine root weevils.



DESCRIPTION: This tiny brown mite naturally inhabits the top layer of soil where larvae and pupae dwell. Female predatory mites lay their eggs in soil and the nymphs and adults feed on pests.

SUGGESTED USE (Depending upon level of infestation): ≈5,000-10,000 mites treat approximately 1,000 sq. ft. Release ≈25,000-50,000/acre depending on level of infestation. Apply weekly until infestation subsides. Weekly release programs available. Please Call. Trap adult infestations using Blue Sticky Traps. Reinforce with applications of beneficial nematodes.

Temperature: Moderate 60-74°F **Soil Conditions:** Moist soil. Not too damp.

1154000	≈12,500 Count	\$19.00
1154002	≈25,000 Count	\$30.00
1154005	≈50,000 (2 x 25,000)	\$50.00
1154010	≈125,000 in 5 Liter Bag	\$130.00

Overnight Shipping Required

Monitor & Identify Using Sticky Traps



Trapping is the most efficient way to monitor your crop for pest insects and can often indicate the insect's presence early enough that other control measures can be taken. Bright yellow traps attract whiteflies and aphids while blue traps can draw thrips and leafminers.

See pages 22-25 for more options.

Whitefly Control



DAMAGE

Leaves to turn yellow, appear dry, or fall off plants.

Whiteflies excrete a sugary liquid called honeydew, so leaves may be sticky or covered with black sooty mold.



CONTROL

- Monitor & Trap: Yellow sticky traps to kill reproducing adults and monitor infestation levels.
- Biological Controls: Early intervention with *E. eremicus*. Hot spot treatment with *D. catalinae*.
- Insecticide Sprays: *Beauveria bassiana* sprays for ongoing control with minimal impact on beneficials. Repeated spraying of neem or pyrethrins may be necessary for knockdown control.

Whitefly Parasite - *Eretmocerus eremicus*

Better Adapted To Higher Temperatures, Including Temperatures That Fluctuate Day & Night! Good For Desert Climates.

TARGET: Greenhouse whiteflies (*Trialeurodes vaporariorum*), sweet potato whiteflies (*Bemisia tabaci*), silverleaf whiteflies (*Bemisia argentifolii*), and banded-winged whiteflies (*T. abutiloneus*) and others.



DESCRIPTION: The whitefly parasite (parasitoid) is a tiny wasp that host feeds and parasitizes the scale (nymphs) of whiteflies. The time from egg laying to adult emergence is approximately 22 days. Can be used with Green Lacewings.

SUGGESTED USE (Depending upon level of infestation): For prevention: use 1,000/10,000 sq. ft. Light infestations: 1,000/1,000 sq. ft. Heavy infestations: use 5,000/1,000 sq. ft. Hang squares with parasitized pupae on plant foliage at first sign of infestation. Order weekly for approximately 2-6 weeks until control is achieved. Call to set up your customized weekly program.

Temperature: Moderate 62-82°F **Relative Humidity:** Minimum 40%

1000703 20 Blister Packs (≈250 Pupae Per Pack) **\$94.95**

Overnight Shipping Required

***A. aphidimyza* (aphid predator, pg. 7) works well in established whitefly populations.**

Whitefly Parasite - *Encarsia formosa*



Save Your Plants From The Ravages Of Destructive Whiteflies! Good For Greenhouses.

TARGET: Greenhouse whiteflies (*Trialeurodes vaporariorum*), sweet potato whiteflies (*Bemisia tabaci*) and approximately 15 other species of whitefly.



DESCRIPTION: The whitefly parasite (parasitoid) is a tiny wasp that host feeds and parasitizes the scale (nymphs) of whiteflies. The time from egg laying to adult emergence is approx. 25 days. Can also be used with Green Lacewings.

SUGGESTED USE (Depending upon level of infestation): **For prevention:** Use 500-1,000/15,000 sq. ft. **Light infestations:** (less than 1 adult whitefly per 50-100 plants) Use 1,000-2,000/5,000-10,000 sq. ft. for minimum of 3 weeks or until control is achieved. **Heavy infestations:** Use 3,000/3,500 sq. ft. for a minimum of 3 weeks or until control is achieved. Hang squares with parasitized pupae on plant foliage at first sign of infestation. Order weekly for approximately 2-6 weeks until control is achieved. Please call to set up your customized weekly program.

Temperature: Moderate 76-85°F **Relative Humidity:** Moderate ≈50-70%

1132001	≈1,000 Count	\$32.50
1132002	≈3,000 Count	\$46.00
1132003	≈5,000 Count	\$60.00

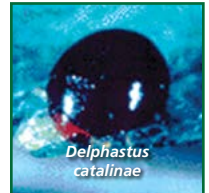
2nd Day Shipping Required

*FREE SHIPPING in the contiguous 48 states. Ships via 2nd Day Only. Ships only on Monday, Tuesday and Wednesday.

Whitefly Predator - *Delphastus catalinae*

These Tiny Brown Beetles Consume Several Hundred Pests Daily!

TARGET: Aphids, scale, thrips, and especially greenhouse and outdoor sweet potato whiteflies and other soft-bodied insect pests.



DESCRIPTION: Females lay ≈3-4 eggs daily and adults live for approximately one month. Adult beetles capture prey with their mandibles, inject paralyzing venom & feed on pest body fluids. Shipped as adults, they should be used at the first signs of infestation.

SUGGESTED USE (Depending upon level of infestation): Upon arrival, release at sundown. May be stored at temperatures between 50-60°F for 1-2 days. Can be combined with other whitefly parasites.

Temperature: Moderate 65-90°F **Relative Humidity:** High ≈70% & Higher

1126001	≈100 Count	\$50.00
1126003	≈200 Count	\$90.00
1126002	≈1,000 Count	\$190.00

Overnight Shipping Required

Leafminer Parasite - *Diglyphus isaea*

Helps Stop Leafminers From Leaving Their Mark On Your Plants!

Image Citation: Joseph Berger, Bugwood.org

TARGET: Leafminers.

DESCRIPTION: These tiny wasps lay eggs near leafminer larvae in the first and second stages, which they sting and paralyze. The egg hatches with the larvae feeding on the paralyzed leafminer. Under optimal conditions (68-80°F), each female can lay up to 300 eggs.

SUGGESTED USE (Depending upon level of infestation): Best used to treat low level infestations or preventively. Ideal for warm climates or spring/summer releases where leafminer control has proven difficult with pesticides. Use ~500-1,000 per acre every 2 weeks, they are most effective with 2-3 separate releases.

TEMPERATURE: Moderate 50-80°F **Relative Humidity:** High 60-90%

1112901	≈250 Adults	\$82.00
1112904	≈500 Adults	\$160.00
1112903	≈1,000 Adults	\$315.00

Overnight Shipping Required



Diglyphus isaea

Mealybug Destroyer - *Cryptolaemus montrouzieri*

These Tiny Ladybird Beetles Devour Pest Mealybugs In Both The Larval & Adult Stages.

Image Citation: Nijel Cruz

TARGET: Mealybugs, aphids, mites, thrips, whiteflies, and other soft-bodied insect pests.

DESCRIPTION: *Cryptolaemus* is a small dark brown ladybug with an orange head and tail (*elytra*). The larvae are up to 13 mm long and are white with a wax-like covering. The pupae are found around stems, the underside of leaves, greenhouse structures and other sheltered areas. Shipped as adults and most effective in severe infestations.

SUGGESTED USE (Depending upon level of infestation): 250-1,000/acre every 2 weeks, 2-3 releases. Use indoors and outdoors. Weekly release programs available. Please call.

Temperature: Low-High 64-81°F **Relative Humidity:** Moderate ≈70-80%

1114702	≈100 Adults	\$75.00
1114703	≈250 Adults	\$95.00
1114704	≈500 Adults	\$180.00
1114705	≈1,000 Adults	\$350.00
1114710	≈5,000 Adults	\$1,000.00

Overnight Shipping Required



Cryptolaemus montrouzieri

Universal Release Box

Provides An Easy Release Space And Protection For Your Beneficials.

DESCRIPTION: This simple 2" x 2" cardboard box will give your beneficials a place to safely hatch out of reach of most predators. Hang directly on plant, crop canopy, tree or pole in a shaded location close to the pest infestation that you are treating. Once they hatch, the beneficials will head over to where you need them.

SUGGESTED USE: Use in/on/near orchards, row crops, vineyards, nurseries, greenhouses, grow rooms, hydroponics, aquaponics, interiorscapes, container plants and houseplants.



1555501	Universal Release Box	\$2.00
1555510	Universal Release Box - Bundle of 10	\$12.50

Integrated Pest Management (IPM)

Integrated Pest Management (IPM) is a process that is used to control pest populations while minimizing the impacts on people and the surrounding environment.

Focusing mainly on long-term pest prevention, a successful IPM program utilizes a combination of control methods including biological control, habitat manipulation, changes to cultural practices and use of resistant plant varieties.



Planning & Record Keeping



Trap & Monitor



Cultural Controls



Mechanical Controls



Biological Controls



Natural Pesticides & Botanicals

Read more & find additional IPM resources at arbico-organics.com

Aphids

DAMAGE TO PLANTS: Reduction in plant vigor, slow growth, leaf yellowing, wilting.

SOLUTIONS:

- Aphid Parasites - *Aphelinus abdominalis*, *Aphidius colemani* & *Aphidius ervi*
- Aphid Predator - *Aphidoletes aphidimyza*
- Green Lacewing - *Chrysoperla spp.*
- Minute Pirate Bug - *Orius insidiosus*
- Assassin Bugs - *Zelus renardii*
- *Beauveria bassiana*



Budworms

DAMAGE TO PLANTS: Chewed, deformed or dying buds.

SOLUTIONS:

- Minute Pirate Bug - *Orius insidiosus*
- Assassin Bugs - *Zelus renardii*
- Moth Egg Parasites - *Trichogramma sp.*
- *Bacillus thuringiensis var. kurstaki (Btk)*



Image Citation: R.I. Reynolds Tobacco Company, Bugwood.org

Cutworms

DAMAGE TO PLANTS: Missing or damaged seedlings cut right at soil level.

SOLUTIONS:

- NemAttack Beneficial Nematodes - *Steinernema carpocapsae (Sc)*
- Moth Egg Parasites - *Trichogramma sp.*
- *Bacillus thuringiensis var. kurstaki (Btk)*
- Cutworm Collars



Broad Mites

DAMAGE TO PLANTS: Blistered/glossy leaves, distorted leaves, leaves curled inward, dark & streaked foliage, compact leaf masses.

SOLUTIONS:

- Mite Predator - *Neoseiulus (=Amblyseius) fallacis*, *Amblyseius andersoni*, *Neoseiulus (=Amblyseius) californicus* & *Amblyseius swirskii*
- Thrips Predator - *Amblyseius cucumeris*



Flea Beetles

DAMAGE TO PLANTS: Jumping insects, chewed leaves, small white buckshot holes.

SOLUTIONS:

- Assassin Bugs - *Zelus renardii*
- *Beauveria bassiana*
- NemaSeek Beneficial Nematodes - *Heterorhabditis bacteriophora (Hb)*



Fungus Gnats

DAMAGE TO PLANTS: Yellowing leaves, wilting plants, lack of root structure, damage may appear as nutrient deficiency.

SOLUTIONS:

- Fungus Gnat Predator - *Stratiolaelaps scimitus (=Hypoaspis miles)*
- Rove Beetle - *Dalotia coriaria*
- NemAttack Beneficial Nematodes - *Steinernema feltiae (Sf)*
- *Beauveria bassiana*
- *Bacillus thuringiensis israelensis (Bti)*



Grubs

DAMAGE TO PLANTS: Yellowing leaves, wilting plants, lack of root structure, damage may appear as nutrient deficiency, non-existent roots.

SOLUTIONS:

- NemaSeek Beneficial Nematodes - *Heterorhabditis bacteriophora (Hb)*
- NemAttack Beneficial Nematodes - *Steinernema riobrave (Sr)*



Mealybugs/Scale

DAMAGE TO PLANTS: Leaves may wilt, drop off easily, be discolored or reduced in size. Infested plants may have a distorted stem or growing points.

SOLUTIONS:

- Mealybug Destroyer - *Cryptolaemus montrouzieri*
- Mealybug Parasitoid - *Anagrus pseudococci*
- Red Scale Parasite - *Aphytis melinus*



Root Aphids

DAMAGE TO PLANTS: Lack of vigor, withering leaves, yellowing leaves, signs of nutrient deficiency.

SOLUTIONS:

- NemAttack Beneficial Nematodes
- *Heterorhabditis bacteriophora* (Hb)
- *Steinernema feltiae* (Sf)
- Fungus Gnat Predator - *Stratiolaelaps scimitus* (=Hypoaspis miles)
- Rove Beetle - *Dalotia coriaria*
- *Beauveria bassiana*



Russett Mites

DAMAGE TO PLANTS: Leaflets curl, chlorosis, necrosis, lower leaves dry out, leaves look bronze in color.

SOLUTIONS:

- Thrips Predator - *Amblyseius cucumeris*
- Mite Predator - *Amblyseius andersoni*, *Neoseiulus* (=Amblyseius) *fallacis*, *Neoseiulus* (=Amblyseius) *californicus* & *Amblyseius swirskii*
- Sulfur



Slugs/Snails

DAMAGE TO PLANTS: Silver trail left on leaves, holes in leaves.

SOLUTIONS:

- Iron Phosphate



Spider Mites

DAMAGE TO PLANTS: Webbing, leaf edges curling or burned, slowed growth, speckled, leathery golden leaves.

SOLUTIONS:

- Mite Predators - *Amblyseius andersoni*, *Phytoseiulus persimilis*, *Neoseiulus* (=Amblyseius) *fallacis*, *Mesoseiulus longipes*, *Galendromus occidentalis* & *Neoseiulus* (=Amblyseius) *californicus*
- Minute Pirate Bug - *Orius insidiosus*
- Spidermite Destroyer - *Feltiella acarisuga* & *Stethorus punctillum*



Image Citation: Whitney Cranshaw, Colorado State University, Bugwood.org

Thrips

DAMAGE TO PLANTS: Silver/bronze scarring on leaves & stems, browning & drying leaves, puckered leaves.

SOLUTIONS:

- Thrips Predator - *Amblyseius cucumeris*
- Mite Predator - *Amblyseius swirskii*
- Minute Pirate Bug - *Orius insidiosus*
- Green Lacewing - *Chrysoperla* spp.
- Fungus Gnat Predator - *Stratiolaelaps scimitus* (=Hypoaspis miles)
- Assassin Bugs - *Zelus renardii*
- NemAttack Beneficial Nematodes
- *Steinernema feltiae* (Sf)
- *Beauveria bassiana*



Frank Peairs, Colorado State University, Bugwood.org

Whiteflies

DAMAGE TO PLANTS: Piercing/sucking marks, dust like substance when touched, silver/white coloring.

SOLUTIONS:

- Whitefly Parasites - *Encarsia formosa* & *Eretmocerus eremicus*
- Whitefly Predator - *Delphastus catalinae*
- Green Lacewing - *Chrysoperla* spp.
- Mite Predator - *Amblyseius swirskii*
- Thrips Predator - *Amblyseius cucumeris*
- Aphid Predator - *Aphidoletes aphidimyza*
- *Beauveria bassiana*





Break the Pest Lifecycle!

Use sticky traps to kill flying pests and stop the reproductive lifecycle. For pest insects that have a soil developing stage, such as Thrips and Fungus Gnats, utilize Beneficial Nematodes in the soil to stop infestations before pests emerge.

Your Multi-Pest Solution For Optimal Growing



Fungus Gnat (*Orfella and Bradysia*)



Thrips (*Thysanoptera*)



Vine Weevil (*Otiorhynchus sulcatus*)

Control Soil Developing Pests By Applying Beneficial Nematodes



Apply To Soil For Control Of Target Pests:

- Beetle Grubs
- Fungus Gnats
- Rootworms
- Borers
- Flea Beetles
- Thrips
- Caterpillars
- Leafminers
- Weevils & More!



Beneficial Nematodes are live, microscopic organisms (non-segmented roundworms) that occur naturally in soil throughout the world.

They are parasitic to insect pests that typically have a developing (larval or pupal) stage of life in the soil; however, they have been known to also parasitize above ground stages of adults, nymphs and larvae.

How Do Beneficial Nematodes Work?

Beneficial Nematodes are applied to soil where they locate pests, enter through orifices or body walls and infect pests with toxic bacteria. Once inside, it is not the nematode that actually kills the pest, but bacteria inside the nematode.



The bacteria kills pests within 24 to 48 hours. Beneficial Nematodes then feed on bacteria and host insect tissue. Adult stages of Beneficial Nematodes produce hundreds of thousands of new juveniles.

New infective juveniles emerge loaded with "pest killer" bacteria and begin their search for a new host. As long as their is a suitable host, the Beneficial Nematodes will continue to parasitize. Beneficial nematodes can be used around and will not harm mammals, aquatic life, birds, reptiles or amphibians.

How Do I Choose the Right Beneficial Nematodes?

Use the Selection Chart on the next page to choose the proper species by pest(s). If you are unsure which nematode to use or your target pest is not listed, please call and one of our bio-control specialists can assist. Remember Beneficial Nematodes control soil-dwelling life stages.

When & How Often Should Beneficial Nematodes Be Applied?

Use beneficial nematodes whenever larvae or grubs are present. As pest larvae feed on plant roots beneath the soil surface, severe damage can be done before you realize you have a pest dilemma. If adult insects are present, their eggs, nymphs, larvae and pupa will soon be developing.

FOR TREATMENT: Apply nematodes every 7-10 days until pest infestation subsides.

FOR PREVENTION: Apply at least 2-4 times per year in the spring, summer, fall and winter as needed.

Nematodes should be applied when *soil* temperatures are 42° - 95° F.

When Will I See Results?

Beneficial Nematodes are considered to be one of the most lethal parasites known to kill plant pests. Depending upon the pest(s) you are treating and the method of application, it can take from 2-30 days for you to see results.

It is important to remember that Beneficial Nematodes disintegrate pests from the inside out. You will not see dead insect bodies as you would with a chemical knockdown. Instead you will notice less of the pest(s) over time.

Like all insects and organisms, some nematodes will survive the winter in a dormant state; however, we recommend re-applying at least 2-4 times on an annual basis to ensure that your pests do not get out of hand again.



How Do I Apply Beneficial Nematodes?

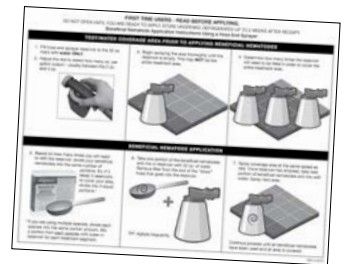
DO NOT OPEN PACKAGE UNTIL YOU ARE READY TO APPLY

Beneficial Nematodes are applied to the soil mixed with water. Since they are alive and sensitive to light, apply early in the morning or at dusk. It's easy to apply nematodes.

Before applying, make sure the soil is moist. Mix Beneficial Nematodes with enough water for coverage area.

Apply pre-dawn or at dusk with a hose end sprayer, backpack sprayer, pump sprayer or irrigation system.

Drench soil following application. Keep area moist for at least 2 weeks. Complete nematode application instructions available online and in the package.



Foliar Applications:

Beneficial Nematodes should be applied to the foliage in higher humidity and plants should be kept moist for 3 or more hours. Spray thoroughly to cover all surfaces of the leaves while avoiding runoff. Reapply weekly. Use in conjunction with soil applications.

How Long Can Beneficial Nematodes Be Kept Before Use?

Beneficial Nematodes should be used as soon as possible. If you need to store them, it is best to store them **unopened** in a refrigerator for no longer than 2 weeks. Once opened, use immediately and entirely.

BENEFICIAL NEMATODES

Selection

For best results, correctly identify the pest(s) to be controlled. Use the Selection Chart (opposite) to locate your pest(s) and find the recommended nematode variety or varieties listed.

If there is more than one species recommended, it is best to use a combo pack including all listed species.

NemaSeek™ *Heterorhabditis bacteriophora* (Hb) Beneficial Nematodes

NemaSeek actively seeks out larval pests and is most effective against sedentary pests, such as queen ants, asparagus beetles, bagworms, banana moths, banana weevils, berry root weevils, bill bugs, borers, carrot weevils, chafers, fleas, grubs and more!



NemAttack™ *Steinernema feltiae* (Sf) Beneficial Nematodes

These nematodes are known to wait for passing pests, such as cabbage maggot, humpbacked flies, onion maggots, pill worm, raspberry crown borer, root maggots, scarids, shore flies, thrips and more!



NemAttack™ *Steinernema carpocapse* (Sc) Beneficial Nematodes

These nematodes are known to wait for passing pests.

NemAttack is most effective against mobile pests such as fleas, cutworm, fly larvae, termites and more!



NemAttack™ *Steinernema riobrave* (Sr) Beneficial Nematodes

These nematodes are known to wait for passing pests.

NemAttack *S. riobrave* is most effective against grubs of various beetles, citrus weevil and other weevil grubs, small hive beetle and more.



Container Applications

Apply Beneficial Nematodes in water to growing medium. Drench soil with water following application, avoiding runoff.

Container Size	Nematodes Per Container
5 gallon	≈200,000
10 gallon	≈400,000
15 gallon	≈600,000
25 gallon	≈1 million

Foliar Applications

Foliar applications are an alternative use of entomopathogenic nematodes to treat above soil life stages of certain pests. Use in conjunction with soil applications. Using an adjuvant may improve consistency and effectiveness.

It is recommended to spray with a concentrated solution in volumes of 2.5 gal. of water per 1,000 sq. ft. treatment area. See chart below for rates.

Foliar Application Rates	
Light Infestation	50 mil. for 4,400 sq. ft.
	150 mil. for 13,200 sq. ft.
	250 mil. for 22,000 sq. ft.
Heavy Infestation	50 mil. for 2,200 sq. ft.
	150 mil. for 6,600 sq. ft.
	250 mil. for 11,000 sq. ft.



Beneficial Nematodes

- ▲ = NemaSeek™ *Heterorhabditis bacteriophora* (Hb)
- = NemAttack™ *Steinernema feltiae* (Sf)

- ★ = NemAttack™ *Steinernema carpocapsae* (Sc)
- = NemAttack™ *Steinernema riobrave* (Sr)

NEMATODE SELECTION CHART – Choose Variety By Pest

Pest	Variety	Pest	Variety	Pest	Variety	Pest	Variety
Armyworm	●★	Colorado Potato Beetles	▲	Japanese Beetles	▲★	Shore Flies	■
Asparagus Beetles	▲	Corn Earworm	●■★	Leafminers	●■	Sugarcane Stalk Borers	▲
Bagworm	▲	Corn Rootworm	▲	May/June Beetles	▲★	Strawberry Root Weevils	●★
Beet Armyworm	●■	Cranberry Girdler	●	Mint Flea Beetles	●	Sweet Potato Weevils	■▲
Berry Root Weevils	▲	Cucumber Beetles	●■▲	Mint Root Borers	●	Thrips	■
Bill Bug	▲	Cutworm	●	Mole Crickets	●★	Tobacco Budworm	●
Black Cutworm	●■★	Diaprepes Root Weevils	★	Navel Orangeworm	●	Tobacco Cutworm	■
Black Vine Weevils	●▲★◆	Fall Armyworm	●	Onion Maggots	■	Vine Borers	▲
Bluegrass Weevils	●	Flea Beetles	▲	Plum Curculio	★	Webworm	●
Cabbage Maggot	■	Fungus Gnats	■▲◆	Red Flower Beetles	★	Western Flower Thrips	■◆
Carrot Weevils	▲	Gall Midges	▲	Root Maggots	■	Wood Borers	●
Caterpillars	●	Grape Root Borers	▲	Root Weevils	▲◆		
Chafer - European, masked	▲★	Grubs	▲◆	Scarabs	▲		
Codling Moth	●■	Indian Meal Moth	★	Sclarids	■		

SINGLE SPECIES	
SKU	Size
▲ NemaSeek <i>Heterorhabditis bacteriophora</i>	
1220300	≈5 million
1220301	≈10 million
1220302	≈50 million
1221703	≈250 million
1221706	≈500 million
■ NemAttack <i>Steinernema feltiae</i>	
1220309	≈5 million
1220310	≈10 million
1220311	≈50 million
1221701	≈250 million
1221704	≈500 million
● NemAttack <i>Steinernema carpocapsae</i>	
1220319	≈5 million
1220320	≈10 million
1220321	≈50 million
1221702	≈250 million
1221705	≈500 million
★ NemAttack <i>Steinernema riobrave</i>	
1220410	≈5 million

COMBO PACKS	
SKU	Size
▲● NemaSeek Hb & NemAttack Sc	
1220331	≈10 mil. per species
1220332	≈50 mil. per species
1221699	≈250 mil. per species
1220335	≈500 mil. per species
▲■ NemaSeek Hb & NemAttack Sf	
1220333	≈10 mil. per species
1220334	≈50 mil. per species
1221700	≈250 mil. per species
1220336	≈500 mil. per species
■● NemAttack Sf & NemAttack Sc	
1220340	≈10 mil. per species
1220341	≈50 mil. per species
1220342	≈250 mil. per species
1220343	≈500 mil. per species

TRIPLE THREAT COMBO	
SKU	Size
▲■● NemaSeek Hb, NemAttack Sf & NemAttack Sc	
1220328	≈5 mil. per species
1220330	≈10 mil. per species
1220329	≈50 mil. per species
1220327	≈250 mil. per species
1220326	≈500 mil. per species

COMMERCIAL COVERAGE RATES FOR SOIL APPLICATIONS

QUANTITY	COVERAGE
≈50 million	Treats up to 1,600 sq. ft.
≈250 million	Treats up to 1/4 acre

Application rates vary based on pest, infestation levels and environment. For specific coverage recommendations, please call **800-827-2847**.

*Free shipping in the contiguous 48 United States. 2nd day shipping required for the 5 million - 50 million sizes. Expedited shipping available for an additional fee. The 250 million & 500 million sizes require next day shipping during summer months, 2-day shipping otherwise. Orders ship Monday - Thursday, excluding holidays.

Cannot be shipped to the following states: HI, AK, PR, VI, GU, AS, PW



ARBICO Organics® Yellow Insect Traps

Monitoring + Trapping = Effective Pest Control

TARGET: Use against aphids, bean beetles, California laurel aphids, flea beetles, fungus gnats, greenhouse whiteflies, leafminers, psyllids, shore flies, silverleaf whiteflies, sweet potato whiteflies and more.

DESCRIPTION: ARBICO Organics Yellow Insect Traps are 5" x 7" gridded, 2-sided adhesive traps for a wide range of crawling and flying insect pests. Insects are drawn in by the bright color and are caught on the glue. Once they are trapped, the gridded surface makes it easy to count just how many have landed. Having the insects immobilized on the trap also makes it easy to identify them. There is a very low risk to beneficials, but some may become caught by accident.

SUGGESTED USE: For use indoors and outdoors to trap and monitor insect pests. Traps may be hung virtually anywhere, placed on the ground or anchored to a stake (not included). If hung, traps should be slightly above the plant canopy. Avoid hanging too close to sprinklers.

- For trapping in the greenhouse or garden, use roughly one trap per 10-25 sq. ft.
- For monitoring, use roughly 4-6 trap per acre.

1254501	ARBICO Organics Yellow Insect Traps - 5 Pack	\$4.99
1254502	ARBICO Organics Yellow Insect Traps - 10 Pack	\$8.90
1254503	ARBICO Organics Yellow Insect Traps - 25 Pack	\$19.75
1254504	ARBICO Organics Yellow Insect Traps - 50 Pack	\$37.50
1254510	ARBICO Organics Yellow Insect Traps - 100 Pack	\$70.00

Stiky™ Strips Yellow Insect Traps

These Basic Traps Come With A Handy Wire Hanger.

TARGET: Whiteflies, aphids, fungus gnats, leafminers, thrips, and more.

DESCRIPTION: This non-gridded yellow sticky trap is versatile enough to use virtually anywhere you are growing. Many insects find this particular yellow hue irresistible and, with glue on both sides, these traps will grab them coming and going. The adhesive is UV resistant, which keeps it from drying out.



SUGGESTED USE: For use in homes, gardens, greenhouses, nurseries and fields. Included wire hangers can also be used as plant stakes.

1254301	Stiky Strips Yellow Sticky Traps - 9 Pack	\$5.49
1254302	Stiky Strips Yellow Sticky Traps - (5) 9 Packs	\$25.00
1254303	Stiky Strips Yellow Sticky Traps - (10) 9 Packs	\$45.00

Sticky Traps

Monitor & Trap For Best Pest Identification!

DESCRIPTION: These 4" x 7" traps reverse fold to capture insect pests on both sides and include a twist tie and punched hole for easy hanging. All natural and weatherproof.

Aphid/Whitefly Yellow Sticky Traps:

TARGET: Whiteflies, aphids, leafhoppers, fungus gnats, spittlebugs, flies and more.

Thrips/Leafminer Blue Sticky Traps:

TARGET: Thrips, leafminers.

SUGGESTED USE: Greenhouses, orchards, row crops, barns and more. Hang or attach to stake approximately every 7 ft. at the end of each row or per tree. Use more for trapping.

1254001	Package of 5 Yellow Traps	\$4.49
1254101	Package of 5 Blue Traps	\$5.50



Maximize Trap Attraction With Melissa Oil.



ARBICO Organics® Blue Insect Traps

Add Blue To Your Pest Control Arsenal & Cover All Your Bases.

TARGET: Thrips, leafminers.

DESCRIPTION: ARBICO Organics Blue Pest Traps are 5" x 7" gridded adhesive traps that are the perfect shade of blue to make them irresistible to Thrips and Leafminers. The color lures them in and the sticky surface holds them tight. These traps have adhesive on both sides to grab insects no matter which direction they're coming from. If you are monitoring, the gridded surface and bright color allow for easy identification and counting. When used in conjunction with the ARBICO Organics Yellow Sticky Traps, you will have the right colors to attract most common insect pests. There is a very low risk to beneficials, but some may become caught by accident.



SUGGESTED USE: For use indoors and outdoors to trap and monitor insect pests. Traps may be hung virtually anywhere, placed on the ground or anchored to a stake (not included). If hung, traps should be slightly above the plant canopy. Avoid hanging too close to sprinklers.

- For trapping in the greenhouse or garden, use roughly one trap per 25-50 sq. ft.
- For monitoring in a greenhouse, use roughly one trap per 25-50 sq. ft.
- For field crop monitoring, 1 trap per 10,000 sq. ft. or as needed.

1254551	ARBICO Organics Blue Insect Traps - 5 Pack	\$4.99
1254552	ARBICO Organics Blue Insect Traps - 10 Pack	\$8.90
1254553	ARBICO Organics Blue Insect Traps - 25 Pack	\$19.75
1254554	ARBICO Organics Blue Insect Traps - 50 Pack	\$37.50
1254560	ARBICO Organics Blue Insect Traps - 100 Pack	\$70.00

Blue Sticky Strips

Use Blue For Monitoring & Trapping A Wide Range Of Thrips Species!

TARGET: Male and female western flower thrips as well as other species of *Frankliniella*.

DESCRIPTION: Thrips find this particular tone of blue extremely attractive. For best results, place just above crop canopy and use early in the season before pest populations grow. Monitor regularly and replace after 6 weeks of use or when surface is mostly covered or dirty. Complete instructions included. Traps feature no mess "dry touch" adhesive. Each pack includes 10 - 4" x 9 1/2" 2 sided traps and 10 twist ties.

SUGGESTED USE: If used for pest suppression in glasshouses: At least 1 trap per 10 sq. meters, adjusting amount as needed for severity of problem. If used just for monitoring pest populations: Use 1 trap per 100-1000 sq. meters depending on the crop and/or the size of the glasshouse.

1254401	Blue Sticky Traps - 10 Pack	\$9.50
1254402	Blue Sticky Traps - 10 Pack (Bundle of 5)	\$45.00



PEST INSECT TRAPS

Pest Wizard Blue-Yellow Card Trap

A Trap With Two Special Colors – To Attract Even More Pests!

TARGET: The blue side will attract aphids and thrips. The yellow side attracts whiteflies, hoppers, beetles, fruit flies, psyllids and more!

DESCRIPTION: Blue on one side, yellow on the other. These dual-duty traps will capture an array of pests using specific color wavelengths and MessyLess™ non-toxic adhesive that won't stick to your fingers. Each pack contains 4 rectangular traps, 8 hangers and instructions. Traps are weather resistant and measure 8" x 3.5".

SUGGESTED USE: Hang traps on branches in trees and roses. Hang on stakes near vegetable row crops, shrubs and container plants.

- For Monitoring: ≈1 trap/1,000 sq. ft.
- For Trapping: ≈1 trap/20-50 sq. ft.

1254201	Blue & Yellow Card Trap - 4 Pack	\$8.99
1254202	Blue & Yellow Card Trap - 10 Pack	\$16.00



FlyWeb® Insect Monitor Cards

Made To Be Used In Different Ways For Maximum Trapping Capabilities.

TARGET: Thrips & Leafminers are drawn to the blue; Aphids, Whiteflies & Fungus Gnats like the yellow.

DESCRIPTION: These sticky traps have been designed to be used in a number of ways: flat, folded into a triangle Delta trap, or torn into smaller sizes. With these format options and the insect-attracting colors, you can trap and monitor a wide range of insect pests. Traps come in yellow/yellow and yellow/blue. They are 4" x 8" and double-sided, with a 1" square grid. Cards are perforated and can easily be torn into mini sizes for smaller spaces and plants.

SUGGESTED USE: Fold or tear into desired format. Peel protective cover from one or both sides of the trap. Place or hang trap close to plants. When used in large areas, traps should be placed 10-15 ft apart. Monitor and replace as needed.

1254005	Insect Monitor Cards - Yellow/Blue - 10 Pack	\$10.50
1254006	Insect Monitor Card - Yellow/Yellow - 10 Pack	\$11.00



Yellow Sticky™ Tape

Longer Length Tape To Cover Even More Area.

TARGET: Whiteflies, aphids, leafhoppers, fungus gnats, froghoppers (spittlebugs), flies and more.

DESCRIPTION: When you have an insect population in a large area that you need to monitor and trap, this sticky tape is the choice for you. It will work well against aphids, thrips, flies, gnats and many others. Pre-coated with adhesive on both sides, this yellow tape is 530' long and comes in 4 convenient widths (2", 6", 10" & 12"), making it perfect for a variety of locations. You'll also find that the extra thick cardboard flanges and heavy duty plastic plugs make these rolls easy to work with and the product easy to dispense. You can loop these along the perimeter of fields, inside greenhouses, barns, corrals, stalls or any other area where you need insect control. Any unwanted pests or other residue can be removed with vegetable oil or CitraSolv® (available online).

SUGGESTED USE: Loop along the perimeter of fields, inside greenhouses, barns, corrals, stalls or any other area where you need insect control.

1259610	Yellow Sticky Tape - 2" wide x 530' long	\$44.00
1259611	Yellow Sticky Tape - 6" wide x 530' long	\$90.00
1259612	Yellow Sticky Tape - 10" wide x 530' long	\$132.00
1259613	Yellow Sticky Tape - 12" wide x 530' long	\$180.00

*Larger quantities available.



Olson Garden Guard Yellow Sticky™ Ribbon

This Ribbon Is Just Right For Encompassing Small Gardens.

TARGET: Whiteflies, aphids, beetles, leafhoppers, thrips and most flying insects.

DESCRIPTION: Made for trapping and monitoring, Olson Garden Guard provides another weapon in the sticky trap war on insect pests. Pre-coated with Sticky Stuff adhesive, this narrow (2" wide) and long (100 ft.) roll is ideal as a perimeter barrier; use two levels of ribbon to form a formidable fence of stickiness. Comes packaged in a heavy duty plastic flange for easy dispensing.

SUGGESTED USE: Drive some stakes (not included) into the ground and wrap the ribbon around them and loop from one stake to another. To create a "fence" around your garden, place one row of ribbon at 1 ft. off the ground and another 2 ft. higher. Adhesive can be removed with vegetable oil, soap and water, and we recommend using vinyl gloves while handling ribbon for additional ease in cleanup.

1259605	Garden Guard Yellow Sticky Ribbon - 2" x 100 ft.	\$11.49
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Enoz® BioCare® Gnat Stix

A Low-Tech But Supremely Effective Method For Fungus Gnat Control.

TARGET: Fungus gnats, aphids, mites, plant lice & more!

DESCRIPTION: Effective for even the worst infestations of fungus gnats. Use one Gnat Stix for each infested plant in adjacent rooms or hallways.

SUGGESTED USE: Peel release paper on yellow sticky sheet. Slide stick through the holes in the sticky sheet. Use one sticky strip on each stick. Place in the soil of plants. Avoid leaves coming in contact with sticky paper.



1280501	Gnat Stix - 12 Per Pack	\$6.65
1280502	Gnat Stix - 12 Per Pack - Bundle of 2	\$11.50
1280503	Gnat Stix - 12 Per Pack - Bundle of 4	\$20.50

Tanglefoot® Tangle-Trap® Sticky Coating



Create New Traps Or Re-Use Old Ones To Control & Monitor Pest Insects.

TARGET: Ants, flies, beetles and other insects.

DESCRIPTION: This OMRI listed, versatile brush-on adhesive is ready-to-use to control and monitor pest insects. It can be used to re-coat old traps for continued use or to coat new traps. Apply to commercially made traps or create your own from almost any non-porous material. This clear and odorless product will not interfere with any color attractants or lures you may choose to use.



SUGGESTED USE: For ease of use, use at temperatures above 60°F. Apply a thin (1/16" or 1.6 mm) coating to trap surface. Tie up your trap or attach to a stake and place in desired location in your garden, greenhouse, yard, orchard or field. Suspending traps in the air will help to avoid accidental contact with children or pets.

1266020	Sticky Coating - 8 oz. Brush-On Can	\$10.79
1266025	Sticky Coating - Case of 8 oz. Cans/12 Ct.	\$105.50

ADULT MOTH CONTROL



Large Plastic Delta Trap

This Work-Horse Of A Trap Will Last & Last!

1230435	Large Plastic Delta Trap - Pack of 5	\$35.00
1230436	Large Plastic Delta Trap - Pack of 10	\$66.50

Scentry Wing Trap

You'll Get Options & Economy With This Trap!

1230440	Scentry Wing Trap - Pack of 5	\$19.00
1230441	Scentry Wing Trap - Pack of 10	\$35.00

Delta Trap

Catch Those Pests With Ease!

1230426	Delta Trap - Pack of 10	\$21.50
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Gypsy Moth Trap

Moth Pests Disappear With This "Milk Carton" Trap!

1230430	Gypsy Moth Trap - Pack of 5	\$10.45
1230431	Gypsy Moth Trap - Pack of 10	\$18.99

Lures By Pest

Common Name	Scientific Name	Wing/Delta/LPD/GM
Armyworm	<i>Pseudaletia unipuncta</i>	W, D, LPD
Cabbage Looper	<i>Trichoplusia ni</i>	W, LPD
Codling Moth - 10x	<i>Cydia pomonella</i>	W, LPD
European Corn Borers:		
Iowa Strain	<i>Ostrinia nubilalis</i>	W
New York Strain	<i>Ostrinia nubilalis</i>	W
Fall Armyworm	<i>Spodoptera frugiperda</i>	W
Gypsy Moth	<i>Lymantria dispar</i>	D, GM
Southern Armyworm	<i>Spodoptera eridania</i>	W, LPD

See full selection of pheromone lures online.

Caterpillar Control



DAMAGE

Damaged foliage and/or flowers from caterpillar eating. Presence of caterpillar "poop" on leaves. Crops can be quickly damaged to loss if uncontrolled.

Borers tunnel to the base of a bud, stunting flower development, while also distorting stems and branches.



CONTROL

- Biological Controls: Introduce Green Lacewing preventatively to build a colony of predacious larvae, Minute Pirate Bug (*O. insidiosus*) or Assassin Bugs (*Z. renardii*).

- Insecticides: *Bacillus thuringiensis var. kurstaki* for larval control.
- Trapping adult moths



EGG CONTROL

Moth Egg Parasites - *Trichogramma spp.*



Prevent Worm Pest Damage On Crops!

TARGET: Egg stages of more than 200 pests, including: borers, webworms, loopers, leafminers, fruitworms, cutworms, bollworms and armyworms (excluding beet armyworm).



DESCRIPTION: *Trichogramma spp.* lay their eggs in the pest eggs, killing them. Adults emerge 2-3 days after release. They live 7-75 days depending on temperature and moisture. *Trichogramma* are shipped in the parasitized host egg. Each tab has been inoculated with ≈3,300 eggs per tab.

SUGGESTED USE (Depending upon level of infestation): Use ≈1 tab/3,000 sq. ft.; 1/2-2 cards/acre weekly for 2-6 weeks. Release at first flight of moths and every 7-10 days thereafter until infestation subsides. Place tabs where moths are seen. Use traps for monitoring and trapping adult moths.

Temperature: Minimum 50°F

Relative Humidity: Moderate

SKU #	Amount & Weight	Price
<i>Trichogramma brassicae</i> - European cabbage butterfly, cutworm, corn earworm, European corn borer, cabbage looper, armyworm		
1131910	3 Tabs	\$15.00
1131903	6 Tabs	\$20.00
1131911	1 Card (30 Tabs)	\$34.00
<i>Trichogramma minutum</i> - trees, bogs, more common on the East Coast		
1129001	3 Tabs	\$15.00
1129003	6 Tabs	\$20.00
1129010	1 Card (30 Tabs)	\$34.00
<i>Trichogramma platneri</i> - orchards, more common West of the Rockies		
1130001	3 Tabs	\$15.00
1130003	6 Tabs	\$20.00
1130030	1 Card (30 Tabs)	\$34.00
<i>Trichogramma pretiosum</i> - row crops, vinyards		
1131021	3 Tabs	\$15.00
1131003	6 Tabs	\$20.00
1131022	1 Card (30 Tabs)	\$34.00

See online for volume & program prices.

Free 2nd Day Shipping

*FREE SHIPPING in the contiguous 48 states. Ships Monday - Thursday via 2nd Day. Please allow for a minimum of 24 hours to process orders. Orders received after 8:00 AM on Thursday will ship the following Monday. Upgraded Overnight shipping will incur a \$10 upcharge.

CATERPILLAR CONTROL

DiPel® Pro DF & DiPel® DF



OMRI listed & WSDA approved *Bacillus thuringiensis v kurstaki* (Btk) to control most *Lepidoptera* insects.

TARGET: Caterpillars, armyworms, bagworms, budworms, loopers, Gypsy Moth larvae, earworms and webworms.

DESCRIPTION: This dust-free, flowable powder bioinsecticide works quickly; pests will stop feeding within the hour and die in a few hours to 3 days. Use the smaller-sized DiPel PRO DF for ornamentals and small edibles. The larger-sized DiPel DF is meant for agriculture production. People, beneficials, birds, fish and wildlife are not affected by DiPel.

SUGGESTED USE: Can be used indoors and outdoors. Best if used while larvae are actively feeding but before plants are damaged. Small scale applications: Mix 1/2-4 tsps./gal. of water. Or use 1/4-2 lbs./acre. Repeat applications every 3-14 days. Add a spreader-sticker on hard-to-wet crops and to improve spray efficacy in poor weather conditions.



1207005	DiPel Pro DF - 1 lb.	\$24.75
1207004	DiPel DF - 5 lbs.	\$119.50

Tanglefoot TangleGuard Banding Material® & Tree Tanglefoot® Insect Barrier

A Mechanical Barrier to Trap Caterpillars, Weevils and More from Infesting Plant Canopy.

TARGET: Ants, vine weevils, canker worms, gypsy moths, winter moths and other crawling insects.

DESCRIPTION: Tanglefoot TangleGuard Banding Material can be used on its own to protect your trees from sun-scald, rodent/animal feeding, and objects that could hit them. When you apply Tree Tanglefoot Insect Barrier to it, the two form a strong and sticky barrier that will thwart any insects crawling up a tree to feed on or nest in it. This 3" x 50", ready-to-use banding is lightweight, waterproof, and will not smother or otherwise harm your tree. But it's strong enough to last all season. Insect barrier is a non-toxic, oil based, non-drying adhesive that will also last all season, or until covered by insects.

SUGGESTED USE: Insects: Wrap tree tightly from base to trunk. On rough bark, plug the gap under the band with cotton batting, foam or similar material. Brush on a thin layer (1/16") of adhesive. Use adhesive at temps above 60°F. Replace banding when sticky areas become covered with insects and debris. Remove banding at end of season.



1266035	TangleGuard Banding Material (3" x 50' roll)	\$6.95
1266030	Tree Tanglefoot Insect Barrier - 15 oz. tub	\$12.50
1266040	Kit - 1 Roll Banding Material & 1 Tub Insect Barrier	\$17.99

BT NOW®

An Extremely Effective Biopesticide That Controls Crop-Damaging Caterpillars.

TARGET: Armyworms, bagworms, borers, budworms, caterpillars, earworms, leafrollers, loopers, Gypsy Moth larvae, webworms and more.

DESCRIPTION: Uses a strain of *Bacillus thuringiensis kurstaki* to provide broad spectrum control for a long list of *Lepidopteran* pests that feed on a wide variety of plants. Carefully monitor your crops to identify target pest infestations and apply as soon as insects are found or when there are first signs of feeding. Water-based formula, stabilized with UV inhibitors with low resistance potential. Won't harm pollinators or beneficials. 4-hour REI. Compatible with many commonly used fertilizers, pesticides and adjuvants.

SUGGESTED USE: Apply when larvae are small, newly hatched and actively feeding. Do not apply through any irrigation system. Can be used diluted or un-diluted. Dilution with minimal amounts of water will improve coverage. The amount of water needed for a diluted application will depend on crop size, weather, spray equipment and local experience. Please see manufacturer's label for pest and crop specific application rates and guidelines.



1201220	BT NOW - 1 Gallon Concentrate	\$79.99
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Cannot be shipped to the following states: HI, DC

Agree WG

OMRI Listed. A Biopesticide That's Effective Against Some of The Hardest to Kill Larvae.

TARGET: Armyworms, bollworms, borers, caterpillars, codling moth, cutworms, diamondback moth, grapeleaf skeletonizer, green cloverworm, light brown apple moth, leafrollers, loopers, and many more.

DESCRIPTION: Agree WG uses the bacterium *Bacillus thuringiensis* subspecies *aizawai* strain GC-91 to control the larvae of many lepidopterous species. These pests can be notoriously hard to control, but once they ingest this product they stop eating within an hour and die with a few short days. Agree WG works best when used on small, newly hatched larvae, so it's advisable to be pro-active by keeping a close eye out for any early infestations. Won't harm beneficials. 4-hr REI & 0-day PHI. Residue Exempt. Excellent for use on Hemp.

SUGGESTED USE: These wettable granules are easy to mix and can be applied though most conventional application methods, including aerial, ground and chemigation. Application Rate: 0.25-2.0 lb/acre (depending on crop and pest targeted). Spray Interval: 3-7 days. The use of this product should conform to resistance management strategies established for the crop and use area. Such strategies may include rotating products with different modes of action.



1201225	Agree WG - 5 lbs.	\$107.16
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GRUB & BEETLE CONTROL

Grub Control



DAMAGE

Yellowing and browning of leaves, rotting stems. Root destruction can lead to poor plant development.



CONTROL

- Biological Controls: Hb or Sr Beneficial Nematodes applied to the soil during spring and fall.
- Insecticides: Drenching the soil using Azadiractin or *Beauveria bassiana*.

Beetle Control



DAMAGE

Foliage damage from beetle feeding.



CONTROL

- Insecticides: Neem Oil, Azadiractin or Pyrethrin-based sprays.
- Trapping of adults using pest specific traps & lures

AzaGuard®



This OMRI Listed Product Works On A Wide Range Of Ornamental, Forestry, Food & Non-Food Crops.



TARGET: For controlling and repelling over 300 listed insect species, including aphids, beetles, armyworms, fungus gnats, leafhoppers, caterpillars, mealybugs, webworms, plant parasitic nematodes and root knot nematodes.

DESCRIPTION: Azadirachtin, extracted from the neem tree, is the active ingredient here. Insects are repelled by the taste and smell of neem, but azadirachtin also works as a molting/growth disruptor. This Insect Growth Regulator (IGR) disrupts the life cycle between larval, pupal and nymphal stages by impeding the metabolism of ecdysone. Ecdysone is necessary for molting, without which the insect cannot mature into its next growth stage and will, ultimately, die. NOP Compliant.

SUGGESTED USE: Apply using a power or pump sprayer or a hand-held trigger type sprayer. Spray when pests first appear and repeat at 5-7 day interval as required. A sticker agent may be added to product for more complete coverage on waxy or pubescent plant surfaces. Do not exceed the rate of 22.5 fl. oz. (20 g.) per acre per application.

1222204	AzaGuard - 32 oz.	\$180.00
1222205	AzaGuard - 32 oz. - Case of 4	\$648.00
1222206	AzaGuard - 1 Gallon	\$570.00
1222207	AzaGuard - 1 Gallon - Case of 2	\$1,026.00

BIOLOGICAL GRUB CONTROL

NemaSeek™ Beneficial Nematodes

Beneficial Nematodes are one of nature's most powerful weapons available for managing Japanese Beetle infestations.

Along with parasitizing the beetles in their larval, underground damaging stages, they also parasitize the larval states of other pest grubs, weevils, fleas, leafminers and more. Apply with a watering can, hose end sprayer or backpack sprayer. See pages 19-21 for more information.



Azera® Gardening



This Unique Mix Of Azadirachtin & Pyrethrins Offers Exceptional Insect Control.

TARGET: This product will kill the larval, pupal and adult stages of a broad spectrum of over 200 listed insects.

DESCRIPTION: This organic gardening pesticide couples two plant-based powerhouses (Azadirachtin and Pyrethrins) to fight both hard-bodied and soft-bodied insects. Hard-to-kill insects will not get past Azera; they will succumb to the quick knock-down kill or perish more slowly once they ingest it. One of these two processes will kill all stages of an insect's life (larval, pupal and adult), effectively eliminating all future generations. This OMRI listed product is soft on the environment and can be applied the same day of harvest.



SUGGESTED USE: Apply Azera as soon as insects appear; do not wait until plants are heavily infested. Apply with any powered or manual pesticide application equipment. The most commonly used rate of application is 2 pints per acre (32 fl. oz. = 946 ml.) Higher populations of adults and/or hard to kill insects may require 3 pints per acre (48 fl. oz. = 1.42 L) or 3.5 pints per acre (56 fl. oz. = 1.66 L.).

1288740	Azera Gardening - 8 oz.	\$41.00
1288750	Azera Gardening - 32 oz.	\$108.00
1288760	Azera Gardening - 1 Gallon	\$390.00

Surround® WP



An Effective Crop Protectant That Creates A Barrier Between The Crop & Pests.



TARGET: Apple maggots, codling moths, glassy-winged sharpshooter, Japanese beetles, leafhoppers, lesser apple worms, oriental fruit moth, pear psylla, plum curculio, rose chafer, silverleaf whiteflies, stink bugs, thrips, tufted apple bud moths.

DESCRIPTION: Made from specially modified kaolin clay, Surround WP forms a barrier that protects from many pests when sprayed on fruits or vegetables. The white barrier repels pests, causes irritation, confusion, and is an obstacle for feeding and egg-laying. Kaolin clay is highly recommended for apples, wine grapes, citrus, pears, walnuts, cucumbers and tomatoes.

SUGGESTED USE: Surround WP can be applied with standard commercial sprayers, hand-held sprayers and backpack sprayers.

1440065 Surround WP - 25 lb. Bag **\$56.25**

Ships via Ground ONLY.

Please note: Growth enhancers are not registered in the state of California.

PyGanic® Specialty



New Label – Same Terrific Product As PyGanic 5.0!

TARGET: Livestock and poultry pests as well as over 100 listed plant pests.

DESCRIPTION: With this OMRI listed, Pyrethrin-based insecticide you will be able to protect nearly everything you grow or raise from destructive and disease carrying insect pests. This includes the commercial production of livestock, poultry and crops.



These commercial enterprises require more frequent and higher volume application rates than smaller scale producers and this concentrated version is easily adapted to these specific needs. PyGanic Specialty works best if it is applied when pests first appear, before there is a heavy infestation. Thorough coverage is also key; direct contact needs to be made with the pest insects.

SUGGESTED USE: For use on production animals in barns, dairies, milking parlors, milking rooms and poultry houses. For use on horse flies, house flies, mosquitoes and gnats, dilute at the rate of 1.5-3 fl. oz. per 1 gallon of water and apply. Please see label for more detailed instructions on other livestock and crop pests.

1288770 PyGanic Specialty - 32 oz. **\$157.00**

1288780 PyGanic Specialty - 1 Gallon **\$580.00**

JAPANESE BEETLE CONTROL



Milky Spore Granular

A New Formulation For Use In A Drop Spreader

TARGET: Japanese beetle grubs.

DESCRIPTION: Contains spores of the bacteria *Bacillus popilliae*, which work specifically against the grub stage of the Japanese beetle. Once Milky Spore is in the soil, grubs will ingest the bacterium as they feed on roots. The spores will then multiply inside the grub, leading to its death in 1-3 weeks. As the grub decomposes it will release the spores in their increased numbers back into the soil. Will not harm people, animals, plants or beneficial insects.



SUGGESTED USE: For best results, apply with a drop spreader (available online) in the spring, summer and fall for 2 consecutive years. This allows the Milky Spore to build up in the soil. After that, the spores will work on their own for several years. After the 6th application, control can last up to 10 years. 1 lb. of material will cover 350 sq. ft. and 20 lbs. bag will cover 7,000 sq. ft.

1216070 Milky Spore Granular - 20 lb. Bag **\$48.00**

1216071 Milky Spore Granular - 20 lb. Bag, Pallet of 21* **CALL**

1216072 Milky Spore Granular - 20 lb. Bag, Pallet of 42* **CALL**

*Call for freight quote.

Cannot be shipped to the following states: CA, OR, WA

BIOLOGICAL CONTROL

Mosquito Bits®

Harness The Power Of Bti For A Clean, Quick Kill.

TARGET: Mosquitoes and fungus gnats.

DESCRIPTION: Mosquito Bits uses the biological larvicide *Bacillus thuringiensis v. israelensis* (Bti) to quickly kill mosquito larvae in a wide range of habitats. When spread uniformly over the surface of water, the Bti will float down into the water where the larvae will consume it and die; usually within 24 hours. Bits are not harmful to people, animals or plants. Repeat after a 7-10 day interval. For Fungus Gnat control: Spread the granules over the soil until the area is covered. Moisture in the soil will dissolve the Bits. Re-apply every 3 weeks.



SUGGESTED USE: Sprinkle 1 teaspoon per 25 sq. ft. or 1 tablespoon per 75 sq. ft. (½ lb. per 2178 sq. ft.) over the surface of containerized standing water. This includes bird baths, water troughs, unused swimming pools, old automobile tires, water gardens, rain barrels and more. DO NOT APPLY to finished human drinking water sources.

1211108	Mosquito Bits - 8 oz.	\$10.95
1211136	Mosquito Bits - 30 oz.	\$17.80
1211130	Mosquito Bits - 20 lbs.	\$119.00
1211139	Mosquito Bits & Dunks Combo Kit	\$18.99

Mosquito Dunks®

Simply Place In Standing Water To Kill Mosquitoes Where They Grow.

TARGET: Mosquitoes.

DESCRIPTION: When placed in standing water, Mosquito Dunks will float on the water and they will slowly release the bacteria *Bacillus thuringiensis v. israelensis* (Bti) as they melt. This bacterium is a potent mosquito larvicide and as it disperses into the water it is eaten by, and kills, the mosquito larvae growing there. Dunks can be anchored with a string to keep them from washing away. They can also alternate between being wet and dry without losing effectiveness. Bti targets specific pests and is not harmful to people, animals or plants. Each dunk is effective for 30 days.



SUGGESTED USE: Use 1 dunk for 100 sq. ft. of water. Use in any containerized standing water found near the home, except finished, treated drinking water. This includes bird baths, water troughs, unused swimming pools, old automobile tires, water gardens, sump pumps and more.

1211101	Mosquito Dunks - 6 Pack	\$13.95
1211103	Mosquito Dunks - 20 Pack	\$22.95
1211139	Mosquito Bits & Dunks Combo Kit	\$18.99

AQUABAC® 200G Granular Bti Mosquito Control



Use This Bti Larvicide Wherever You Have Mosquitoes Breeding

TARGET: Larval stages of mosquitoes and black flies.

DESCRIPTION: AQUABAC 200G contains *Bacillus thuringiensis var. israelensis* (Bti), a bacteria that specifically targets mosquitoes and black flies in their larval stage, but is harmless to other living things. Once ingested, Bti will work quickly to damage cells and paralyze the larva. In addition, since AQUABAC 200G does not affect larva predators, they will continue their work alongside the Bti.



SUGGESTED USE: Can be applied to almost any habitat that supports mosquito or black fly larvae. Do not use directly in water sources for human consumption. Broadcast by hand or hand spreader in small areas or by standard ground or aerial dispersing methods for larger areas. If water is clear, broadcast at 2.4-10 lbs. per acre. If water is brackish, murky, polluted or full of algae, broadcast 10-12 lbs. per acre. Lasts for approximately 2 weeks.

1211150 AQUABAC Granular Bti - 40 lb. - **Free Shipping*** **\$187.00**
 *Free Shipping on 40 lb. bag only, in the contiguous 48 states.
 Ships via Ground ONLY. Call for pallet pricing.

AQUABAC® Xt



Use This Powerful Biocontrol Liquid To Kill Mosquito Larvae In Water.

TARGET: Larval stages of mosquitoes, fungus gnats, aquatic midges and nuisance flies.

DESCRIPTION: This *Bacillus thuringiensis var. israelensis* (Bti) offers the same powerful pest control in a convenient liquid form. Bti is a bacterial that expressly targets mosquitoes, fungus gnats, aquatic midges and nuisance flies in their larval stages. Once ingested, it will work rapidly to damage cells and fatally paralyze the larva. AQUABAC Xt will not harm any other form of aquatic life or beneficial insects.



SUGGESTED USE: This product can be applied via conventional aerial and ground application equipment (or metered release system) in nearly any habitat that supports the targeted pest larvae. For mosquitoes, use between .25-2.0 pts./100 gals. Higher rates apply when water is polluted, adult populations are high or there is a lot of algae. Do not apply this product in any type of irrigation system or in any sources of water that are for direct human consumption. More specific application rates can be found on the package label.

1211160 AQUABAC Xt - 2.5 Gallons* **\$190.00**
1211161 AQUABAC Xt - 2.5 Gallons/Case of 2* **\$340.00**
 *Free Shipping in the contiguous 48 states. Ships via Ground ONLY.
Cannot be shipped to the following states: NY

Earth Juice® goGnats™

A Pleasantly Fragrant & Highly Effective Minimal Risk Pesticide.

TARGET: Gnats, midges, mites, thrips, aphids, whiteflies, moths, mosquitoes, ants and more.

DESCRIPTION: Made of 33% cedarwood oil, goGnats will deliver the broad-spectrum control you need and leave you with a pleasant aroma. This versatile insecticide can be used as a foliar spray or barrier spray, and as a soil drench. It can also be added to most liquid feeding solutions. Can be used in gardens, hydroponics, and on container plants - but **only** use it on ornamental, non-food and non-feed crops. EPA registration exempt under section 25(b) of FIFRA.

SUGGESTED USE: Hydroponics: 1-1.5 fl. oz. /10 gals. of solution. Add to reservoir every 2 weeks at nutrient solution change. **Area Spray:** 2.6 fl. oz. / gal. water. Spray directly on infested area or apply to perimeters to create a barrier. Apply 2 times the first week, then re-apply every 2 weeks. **Plant Spray:** 1.7 fl. oz. /gal. water. Spray entire plant. Apply 2 times the first week, then re-apply every 2 weeks.

1458080 Earth Juice goGnats - 1 Pint Conc. **\$23.49**

1458081 Earth Juice goGnats - 1 Quart Conc. **\$41.99**

Cannot be shipped to the following states: AL, AZ, ID, IN, IA, LA, ME, MS, NE, NM, NC, ND, OH, OK, PR, RI, SC, WI



Mosquito Barrier®

For Yards, Parks & Grass Areas – Keeps Mosquitoes Away!

TARGET: Mosquitoes, gnats and fleas.

DESCRIPTION: Liquid garlic repellent dissipates within minutes of application. Kills adults on contact and suffocates larvae in standing water within approximately 24 hours. Saturate all plants including grass, vegetables and trees. Applications last up to 4 weeks.

SUGGESTED USE: Residential (1/2 acre): 4 oz. Mosquito Barrier & 2 gallons of water. **Medium Areas** (1.25 acres): 1 quart Mosquito Barrier & 20 gal. of water. **Large Areas** (5 acres): 1 gallon Mosquito Barrier & 98 gallons of water.

1211001 Mosquito Barrier - 1 Quart **\$24.50**

1211002 Mosquito Barrier - 1 Gallon **\$79.90**

This product cannot be shipped to the following states: ID, KS, WY



SNS 203™ Root Drench Pesticide

First-Rate Control For Soil-Dwelling Pests That Feed On Roots & Stalks.

TARGET: Kills and repels fungus gnats, root aphids, thrips, shore flies and whiteflies.

DESCRIPTION: Made of rosemary and clove botanical extracts that cause dehydration and death and will also attack fungus and algae. All botanical extracts are food-grade materials, highly water soluble & completely biodegradable. Created as a root drench, but equally effective as a foliar spray and in hydroponics. For use on a wide range of plants, fruits, and vegetables. 0-hr REI.

SUGGESTED USE: Soil drench: 1 gal mixed solution to 10 gal potted plants or 230 sq. ft. Mix 4-8 Tbsp or 2-4 oz*/1 gal water. Foliar Spray: 1 gal of mixed solution will cover approx. 550 sq. ft. Mix 4-12 Tbsp or 2-6 oz*/1 gal water. Spray to point of runoff and reapply 2-5 times every 2-3 days. * Pouch: Mix contents with 32 oz of water and drench or spray area thoroughly. Hydroponic instructions available on label. *Depending on severity of infestation.

1459135 SNS 203 Root Drench Pouch Conc. - Makes 32 oz. **\$7.99**

1459130 SNS 203 Root Drench - 16 oz. Conc. **\$24.00**

1459131 SNS 203 Root Drench - 1 Gallon Conc. **\$110.00**

1459132 SNS 203 Root Drench - 5 Gallons Conc. **\$440.00**

Cannot be shipped to the following states: AL, AK, AR, CT, DC, DE, GA, IN, IA, KS, LA, MS, NH, NM, ND, SD, UT, WV, WY



NemaSeek™ Sf Beneficial Nematodes

Sf Beneficial Nematodes interrupt fungus gnat reproduction and reduce local populations leading to fewer adults and less resulting damage. Use in conjunction with predatory insects as part of an integrated pest management program. Apply with a watering can, hose end sprayer or backpack sprayer.

See pages 19-21 for more information.





Aphids

Azadirachtin

Azadirachtin, like Neem Oil, is derived from the seeds of the neem tree (*Azadirachta indica*), but lacks the fungicidal properties of neem oil. The primary mode of action is as an anti-feedant, but it also disrupts normal insect growth/molting, repels larvae and adults, sterilizes adults and deters egg laying.



Whiteflies

Bacillus thuringiensis kurstaki (Btk)

Btk is a naturally occurring bacterium that targets only the caterpillar phase of Lepidoptera. Once ingested, the caterpillar's digestive system triggers an endotoxin, which paralyzes their digestive tract. The caterpillars will stop feeding and die shortly after this occurs.



Mites

Beauveria Bassiana

An entomopathogenic fungus that causes white muscadine disease in a range of insects. Once spores contact and infect the host, the fungus feeds and produces toxins in the insect. When the host dies, the *B. bassiana* covers the carcass and produces more infective spores.



Thrips

Botanical Oils

Plant based oils work not only as an insecticide, but can also control fungal diseases. Thorough contact and coverage is necessary for effectiveness. They work as repellents, smotherants and target insect nerve receptors. Common botanical oils include: Rosemary, Clove, Cinnamon, Thyme and Peppermint.



Fungus Gnats

Neem Oil

Neem oil kills small soft-bodied insects. It works as an anti-feedant when insects come in contact with or ingest it. It is also an hormone disruptor and growth regulator to affected insects. Neem oil also functions as a fungicide, a bactericide, and it kills Plant Parasitic Nematodes.



Mealybugs

Pyrethrins

Pyrethrins are derived from the Chrysanthemum and work as a broad-spectrum insecticide. They target the nervous system of the insect, producing excited behavior which results in exposure and eventual death. Use caution if pollinators are present.

MULTI-PURPOSE

Organic JMS Stylet-Oil®



Smother Overwintering Insect Pests & Mites With This Food Grade Dormant Oil!

TARGET: Powdery mildew, mites, whiteflies, leafminers and insect transmitted diseases.

DESCRIPTION: Use this multi-purpose, year-round fungicide, insecticide and antiviral spray oil in greenhouses, on field crops and on fruit trees. Kills powdery mildew on contact and prevents occurrence for up to 14 days and controls mites, whiteflies and leafminers. Made from paraffinic oil and is colorless, tasteless and odorless. 4-hour re-entry interval; no pre-harvest interval.

SUGGESTED USE: For gardens, apply approx. 3 Tbsp./gal. water with a sprayer. For larger areas, apply about 1-2 gal./100 gal. water and use 25-150 gal. of dilute/acre depending on crop, timing and desired treatment. Apply weekly or bi-weekly depending on severity of condition. Begin at the onset of plant growth, fungus emergence, disease and insect infestation. See label online for detailed rates and instructions.

1274107 Organic JMS Stylet-Oil - 1 Gallon **\$38.50**
1274108 Organic JMS Stylet-Oil - 2.5 Gallons **\$58.00**

*Call for freight quote. Larger sizes available.

Cannot be shipped to the following states: DC, IN, KS, KY, LA, MS, MT, PR, SD, TN, UT, WY



M-Pede®



A Highly Effective, Organic Version Of Insecticidal Soap.

TARGET: Adelgids, aphids, caterpillars, earwigs, lace bugs, leafhoppers, leafminers, mealybugs, mole crickets, plant bugs, psyllids, sawfly larvae, scales, spider mites, tent caterpillars, thrips, whiteflies, gypsy moth & chinch bugs. Curative control for powdery mildew.

DESCRIPTION: This organic foliar spray insecticide/miticide/fungicide is made from potassium salts of naturally derived fatty acids (aka insecticidal soap) and can be used on a wide range of crops grown organically or conventionally in fields, greenhouses, or interiorscapes. M-Pede works in all life stages of mites, aphids and whiteflies – with other listed insect pests, the effects are limited to early growth stages and eggs. 12-hr REI & 0-day PHI.

SUGGESTED USE: This product may be applied with most types of ground or aerial spray equipment, but **DO NOT** use with pulse/thermal fogger applicators or apply through any type of irrigation or hydroponic system. M-Pede rates as low as 0.25% v/v or as high as 4% v/v may be used. The 2% v/v rate is the most frequently used stand-alone rate. **Do not** mix with sulfur or use within 3 days of a sulfur application. To avoid any possible plant injury do not make repeat applications at less than 7-day intervals, or make more than 3 sequential applications at 7- to 14-day intervals

1247650 M-Pede - 2.5 Gallons **\$130.00**
1247652 M-Pede - 2.5 Gallons - Case of 2 **\$250.00**



PureCrop1

Plant-Based Biostimulant, Insecticide & Fungicide.

TARGET: All sap sucking insects (mites, thrips, aphids, whiteflies, leaf hoppers), mold, mildew and diseases (*Botrytis*, *Fusarium* wilt, powdery mildew and more).

DESCRIPTION: PureCrop1 uses advanced biochemistry to eliminate pests, mold and mildew, while increasing plant health. Although it's active ingredients are corn and soybean oil, it is in fact NOT an oil. Through the use of Nanotechnology, it is a re-arrangement of molecules to create a colloidal micelle. Due to its small size and electrical properties, PureCrop1 is a natural surfactant, carrier of nutrients and increases sugar levels. When applied as a foliar spray or root drench, it leaves no residue behind and tests clean parts per billion. This product can be used on all stages of growth even up to day of harvest.

SUGGESTED USE: As a preventative foliar spray, 1 oz. per gal. every 7-10 days. For knock down foliar spray, 2 oz. per gal. every 2-3 days until desired results. To maintain long term biostimulant benefits spray, 2 oz. per gal. once a week. As a root drench or general surfactant spray, 1.24 oz. per gallon of water.

1274200 PureCrop1 - 16 oz. **\$38.00**
1274201 PureCrop1 - 1/2 Gallon **\$100.00**
1274202 PureCrop1 - 1 Gallon **\$190.00**
1274203 PureCrop1 - 2.5 Gallons **\$475.00**

Larger sizes available.



SuffOil-X®



OMRI Listed Pre-Emulsified Mineral Oil Suffocates Many Soft-Bodied Insects & Controls Certain Fungal Diseases.

TARGET: Aphids, cankerworms, leafhoppers, leafrollers, mealybugs, mites, plant bugs, psyllids, soft scales, webworms, whiteflies, rust and powdery mildew.

DESCRIPTION: Made with refined pre-emulsified mineral oil, this suffocant creates the best coverage with limited risk of plant damage. Using a pre-emulsified creates a lighter oil that dries faster, will not cause phytotoxicity, burn or undue stress, leaves no toxic residue on plants and dilutes easily with water.

SUGGESTED USE: Can be used with a wide variety of crops indoors or outdoors. Apply when oil will dry and evaporate in 1-2 hours and when relative humidity is less than 90%. Application rates are generally 1-2 gallons of SuffOil-X per 100 gallons of water or 20-500 gallons of spray solution per acre.

1332805 SuffOil-X - 2.5 Gallons **\$70.00**
1332806 SuffOil-X - Case of 2 ct./2.5 Gals. **\$126.00**

Larger sizes available.

Shipping Restrictions: Cannot ship via US Mail or air shipping methods.

Cannot be shipped to the following states: AK, DC



NEEM OIL & BOTANICAL OILS

ECOWORKS EC®



An Organic 4-in-1 Pesticide, Nematicide, Fungicide and Miticide.

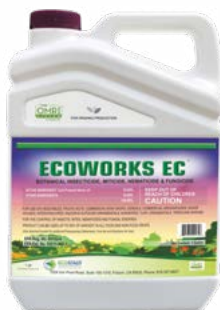
TARGET: Aphids, flies, mealybugs, psyllids, scales, spider mites, thrips, whiteflies, powdery & downy mildews, rust, *botrytis* and more.

DESCRIPTION: Derived from 100% cold-pressed neem oil, ECOWORKS EC contains Azadiractins, neem limonoids, fatty acids, esters and synergistic inert for top-notch bioactivity. Effective against a wide range of biting and sucking insects, soil-borne pests, and several devastating fungal diseases, this is also an exceptional fly repellent. Can be applied as a foliar spray, soil drench, in soil-less media or in recirculating systems. This residue-free formulation is EPA registered, UV stabilized to reduce risk of crop burn and has a 0-day PHI. Can be used with beneficial insects.

SUGGESTED USE: Foliar Application - 2 tsp. (10 mL)/gal. water for disease and pest control. 2-3 treatments required for optimal results. For severe infestations, spray every 5-7 days. For preventative purposes, spray every 7-10 days. Soil Drench or Recirculating System Applications - Apply 1 pint (16 oz.)/gal. water once every 7-14 days at a mixing rate of 2-8 mL/gal.

1450551	EcoWorks EC - 4 oz.	\$9.79
1450553	EcoWorks EC - 16 oz.	\$25.99
1450554	EcoWorks EC - 32 oz	\$43.99

Cannot be shipped to the following states: AK, ME, MD, MA, VA



Insect Annihilator

A Clever Combination Of Oils Is The Secret Weapon In This Annihilator.

TARGET: Aphids, caterpillars, fungus gnats, whiteflies, mites, root aphids and more.

DESCRIPTION: Insect Annihilator utilizes rosemary, thyme, clove and cinnamon oils to suffocate and repel many common pest insects. This product can be used either as a root drench or a foliar spray. However, you will get maximum effectiveness if you use it both ways. Insect Annihilator can be used in all growing media and mixes easily for spraying. This PH balanced insecticide can be watered in with your nutrients and is effective for preventative applications as well as for major infestations.

SUGGESTED USE: As a root drench: For a light infestation, use 10 ml/gal. of chlorine-free water; for heavy infestations, use 20 ml/gal.

As a foliar spray: For IPM, PM, Clones: 100 ml/gallon. For minor pest infestation/heavy PM: 160 ml/gal. For pest infestation: 240 ml/gal. For heavy pest infestation: 300 ml/gal.

For heavy infestations with either application method, repeat applications may be required with 2-3 day intervals.

1458103	Insect Annihilator - 64 oz. Concentrate	\$149.00
1458104	Insect Annihilator - 1 Gal. Concentrate	\$279.00
1458105	Insect Annihilator - 5 Gal. Concentrate	\$1,149.00



Rango™



Three Types Of Control Delivered Through Superior Suspension.

TARGET: Soft-bodied insects, beetles, borers, caterpillars/moths, leafhoppers, maggots/grubs, leafminers, psyllids, True Plant Bugs, weevils, wireworms & more. Diseases: *Alternaria*, anthracnose, blights, *Botrytis*, mildews, *Fusarium*, molds, *Pythium*, *Rhizoctonia*, rust, scab, sour rot and more. Nematodes: Dagger, Lance, Lesion, Reniform, Root Knot, Soybean Cyst and Sting.

DESCRIPTION: OMRI listed Rango is an emulsifiable concentrate made of 70% cold pressed Neem Oil and works as an insecticide, fungicide and miticide. It works as a suffocant on contact, is toxic if ingested, it repels, is an anti-feedant and interferes with the molting process. For disease control, it works by inhibiting mycelial growth. It can be applied in a foliar spray or soil application on a wide range of crops. Do not apply to sensitive plant species like certain ornamentals and flowers.

SUGGESTED USE: No additional surfactant is needed. Insecticide/miticide foliar application: Use a concentration of 0.625 - 1.25% v/v for normal pest and crop conditions. Use a concentration 1.8% v/v for heavier infestations. Use no more than 3 qts/acre. Fungicide foliar application: Use a concentration of 1.25 - 1.8% v/v every 10-14 days. Up no more than 6 qts/acre. Soil application: Use a concentration of 1.25 - 2.4% v/v. Use no more than 7.25 qts/acre.

1450570	Rango - Concentrate - 32 oz.	\$34.95
1450572	Rango - Concentrate - 1 Gallon	\$89.95
1450573	Rango - Concentrate - 2.5 Gallons	\$184.99

Case sizes available.



Eco-1® 40



Strong Control That's Gentle Enough To Use On Edible And Medicinal Plants.

TARGET: Aphids, whiteflies, two-spotted spider mites and fungal diseases like Powdery Mildew.

DESCRIPTION: Eco-1 40 contains food-grade 31% Linseed Oil with 8% Rosemary and 1% Thyme Oils. This potent OMRI listed mixture will control, via suffocation, a wide range soft-bodied insects and mites in all their life stages. Also a powerful tool against fungal diseases. Can be used on plants grown for feed, fuels, fiber or medicinal purposes. No REI or PHI. No adjuvants, surfactants or penetrants needed. FIFRA 25(b) exempt from EPA registration.

SUGGESTED USE: For best results, do not mix with cold water (less than 45°F). Aphids: Apply every 7-12 days. 1 1/2-3 fl oz/gal water (1-2 gals/100 gals water) for dormant applications. 3-6 fl oz/gal water (2 1/2-5 gals/100 gals water) for active. Whiteflies: 3-6 fl oz/gal water every 7-12. 2 1/2-5 gals/100 gals water every 7-14 days. Mites: 1-1 1/2 fl oz/gal water every 5-7 days. 3/4-1 gal/100 gals water every 7-14 days. Powdery Mildew: 3-6 fl oz/gal water every 3-14 days. 2 1/2-5 gals/100 gals water every 7-14 days.

1458140	Eco-1 40 - Concentrate - 1 Gallon	\$269.99
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Cannot be shipped to the following states: AR, CT, DC, ID, IA, KS, KY, LA, ME, MI, MS, NE, NV, NH, ND, OR, RI, UT, VT, VA, WI



SNS 217™ Spider Mite Control

These Botanical Extracts Will Not Harm Plants But Are Fatal To Spider Mites.

TARGET: Use to kill and repel adult spider mites and to prevent hatching of their eggs.

DESCRIPTION: Using food grade rosemary extracts and oils, these products will kill adult spider mites and prevent their eggs from hatching. The natural salts and fatty acids derived from the rosemary disrupt the insect cell structure and the permeability of its membranes; this will quickly cause the insect to dehydrate and die. Additionally, once eggs are coated with the oily liquid, their respiration will be blocked and they will perish without hatching. The plant will absorb some of the components of these products, which will then form a barrier to any additional mites that may try to feed on it.

SUGGESTED USE: RTU - 4 quarts or 1 gallon solution will cover approximately 550 sq. feet. Concentrate - Mix 21 oz. (approx. 2 3/4 cups) to 26 oz. (3 1/4 cups) of concentrate per gallon of water. For best results use warm (70°F) distilled or chlorine-free water. Mixed solution may be used immediately or stored for up to 2 weeks.

1459125	SNS-217 Pouch Conc. - Makes 32 oz.	\$7.99
1459120	SNS-217 RTU - 1 Quart	\$24.99
1459121	SNS-217 RTU - 1 Gallon	\$90.00
1459126	SNS-217 RTU - 5 Gallons	\$360.00
1459122	SNS-217 Conc. - 1 Pint	\$68.10
1459123	SNS-217 Conc. - 1 Gallon	\$294.64



Grower's Ally® Spider Mite Control

Choose From An Easy-To-Use RTU Or A Concentrate With 50% Rosemary Oil.

TARGET: Spider mites, russet mites, aphids, whiteflies, mealybugs, leaf rollers, scale insects & other soft-bodied insects.

DESCRIPTION: Created expressly for use on cannabis and hemp, this is a powerful blend of rosemary, clove, and peppermint oils. It controls insects as an insecticide, miticide, and repellent. This formulation works in several ways: it overstimulates and disrupts the nervous system (causing paralysis), suffocates on contact, acts as a strong repellent, and has the ability to work synergistically with the plant to ward off insects. Tests clean and contains no residual solvents, no synthetic pesticides, and no heavy metals. Can be safely applied through all stages of growth, from clones through flowering. Approved for use on cannabis in Colorado and Washington state. Can be used in all cultivation environments. 0-hr REI and 0-day PHI.

SUGGESTED USE: Cover all plant parts until runoff. Do not apply at temps over 90°F. Wait at least 5 days to reapply if needed. Concentrate: Makes up to 100 gals. Infestations: 1 qt/25 gal water (1.0% mix rate). Preventative: No limitations on the number of applications per growing cycle. Can be used with wetting agent or surfactant. Follow same directions as RTU.

1459320	Spider Mite Control - 24 oz. RTU	\$12.99
1459321	Spider Mite Control - 1 Quart Conc.	\$139.99



Trifecta Crop Control

Nano Technology & Time-Proven Ingredients In A Multi-Purpose Product.

TARGET: Aphids, thrips, whiteflies, gnats and other soft-bodied insects as well as fungal/mildew issues.

DESCRIPTION: Trifecta miticide, fungicide and pesticide begins with food-grade essential oils that are put through a high sheet milling process that reduces the oil droplets into nano-sized particles. These particles are then blended with a nano-saponified emulsifier (soap). The end result is a product with tiny droplets that spread better, biodegrade faster and allow for extraordinary penetration into plant cells. Contains thyme, clove, garlic, peppermint and corn oils and citric acid. Can be used in all stages of growth.

SUGGESTED USE: For use as a foliar spray. Can be used with an atomizer, misting system or a spraying apparatus. For preventative maintenance use 1/2 oz./gal. water. Apply once a week on the same day and time. For infestations use 2 oz./gal. water. Apply every other day (up to 3x weekly) until infestation is controlled. Apply at the end of a light cycle or at dusk. Stronger dilution may be used for severe infestations, but do not use more than 4 oz./gal. water.

1273060	Trifecta Crop Control Conc. - 4 oz.	\$34.95
1273061	Trifecta Crop Control Conc. - 16 oz.	\$94.95
1273062	Trifecta Crop Control Conc. - 32 oz.	\$149.95

Cannot be shipped to the following states: AK, AR, IN, NE, NM



Ed Rosenthal's Zero Tolerance

This Vegan Essential Oil Blend Kills Mites, Insects & Fungi.

TARGET: Spider mites, aphids, whiteflies, thrips, ants, caterpillars, gnats, root aphids, mealybugs, scale, powdery mildew, gray and white mold.

DESCRIPTION: Made from food-grade cinnamon, clove, rosemary & thyme oils, this spray kills and repels plant pests and pathogens. Designed to be used repeatedly, it kills on contact while deterring future pest activity or fungal growth. Best used before pests become an infestation and diseases become chronic. Can be used through the flowering stage up to 2 weeks before harvest. This blend is 100% vegan and evaporates, leaving no residue on leaves that can affect taste.

SUGGESTED USE: Suggested Use: Test on a few leaves before use and don't use on wilted/stressed plants. Spray all sides of leaves and surrounding vegetation thoroughly. Spray in the evening or when plants are not under bright lights. RTU: If leaf burn occurs, dilute with 1 part water to 3-4 parts ZT. Conc: As an insecticide: 1 1/2 oz (3 Tbsp)/1 qt water. As a repellent: 1 1/2 oz (3 Tbsp)/2 qts water and spray 1-2 times a week. If leaf burn occurs, dilute mix by 25%. For mite infestations, apply 3 times, 3 days apart.

1458205	Zero Tolerance Pesticide RTU - 1 Quart	\$18.00
1458208	Zero Tolerance Pesticide - 6 oz. Conc.	\$19.00
1458209	Zero Tolerance Pesticide - 16 oz. Conc.	\$65.00

Cannot be shipped to the following states: AK, AZ, AR, CT, DE, FL, ID, IL, IN, IA, KS, KY, LA, ME, MD, MA, MN, MS, MO, MT, NH, NM, ND, OH, OK, PA, PR, RI, SC, SD, TN, UT, VT, VA, WV, WI, WY



Green Cleaner

An Industry Favorite Because It Works So Well!

TARGET: Soft-bodied insects including spider mites, aphids, whiteflies, broad mites & russet mites. Also effective against powdery mildew.

DESCRIPTION: The mixture of Soybean oil, Sodium Lauryl Sulfate, alcohol and Citric acid in Green Cleaner creates a killer combination for insect pests. The oils coat the insects to suffocate or limit sporereproduction and the alcohol and citric acid dehydrates and kills insects. This process affects the mature bugs and their eggs, so the potential for insecticide resistance in future generations is effectively eliminated. You can use Green Cleaner in every stage of plants' lives: as a dip for new cuttings, as a foliar spray during all stages of growth and to prevent cross-contamination when outsourcing plant starts.

SUGGESTED USE: As an insecticide, fungicide or miticide. For use on horticultural plants; not for use on feed or feed crops. Apply with any sprayer (high pressure preferred). Initial drench-2 oz. per gal.; secondary application-1 oz. per gal. (apply every 1-2 days) and weekly maintenance-1/2 oz. per gal. Apply at a rate of -1/2 oz. per gal.

1458050	2 oz. - Makes up to 4 Gallons	\$14.99
1458051	4 oz. - Makes up to 8 Gallons	\$22.49
1458052	8 oz. - Makes up to 16 Gallons	\$40.00

Larger sizes available.

Cannot be shipped to the following states: AL, AR, DC, IL, IN, KS, MS, NM, SD, TN, WI, WV, WY



The Amazing Doctor Zymes Eliminator



Use This Year Round For Pest & Mildew Free Plants.

TARGET: Aphids, thrips, fungus gnats, mites, root aphids and whiteflies. Also eliminates fungus, molds and mildew.

DESCRIPTION: This OMRI listed product is made with naturally occurring organic materials and citric acid to produce a multiple action fungicide/miticide. As a miticide, it works by interfering with the pest's ability to breath, fatally breaking down protein and organic materials in eggs and acting as a deterrent. As a fungicide, the citric acid destroys the biomass of the spores and alters the pH to create an environment hostile to growth. Best when used preventatively.

SUGGESTED USE: Dilute with warm water. Larger volume applications: 1/2 cup/gal water. For severe infestations: 1/2 cup/gal water every 3rd day. Powdery Mildew/weak solution: .5 oz/31.5 oz water. Soft bodied insects/medium solution: 1-1.5 oz/31 oz water. Infestations/strong solution: 2-2.5 oz/30 oz water. Preventative: seeds/transplants: .5-1 oz/qt water; soil amendment: 1 cup/5 gal water; foliar spray: 1/2 cup/1 gal water.

1459200	The Amazing Dr. Zymes Eliminator - Quart RTU	\$13.95
1459201	The Amazing Dr. Zymes Eliminator - Quart Conc.	\$32.95
1459202	The Amazing Dr. Zymes Eliminator - Gallon Conc.	\$115.95

Larger sizes available.

Cannot be shipped to the following states: CT, DC, ID, IN, KS, LA, ME, MS, NE, NJ, NM, ND, PR, SD



Guard 'N Spray™



Contains Citric Acid & 3 Botanical Oils For Maximum Pest & Disease Control.

TARGET: Spider mites, broad mites, whiteflies, aphids, fungus gnats, flies, beetles, thrips and powdery and downy mildews.

DESCRIPTION: This OMRI listed spray will treat, manage, eliminate and repel key insect pests. It will also treat and control downy and powdery mildews. This highly-concentrated formula uses a combination of citric acid and 3 botanical oils to suffocate, desiccate and emaciate its targets in all their life stages. Can be used during the vegetative growth stages, but should not be used in mid-to late flowering. Contains no soy or corn oil and indirect contact will not harm beneficial insects.

SUGGESTED USE: Use: Can be applies as a foliar spray or soil drench. Add 15-30 ml./gal. water. 32 oz. concentrate makes about 32 gallons of Guard 'n Spray at full strength of 30 ml./gal. of water. Spray 1-3 x per day depending in infestation level: preventative: 2-3 x daily at 15 ml./gal.; combative: 2-3 x daily at 30ml./gal. For soil drench: dilute at 10-15 ml./gal. and apply directly to root zone.

1458150	Guard 'n Spray - 32 oz. conc.	\$46.49
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SNS 209 All Natural Systemic Pest Control Concentrate

This NOP Compliant Insecticide Works From The Inside Out To Provide Long-Lasting Control.

TARGET: For use against spider mites, whiteflies, fungus gnats, thrips, root aphids, scales and more.

DESCRIPTION: This unique product formula contains rosemeric acid, a derivative of the rosemary plant, that the plant will uptake and spread throughout its structure. The presence of this acid in the plant cells forms a barrier that insects find distasteful. Once a feeding insect comes in contact with the rosemeric acid, they retreat and look for a more suitable food source. Contact with rosemeric acid can be fatal depending on the size of the pest affected and that pest's maturity. SNS 209 stays in the plant's leaves, stems and roots and can't be diluted by the elements. This provides complete protection for all parts of the plant.

SUGGESTED USE: This product may be used as a foliar spray or as a root drench. Use daily or every few days until it begins working in 1-2 weeks. It will be effective for up to 3 weeks. Discontinue use once it starts working and then reapply every 14-28 days as needed. Do not overuse.

1459100	SNS 209 Systemic Concentrate - 1 Pint	\$24.00
1459102	SNS 209 Systemic Concentrate - 1 Gallon	\$110.00



BEAUVERIA BASSIANA

BioCeres® WP



This Versatile Biopesticide Can Be Used In A Tank Mix Or As A Stand-Alone.

TARGET: Aphids (*Aphidoidea*), whiteflies (*Aleyrodoidea*), thrips (*Thysanoptera*), plant bugs (*Lygus lineolaris*), spotted wing drosophila (*Drosophila suzukii*), borers, beetles and weevils.

DESCRIPTION: This OMRI Listed biopesticide uses the power of *Beauveria bassiana* to control insects in developing and adult stages. Upon application, the spores will adhere to and begin penetrating the insect's outer shell. Once inside the insect, the spores will continue to multiply until they reach its hemolymph (blood). When the spores encounter the blood they will begin feeding on it. Death will occur in 7 to 14 days. 0 pre-harvest interval and 4-hour REI.

SUGGESTED USE: Repeat at 5-7 day intervals as needed. Apply 1-3 lbs. per acre, according to the density of the insect population. For conventional air and ground applications, use at least 50 gallons of spray volume per acre. Thoroughly cover plant foliage with spray solution, but not to runoff.

1332890 BioCeres WP - 1 lb. Bag **\$80.00**
1332895 BioCeres WP - CA Version - 1 lb. Bag **\$80.00**

Case sizes available.



Beauveria bassiana

Beauveria bassiana is an entomopathogenic fungi that causes white muscadine disease in a range of insects including whiteflies, aphids, thrips, grasshoppers and certain types of beetles. *B. bassiana* spores simply need to come in contact with a host. Once the host insect is infected, the fungus rapidly grows inside of the insect, feeding on the nutrients present in the host's body and producing toxins in the process. When the host dies, the *B. bassiana* covers the carcass in a layer of white mold that produces more infective spores.

BotaniGard® ES & 22WP *Beauveria bassiana* Strain GHA

Controls A Wide Variety Of

Soft-Bodied Insects In Greenhouse, Field & Nursery.

TARGET: A wide variety of soft-bodied

insects such as whiteflies, thrips, aphids, psyllids, mealybugs, scarab beetles, plant bugs and weevils.

DESCRIPTION: BotaniGard ES is a natural contact insecticide that contains a liquid emulsified suspension of the mycoinsecticide – *Beauveria bassiana* Strain GHA, which controls many varieties of soft-bodied insects in greenhouse, field and nursery crops.

SUGGESTED USE: Thorough coverage is required to achieve control. Apply in 7 day intervals. However, if pest population is high, it can be applied in 3-5 day intervals totaling 3 applications.

Application Rates of BotaniGard ES

- For whiteflies and aphids, use about .5-1 quarts per 100 gallons of water.
- For thrips, use about 1-2 quarts per 100 gallons of water.
- For other insects, use about .5-2 quarts per 100 gallons of water.
- If applying as a high or low volume spray, use up to 3 quarts per 100 gallons of water to cover an area of 5,000-20,000 sq. ft.

Application Rates of BotaniGard 22WP

- For whiteflies and aphids, use .5-1 lb. of BotaniGard 22WP per 100 gallons of water.
- For thrips, use 1-2 lbs. of BotaniGard 22WP per 100 gallons of water.
- For other labeled insects, use .5 to 2 lbs. of BotaniGard 22WP per 100 gallons of water.
- Rate depends upon infestation level, consult package instructions before application.

BotaniGard ES

1332801 BotaniGard ES - 1 Quart **\$85.00**
1332799 BotaniGard ES - 1 Gallon **\$269.00**

BotaniGard 22WP

1332800 BotaniGard 22WP - 1 lb. Powder **\$90.00**

Case sizes available.

Shipping Restrictions: Cannot ship via US Mail.



Mycotrol® WPO



A New Formulation For A Reliable Favorite!

TARGET: Adult and immature stages of whiteflies, thrips, aphids, psyllids, weevils, mealybugs, leafhoppers/plant hoppers, scarab beetles and plant bugs (*Heteroptera*) and more.

DESCRIPTION: Mycotrol WPO is a wettable powder mycoinsecticide that contains live spores of the naturally occurring fungus, *Beauveria bassiana*. In fact, this formulation contains the highest concentration of any insecticide containing *Beauveria*. These spores adhere to the host insect and use enzymes to attack and ultimately dissolve the cuticle that surrounds and contains the body cavity. This fungal penetration will ultimately kill the unwanted insects but will not harm beneficials.

SUGGESTED USE: For use in greenhouses, nurseries, landscape and interiorscape settings. Mycotrol WPO can be used for a wide range of vegetables, fruits and berries, herbs and spices, ornamentals, ground covers, trees and turf. Apply Mycotrol WPO using hand-held, ground spray equipment and/or low volume application equipment.

1332785 Mycotrol WPO - 1 lb. **\$108.00**
1332795 Mycotrol WPO - 1 lb. (Case of 12) **\$1,166.40**

Ships via UPS Ground & FedEx Ground ONLY.



BIORATIONAL

Grandevo® CG & Grandevo® WDG



Get Widespread Control With This Multi-Action Microbial-Based Insecticide/Miticide.

TARGET: Aphids, whiteflies, thrips, mealybugs, mites, armyworm, Asian Citrus Psyllids, leafhoppers, *Lygus*, cutworms, beetles, *Drosophila*, loopers, moths, sharpshooters, earworms, caterpillars and more.

DESCRIPTION: Grandevo uses the bacterium *Chromobacterium subsugae* strain PRAA4-1^T to provide long-lasting, reliable broad spectrum control of a long list of labeled pests. Its mode of action is multi-faceted; it is toxic when ingested, it repels and it reduces insect reproduction. This OMRI listed and NOP compliant organic pesticide/miticide can be a valuable part of any IPM program. Can be used on a wide range of edible crops in field and greenhouse applications.

SUGGESTED USE: In greenhouses: Use 1-3 lbs./100 gals. of water sprayed until just before point of runoff. Ground & aerial application: Use sufficient water to provide thorough coverage plant parts. For tank mix programs: Apply 1-2 lbs./acre For rotational programs: Apply 2-3 lbs./acre when alternating.

1332953	Grandevo CG - 1 lb.	\$37.50
1332954	Grandevo CG - 4 lbs.	\$130.00
1332952	Grandevo WDG - 6 lbs.	\$155.00

Grandevo CG cannot be shipped to the following states: FL

PFR-97™ 20% WDG



Directed Fungal Growth Is The Key To This Remarkable Insecticide.

TARGET: Aphids, black vine & root weevils, broad, russet & spider mites, leafminers, *Coleoptera* grubs & larvae, *Lepidoptera* caterpillars & larvae, mealybugs, plant bugs, phorid & scarid flies, thrips, whiteflies, root & wireworms.

DESCRIPTION: PFR-97 uses an entomopathogenic fungus, *Isaria fumosorosea* Apopka Strain 97, as its active ingredient. This is a naturally occurring, soil-borne fungus that infects and kills many insect pests. Infection, however, is not limited to soil-dwelling pests; it is spread above ground by sick and dying insects. This product has successfully harvested this fungus to control targeted insects. Germination & growth occurs over several days, so application should begin at the first sign of pests, before infestation. Can be mixed with most other products, but the only fungicide it can be mixed with are copper-based ones. 4 hour REI, OMRI listed, NOP approved.

SUGGESTED USE: Standard application rate: Apply PFR-97 to moist or pre-irrigated soil at 1-2 lbs. per acre of soil. Spray volume depends on crop size/type: 20-50 GPA on small or young crops; 80-100 GPA or more on full grown crops.

1332870	PFR-97 20% WDG - 5 lbs.	\$225.00
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Cannot be shipped to the following states: AK, AL, AR, IA, UT



NoFly™ WP

This Aggressive Fungus Controls Soft-Bodied Insects & Hard-To-Kill Livestock Pests.

TARGET: Aphids, Bagrada bugs, beetles (including darkling, litter, carrion & hide), fungus gnats, gnats, grasshoppers, leaf hoppers, locust, lygus bugs, mealybugs, mites (including russet, spider & chicken), Mormon crickets, northern fowl mites, plant bugs, psyllids, red poultry mites, thrips, weevils, and whiteflies.

DESCRIPTION: This organic wettable powder mycoinsecticide contains spores of the entomopathogenic fungus *Isaria fumosoroseus* strain FE 9901. This naturally occurring fungus is a common and aggressive predator of insect pests but is not a plant pathogenic organism and will not adversely affect beneficials (including bees). When the spores come into contact with the insect pest, they will immediately attach themselves to the body. As they grow, they will penetrate the host insect's body and disrupt the normal functions of the insect's internal organs and tissues. It will stop feeding within 24 hours and die in 3-7 days. Effective against all life stages of insect pest.

SUGGESTED USE: Can be used as a foliar, soil or hydroponic application. Rates for crops: Foliar: 1/2-2 lb/ acre or 2-8 oz/ 11,000 sq. ft. at a minimum of 0.1% solution. Soil: 14-28 oz/100 gals water at a rate of 1 gal of solution per cu ft of growing media or 6-12 oz/5-10 gals water/yard of soil. Hydroponics: 6-16 oz/100 gals water. Rates for turf: 1/2- 2 lb/ acre or 2-8 oz/11,000 sq. ft. applied at a minimum of 0.1% solution. Rates for poultry houses & livestock barns: 1-3 oz/12 gals water.

1332875	NoFly WP - 8 oz.	\$67.78
1332876	NoFly WP - 2 lbs.	\$225.99

Cannot be shipped to the following states: AK, DC



Venerate® CG & Venerate® XC



This Unique Bioinsecticide Fits In Any IPM & Resistance Management Program (RMP).

TARGET: Caterpillars, foliage feeding *Coleopteran*, aphids, whiteflies, Asian Citrus Psyllids (ACP), leafhoppers, stink bugs, mites, *Lygus* and more.

DESCRIPTION: Venerate uses killed cells of the *Burkholderia spp.* strain A396 and spent fermentation media to kill insects in fields and greenhouses. It's toxic when ingested and works on contact to cause enzymatic degradation of exoskeletal structures and fatal interference with the molting process. Not harmful to fish, birds, most beneficials and honey bees.

SUGGESTED USE: Mix with water and apply as a foliar spray. Apply 1-4 qts./ acre on a 7-day interval. Smaller scale applications: 2-4 Tbsp./gal. Can alternate with another product on a 7-day interval. No limit on number of applications per season. No spray buffer needed.

1332957	Venerate CG - 1 Quart	\$58.00
1332956	Venerate CG - 1 Gallon	\$134.00
1332960	Venerate XC - 2.5 Gallons	\$260.00

Venerate XC - 2.5 Gal. (1332960) cannot be shipped to the following states: CA



AZADIRACTIN

AzaSol™



This Non-Oil Based & Water Soluble Powder Controls A Myriad Of Insect Pests.

TARGET: Whiteflies, aphids, caterpillars, mushroom flies, phorid flies, leafminers, mealybugs, psyllids, weevils and many more.

DESCRIPTION: Azasol contains Azadirachtin, a product of the Neem tree. In production, the Neem oil from the seeds of the trees is transformed into a yellowish-white, water-soluble amorphous powder suitable for spraying. When used as directed it is effective on adult insects, larvae and pupae. It will vigorously repel insects, kill them when they come in contact with the spray or feed on sprayed plants and interrupt their life cycles. This powder quickly dissolves in water and won't clog equipment or leave an oily residue or discoloration on plants. Won't burn leaves or block photosynthesis. Can be injected in trees for quick results..

SUGGESTED USE: Apply as a foliar spray or soil drench to soil or soil-less media. A wetting agent may be used. To repel adult flies, use fogging equipment. Use from 1-4 tsp./1000 sq. ft. depending on pest infestation levels, application method and growing environment. For optimum results, 2-3 applications made at 7-10 day intervals is recommended.

1457620	AzaSol - .25 oz.	\$19.99
1457621	AzaSol - .75 oz.	\$46.99
1457622	AzaSol - 6 oz. (8 x 0.75 oz.)	\$329.99
1457625	AzaSol - 2 lb. Jug	\$1,297.00



AzaGuard®



This OMRI Listed Product Works On A Wide Range Of Ornamental, Forestry, Food & Non-Food Crops.

TARGET: For controlling and repelling over 300 listed insect species, including aphids, beetles, armyworms, fungus gnats, leafhoppers, caterpillars, mealybugs, webworms, plant parasitic nematodes and root knot nematodes.

DESCRIPTION: Azadirachtin, extracted from the neem tree, is the active ingredient here. Insects are repelled by the taste and smell of neem, but azadirachtin also works as a molting/growth disruptor. This Insect Growth Regulator (IGR) disrupts the life cycle between larval, pupal and nymphal stages by impeding the metabolism of ecdysone. Ecdysone is necessary for molting, without which the insect cannot mature into its next growth stage and will, ultimately, die. NOP Compliant.

SUGGESTED USE: Apply using a power or pump sprayer or a hand-held trigger type sprayer. Spray when pests first appear and repeat at 5-7 day interval as required. A sticker agent may be added to product for more complete coverage on waxy or pubescent plant surfaces. Do not exceed the rate of 22.5 fl. oz. (20 g.) per acre per application.

1222204	AzaGuard - 32 oz.	\$180.00
1222206	AzaGuard - 1 Gallon	\$570.00



Azera® Gardening



This Unique Mix Of Azadirachtin & Pyrethrins Offers Exceptional Insect Control.

TARGET: This product will kill the larval, pupal and adult stages of a broad spectrum of over 200 listed insects.

DESCRIPTION: This organic gardening pesticide couples two plant-based powerhouses (Azadirachtin and Pyrethrins) to fight both hard-bodied and soft-bodied insects. Hard-to-kill insects will not get past Azera; they will succumb to the quick knock-down kill or perish more slowly once they ingest it. One of these two processes will kill all stages of an insect's life (larval, pupal and adult), effectively eliminating all future generations. This OMRI listed product is soft on the environment and can be applied the same day of harvest.

SUGGESTED USE: Apply Azera as soon as insects appear; do not wait until plants are heavily infested. Apply with any powered or manual pesticide application equipment. The most commonly used rate of application is 2 pints per acre (32 fl. oz. = 946 ml.) Higher populations of adults and/or hard to kill insects may require 3 pints per acre (48 fl. oz. = 1.42 L) or 3.5 pints per acre (56 fl. oz. = 1.66 L).

1288740	Azera Gardening - 8 oz.	\$41.00
1288750	Azera Gardening - 32 oz.	\$108.00
1288760	Azera Gardening - 1 Gallon	\$390.00



Debug® Turbo



Controls Over 200 Pest Insects, Plant Parasitic Nematodes & Other Plant Pathogens.

TARGET: Red ants, cutworms, grubs, chinch bugs, crickets, aphids, whiteflies, thrips, beetles, leafhoppers, spider mites, caterpillars, cabbage loopers, armyworms, grasshoppers, maggots, weevils, chafers, spider mites, spittlebugs, webworms, *Rhizoctonia solani*, *Sclerotium rolfsii*, *Sclerotinia sclerotiorum*, *Fusarium oxysporum*, rust and powdery mildew.

DESCRIPTION: OMRI listed Debug Turbo is an insecticide, fungicide, miticide, and nematocide. Use to control insects in various stages of development, repel insects from entering treated areas and to deter insects from feeding on treated surfaces. It also acts as a growth regulator when ingested by young insects. Contains a high concentration of azadirachtin, tri-terpenoids and neem oil. It has a low REI and PHI and can be used without harm to beneficial insects.

SUGGESTED USE: Mix 2 Tbsp (1 oz)/32 oz of water in spray container. Spray on foliage, making sure to completely saturate all surfaces. Apply in early morning or late evening with temperatures less than 95°F. For best results apply weekly; do not water leaves for 24 hours after application.

1450500	Debug Turbo - 1 Quart	\$64.25
1450502	Debug Turbo - 1 Gallon	\$260.00

Case sizes available.

Cannot be shipped to the following states: AL, AK, AR, CT, DE, DC, ID, IN, IA, KS, LA, ME, MS, NE, NH, ND, PR, RI, SD, UT, VT, WV, WY



BotaniGard® MAXX

Beauveria bassiana & Pyrethrins Make A Powerful Team!

TARGET: Whiteflies, aphids, thrips, psyllids, spider mites, mealybugs, leafhoppers, weevils, borers and other leaf-feeding insects.

DESCRIPTION: This potent biorational formulation provides a quick knock-down of insect and mite pests. The two active ingredients, *Beauveria bassiana* and Pyrethrins, work independently, yet in harmony, to provide multiple mechanisms to kill harmful insects. The pyrethrins will attack the nerve cells of the insect and the *Beauveria bassiana* strain GHA fungal spores penetrate an insect's protective cuticle and destroy it from within.

SUGGESTED USE: Can be applied at a rate of up to 2 quarts per 100 gallons of water, however most target insects can be controlled at a rate of 1 quart per 100 gallons of water, 1/2 quart per 50 gallons of water or 1 pint per 25 gallons of water. For best results, use as soon as insect pests are spotted, before their population becomes too large. Results can generally be seen within 2-5 days after the first spraying. Do not reapply within 3 days, unless the infestation is extreme. If this is the case, wait 24 hours for reapplication.

1332820	BotaniGard Maxx - 1 Quart	\$85.00
1332821	BotaniGard Maxx - 1 Gallon	\$280.00
1332822	BotaniGard Maxx - 2.5 Gallons	\$640.00

Case sizes available.



PyGanic® Specialty

New Label – Same Terrific Product As PyGanic 5.0!

TARGET: Livestock and poultry pests as well as over 100 listed plant pests.

DESCRIPTION: With this OMRI listed, Pyrethrin-based insecticide you will be able to protect nearly everything you grow or raise from destructive and disease carrying insect pests. This includes the commercial production of livestock, poultry and crops. These commercial enterprises require more frequent and higher volume application rates than smaller scale producers and this concentrated version is easily adapted to these specific needs. PyGanic Specialty works best if it is applied when pests first appear, before there is a heavy infestation. Thorough coverage is also key; direct contact needs to be made with the pest insects.

SUGGESTED USE: For use on production animals in barns, dairies, milking parlors, milking rooms and poultry houses. For use on horse flies, house flies, mosquitoes and gnats, dilute at the rate of 1.5-3 fl. oz. per 1 gal. of water and apply. See label for detailed instructions on other livestock and crop pests.

1288770	PyGanic Specialty - 32 oz.	\$157.00
1288780	PyGanic Specialty - 1 Gallon	\$580.00



Be aware of state restrictions and regulations as well as end-product testing prior to selecting or applying sprays. ARBICO Organics is not liable for testing failure.



Building Blocks for Optimal Growth

Your Seed to Harvest Solutions for Healthy, Productive Plants



Microbial Inoculants & Mycorrhizae

Working symbiotically with your plants, beneficial microbes and fungi improve nutrient availability and uptake, increase water efficiency and out-compete soil-borne diseases in the rhizosphere.

See pages 46-48.



Soil Enhancers

Soil health is more than just NPK! Amend soil in targeted or general applications to create the foundation for healthy plant growth. Improve texture and consistency for deep roots and balanced moisture retention. Mix compost and/or worm castings into the top 2" to 4" of soil and plant as usual. See pages 44-45.



Biostimulants & Nutrients

The keys to unlocking your crop potential lie in correcting deficiencies in soil nutrients. A simple soil test can assist in identifying which areas need to be adjusted based on your individual plant needs. Augmenting with a biostimulant supports stress tolerance and further aids nutrient efficiency to maximize yields.

See pages 49-51.



Disease Control

Fungal, viral and bacterial pathogens can damage, compromise or kill plants. A comprehensive strategy should include: Preventative treatments of beneficial fungi and bacteria to get ahead of and out-compete pathogens in the soil, supporting healthy plant immunity through nutrition, control of vectoring pests (aphids, whiteflies, etc.) and vigilant monitoring for signs of disease throughout the growing season. See pages 52-55.





Fertilpots

OMRI Listed & WSDA Certified. Eliminates Circling Roots.

DESCRIPTION: These sturdy and super easy-to-use pots allow your plants to grow their best possible roots in the most natural way. As the roots grow out of these porous pots and hit the air, they will stop growing forward and branch out laterally along the root shaft. This air pruning causes the plant to produce more root tips, which are the all-important part of the plant that uptakes water and nutrients. Fertilpots break down as the plant grows in and through



it. Once the roots pass through the pot walls, the pot and plant will meld together as one root ball. These pots can be used in automated systems, don't require drainage holes, eliminate transplant shock and can be used in hydroponics and aquaponics.

SUGGESTED USE: Spacing should make an allowance for greater plant growth compared to a plastic pot of similar dimensions. Fertilpots are designed to retain their strength during the growth

cycle but degrade quickly after planting into the next container or landscape. Handle with care. They are organic and suitable for composting.

Round Fertilpots

3000801	Round Fertilpot 4.5 x 7 cm (500 size) - 2,520 ct.	\$151.49
3000802	Round Fertilpot 5 x 9 cm (501 size) - 2,170 ct.	\$142.99
3000803	Round Fertilpot 6 x 6 cm (504 size) - 3,000 ct.	\$154.29
3000804	Round Fertilpot 7 x 9 cm (509 size) - 1,280 ct.	\$118.29
3000805	Round Fertilpot 8 x 8 cm (510 size) - 1,370 ct.	\$122.29
3000806	Round Fertilpot 10 x 10 cm (513 size) - 810 ct.	\$163.29
3000807	Round Fertilpot 10 x 18 cm (510 size) - 480 ct.	\$168.99
3000808	Round Fertilpot 11 x 11 cm (519 size) - 480 ct.	\$121.29
3000809	Round Fertilpot 17 x 16 cm (580 size) - 84 ct.	\$116.99
3000810	Round Fertilpot 12 x 9 cm (592 size) - 616 ct.	\$274.49
3000811	Round Fertilpot 14 x 10 cm (593 size) - 484 ct.	\$251.29

Square Fertilpots

3000830	Square Fertilpot 4 x 5 cm (36 cells) - 5,184 ct.	\$144.29
3000831	Square Fertilpot 5 x 5 cm (20 cells) - 1,740 ct.	\$102.49
3000832	Square Fertilpot 6 x 6 cm (16 cells) - 2,544 ct.	\$148.99
3000833	Square Fertilpot 6 x 6 cm (18 cells) - 1,998 ct.	\$126.79
3000834	Square Fertilpot 8 x 8 cm (12 cells) - 768 ct.	\$95.79
3000820	Square Fertilpot 9 x 9 cm (512 size) - 740 ct.	\$166.49
3000821	Square Fertilpot 10 x 18 cm (570 size) - 180 ct.	\$172.49

Fertilpot Trays

3000841	38-cell trays that fit the 501 size pots - 50 ct.	\$126.99
3000842	28-cell trays that fit the 504 size pots - 50 ct.	\$119.99

iHort Q-Plug Propagation Kit

All You Need To Get Growing In One Package – Just Add Clones, Seedlings Or Transplants.



DESCRIPTION: This kit provides an easy and convenient start to your growing, no matter what (or how much) you want to grow. These pre-drilled plugs and trays have been developed to give your plants a strong start in life by encourage robust root growth. They offer flexible aeration, optimum lateral root development, excellent water control, maximum cation rates, insulation and natural buffing, and are sturdy but easy to remove. They are made of a fully biodegradable proprietary mix of coco coir, sphagnum peat moss and coconut shell biochar.

SUGGESTED USE: This kit contains 50 Q-plugs growing media, size 40/40 (1.25" x 1.25" with a 1/8" hole). A carrier tray and a 50-cell plug tray. A refill pack of 50 plugs is available separately. Simply add the seeds, cuttings, clones or transplants of your choice. Once your plants are too big for the tray, the plugs can be removed and replanted; refill plugs go in easily to replace them.

1430055	iHort 40/40 Q-Plugs - 50 ct. Propagation Kit	\$19.99
1430054	iHort 40/40 Q-Plugs - 50 ct. Refill Bag	\$18.50

Prococo Coco Coir

This Compressed Coconut Coir Can Be Used in Hundreds Of Ways!

DESCRIPTION: Made from the natural byproducts of coconut cultivation (crushed coconut husks), this premium coco coir product is renewable and sustainable. In addition to being earth-friendly, coco coir offers many advantages: it is free of bacteria and fungal spores, improves soil by slowly adding organic matter, has a low salt content and contains very little dust. It is also easy to hydrate and is resistant to mold and mildew.



For use in greenhouses, container plants, nurseries, gardens and landscaping as a replacement for soil and peat moss or as a soil amendment. Can also be used for animal and reptile bedding, playground mulch, in composting, liquid containment and much more.

Prococo is available in 3 different variations depending on your needs. Prococo Compressed **CocoPeat Block** is finely-ground coir and an excellent moisture-holder. Prococo Compressed **Chips-N-Fiber Block** contains a mixture of rolled and finely chopped husks. Prococo Compressed **CocoChip Block** is made from coarsely chopped husks allowing for excellent drainage.

1305580	Prococo Compressed CocoPeat Block - 10 lbs.	\$15.95
1305582	Prococo Compressed Chips-N-Fiber Block - 10 lbs.	\$15.95
1305581	Prococo Compressed CocoChip Block - 10 lbs.	\$15.95

Olivia's Cloning Gel®

Seal The Deal On Healthy Plants With This First-Rate Cloning Gel.

TARGET: Use to stimulate root development and prevent transplant shock on all cuttings.

DESCRIPTION: This product is a combination of a root-stimulating plant hormone (Indole-3 butyric acid) from the White Willow (*Salix alba*) tree and NPK nutrients formulated into a gel. This viscous gel adheres to cuttings quickly and completely to create a seal that provides direct root stimulation and nutrition to the plant and eliminates transplant shock. Just cut, dip and grow. For hydroponics or soil. Can be used on all plants.

SUGGESTED USE: No mixing required. Ready to use. Dip your cuttings in the Gel to the desired rooting depth. Coat entire stem area that is going to be below the soil or medium line. Place in our soil or any growing medium to root.

2000800	Olivia's Cloning Gel - 2 oz.	\$11.96
2000801	Olivia's Cloning Gel - 4 oz.	\$17.56
2000802	Olivia's Cloning Gel - 8 oz.	\$29.56

Case sizes available.

Cannot be shipped to the following states: OR



Olivia's Cloning Solution®

Give Your Plants Just What They Need As They Grow.

TARGET: Use in propagation to promote rapid and robust root development and growth.

DESCRIPTION: This concentrated liquid contains a root stimulating plant hormone derived from the White Willow (*Salix alba*) tree, Indole-3 butyric acid, and NPK nutrients. These ingredients provide new cuttings what they need for a spectacular start and continued robust growth. Can be used daily to root and feed and to keep the medium moist. For hydroponics or soil and with root cubes and cloning machines. Can be used on all plants.

SUGGESTED USE: Mix 6 oz. (3/4 cup)/gal. of water. Take your cuttings/clones/ slips and immediately place in mixture or cut and place immediately in your growing medium. Water daily with mixture until roots appear. For best results, keep growing medium or soil moist and warm with bottom heat (75-85°F)

2000820	Olivia's Cloning Solution - 1 Quart	\$10.36
2000821	Olivia's Cloning Solution - 1 Gallon	\$31.41

Case sizes available.



LIFE Cloning Gel

Give Your Plants The Best Start In LIFE!

TARGET: Use as a rooting compound for plant cuttings.

SUGGESTED USE: Propagation Cubes – Dip cutting into LIFE Cloning Gel to desired depth and then insert cuttings into rooting medium. Aeroponic Application – Dip cutting into LIFE Cloning Gel to desired depth and then insert cuttings into cloning collar.

3000650	LIFE Cloning Gel - 0.5 oz.	\$4.99
3000655	LIFE Cloning Gel - 8 oz.	\$36.99

Cannot be shipped to the following states: AL, CA, GA, ID, IN, IA, KS, KY, LA, MS, MO, NE, NC, ND, NM, SC, SD, TN, UT, VA, WV, WA, WI, WY



LIFE Cloning Solution

Helps Reduce The Time To Root From Cuttings.

TARGET: Use to provide nutrient inputs in early root and plant development.

SUGGESTED USE: Standard application rate: 0.5 oz./gal. water. Aeroponics: Mix with water and maintain pH at 5.0-5.5. Add fresh solution to reservoir as needed until ready to transplant. Soil/soilless medium application: Mix with water and adjust pH to 5.5-6.0. Insert cuttings and drench medium to saturation. Reapply 1-2 times a week until ready to transplant.

3000652	Life Cloning Solution Conc. - 1 Quart	\$23.99
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Cannot be shipped to the following states: AL, GA, ID, IN, IA, KS, KY, MS, MO, NE, NC, ND, SC, SD, TN, UT, VA, WV, WI, WY



Controlling Pests During Propagation?

During propagation or when plants are small, predators cannot use the plant canopy to travel. Sachets on sticks allow the growers to place predators right next to the plant where they are needed.



SOIL ENHANCERS

ARBICO Organics® Earthworm Castings

So Good For Your Garden It's Almost Magical!

TARGET: Soils that need nutrients and microbial life.

DESCRIPTION: A sustainable byproduct of vermiculture, these castings have a bounty of benefits for your soil. They provide a slow release of micronutrients and trace minerals, add microbial life, reduce transplant shock, aerate and condition the soil and add chitinase (which helps in disease suppression and root knot nematode control). Can be used indoors and outdoors on anything you grow and can be used with other fertilizers and amendments.

SUGGESTED USE: Mix into potting soil at the rate of 3%-5% by volume. Top dress around pots beds, shrubs, trees or rows at a rate of 1/4"-1/2" every 2-4 mos. Incorporate into the top several inches of pots or beds prior to planting or mulching. Repeat when transplanting to reduce shock. Apply onto turf and rake in for lush, green grass.



1308200	Earthworm Castings - 1 lb. Bag	\$4.95
1308201	Earthworm Castings - 5 lb. Bag	\$15.20
1308202	Earthworm Castings - 10 lb. Bag	\$25.00
1308203	Earthworm Castings - 25 lb. Bag	\$47.95

MontanaGrow™ Soil Amendments

These Organic Soil Amendments Can Do Wondrous Things For Your Soil & Your Plants.

DESCRIPTION: These soil amendments began as amorphous volcanic tuff from ancient volcanoes. This tuff contains silicon that becomes available to plants once it is added to soil. This organic powder provides soil with macro and micro nutrients and improves its texture and water retention capabilities. Plant benefits include improved cell wall strength and photosynthesis, a high cation exchange capacity, improved carbon sequestration, greater tolerance to temperature extremes, stronger disease resistance and more. Available as a smooth soil amendment or in a chunkier granular form.

SUGGESTED USE: Blend 1/2 to 1 1/2 cups/cu. ft. of grow medium. Broadcast at a rate of 100- 300 lbs/acre depending on crop and soil. Top dress container plants with 2-3 Tbsp/5 gal of grow medium every 2- 4 weeks. If plants are showing signs of stress, top dress with 2-3 Tbsp/5 gal of grow medium and water in immediately.



1308370	Silicon Soil Amendment - 5 lb. Jug	\$24.99
1308371	Silicon Soil Amendment - 25 lb. Poly Bag	\$64.99
1308372	Silicon Soil Amendment - 50 lb. Poly Bag	\$79.99
1308360	Silicon Granules - 4.3 lb. Jug	\$29.99
1308361	Silicon Granules - 25 lb. Poly Bag	\$79.99
1308362	Silicon Granules - 50 lb. Poly Bag	\$99.99

Cinderite™

Energize Your Soil With Power From A Volcano.

DESCRIPTION: This premium, OMRI listed soil amendment is a volcanic scoria sourced from ancient volcanoes in the American West. It is full of essential trace minerals that have been trapped deep in the earth and are ready to be slowly released into your soil (or soilless growing media). The angular and porous nature of Cinderite enhances aeration in the soil and means it can excel at holding water and delivering nutrients efficiently to plants. The volcanic source of this product gives it a paramagnetic charge. All natural/chemical free. Pet safe. Comes in 4 versions.



SUGGESTED USE: **Cinderite ParaBlend** – For general field applications. Fine enough for microbial decomposition but chunky enough to have soil conditioning properties. **Cinderite ParaFines** - Use like a rock dust; can be broadcast over lawns, sod, or pastures and/or used for germination mediums and microgreens. **Cinderite ParaLite** – Use as a Perlite replacement; increases moisture/nutrient retention while lowering the overall density of the soil. **Cinderite ParaHydro** – Created specifically for hydroponic/aquaponic use.

1308340	Cinderite ParaBlend - 12 lbs.	\$32.95
1308343	Cinderite ParaFines - 12 lbs.	\$32.95
1308344	Cinderite ParaLite - 12 lbs.	\$32.95
1308345	Cinderite ParaHydro- 12 lbs.	\$32.95

AZOMITE®

A To Z Of Minerals Including Trace Elements.

DESCRIPTION: This highly mineralized complex silica ore is mined from ancient marine volcanic deposits in Utah. Azomite contains over 70 metabolically active minerals and trace elements and has been used by gardeners and farmers as a micronutrient supplement for more than 60 years. Known to improve plant growth and yields, this fine powder is micronized to easily dissolve in water for application. It can also be added dry when planting or transplanting. OMRI listed.

SUGGESTED USE: Field crops: 50-200 lbs/acre. Citrus/Fruit/Vines: 1/2-5 lbs to the soil around each plant. Apply annually. Flowers/Plants/Vegetables: 1 lb/10-15 ft. Lawn/Turf: 44 lbs/12,000-15,000 sq. ft. Ornamentals/Shrubs & Trees: 1/2-1 lbs to the soil around each plant. Apply annually.



1309210	AZOMITE - 5 lbs.	\$12.95
1309211	AZOMITE - 25 lbs	\$25.95
1309212	AZOMITE - 44 lbs.	\$39.95

MPP: Mineralized Phosphate Powder™, 0-9-0



CDFA Registered. Gives Your Plants Phosphorus and Calcium Derived From Rock Phosphate.

DESCRIPTION: Mineralized Phosphate Powder (MPP) is a high phosphorus fertilizer with a substantial amount of calcium. This organic product is respectfully and sustainably managed and harvested from caves in Indonesia. Once collected, it is sifted through a 200-mesh screen.



The resultant smooth powder makes for easy mixing and application. Can be applied to soil (or other growing mediums) or made into a tea and is commonly used in gardens, raised beds, landscapes, houseplants and containers when growing vegetables, shrubs, flowers, herbs and vines. It is also excellent for fruit-bearing and other types of trees.

SUGGESTED USE: Gently work into soil surface once per month or as desired in the following applications. Gardens & Landscapes: Use up to 5lbs/200 sq. ft. or 25 lbs/ 1,000 sq. ft. Transplanting & Premixing Soil: Mix 1 tsp/gal soil or growing medium. Top Dressing: Mix 1 tsp/gal soil or growing medium. For Tea: Mix 2 Tbsp/gal into a mesh bag. Do not add product loose into a solution.

1323005 Mineralized Phosphate Powder - 5 lbs. **\$16.95**

Glacial Rock Dust

CDFA Registered, Deep-Down Goodness For Your Plants

DESCRIPTION: This natural mineral product can provide soil with essential and trace minerals that have been lost due to farming, erosion, leaching, weather and time. Sourced from rocks deep under glacial ice that have been able to keep their minerals intact, this goodness is ready to go right into your soil. After application, the minerals will slowly release into the soil for long-term benefits. GRD can also improve the overall structure of soil, which heightens drought resistance and improves microbial life. Responsibly harvested without chemical extraction.



SUGGESTED USE: Gently dig into soil surface once a month or as desired. In gardens and landscapes: use up to 5 lbs. per 200 sq. ft. or 25 lbs. per 1,000 sq. ft. For transplanting, premixing soil or top dressing: Mix 1 Tbsp. per gallon of soil or growing medium.

1308090 Glacial Rock Dust - 5 lbs. **\$16.95**

VRD: Volcanic Rock Dust™

This Easy-to-Use Amendment Unleashes Mineral Power From Deep In The Earth.



DESCRIPTION: VRD is sourced from Indonesia, where it is mechanically extracted in an ecologically sound manner without using chemicals. Then it is meticulously sifted through a 200 mesh screen until it turns into a smooth dust that will slowly release in the soil. VRD contains calcium, magnesium, iron, sodium and naturally occurring hydrophobic fulvic acid. It can be applied to soil (or a growing medium), used as a top dressing, made into a tea, used as a compost invigorator, and in vermicomposting. Excellent for all types of plants.

SUGGESTED USE: Gently dig into soil surface once per month or as desired. For gardens, landscapes, transplanting & premixing soil for potted plants and planter boxes: Use up to 5 lbs/200 sq. ft. or 25 lbs/ 1,000 sq. ft. As a top dressing: Mix 1 Tbsp/gal of soil or growing medium.

1308325 Volcanic Rock Dust - 5 lbs. **\$18.95**

BioFlux



Like Kombucha For Your Plants.

DESCRIPTION: Bioflux is a fermented plant-boosting product made from waste material that super-charges and regenerates your soil. This organic liquid feeds your soil with microbes and enzymatically unlocks the plant nutrients it holds. It will enhance nutrient uptake, root development and soil structure and will improve the overall interaction between plant and soil. Reduces water use and the need for additional fertilizer and pesticide inputs. Good for any growing medium. Excellent for cannabis cultivation-provides high terpene flowers with outstanding aroma and taste.



SUGGESTED USE: Use in a soil or foliar application. Apply using any irrigation system or sprayer. Mix 1-2 fl. oz. (30-60 mL) per gallon of water. Apply once a week from seed to harvest. No need to flush. Compatible with nutrients, but do not mix with pesticides, herbicides or unfiltered city water.

1314080 Bioflux - 32 oz. **\$16.96**
1314081 Bioflux - 1 Gallon **\$39.96**
1314082 Bioflux - 5 Gallons **\$125.00**
1314083 Bioflux - 55 Gallons **\$495.00**

Larger sizes available.

Cannot be shipped to the following states: AL, AK, AR, CT, DC, DE, FL, GA, HI, ID, IL, IN, KS, KY, LA, ME, MD, MA, MI, MN, MS, MO, MT, NE, NH, NJ, NY, NC, ND, OH, PA, RI, SC, SD, TN, UT, VT, VA, WV, WI, WY

MICROBIAL INOCULANTS

Mikro-Root

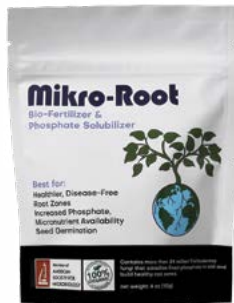
This Trichoderma-Based Product Functions As A Bio-Fertilizer.

DESCRIPTION: The two carefully chosen species of Trichoderma in this dry powder work symbiotically to provide substantial growth-promoting benefits. Unlike mycorrhizal fungi, which spread out their hyphae to fill in gaps in the root zone, Trichoderma stimulates the plant's roots themselves to grow wide and strong. Mikro-Root is not only effective on roots, when applied to seeds the Trichoderma spurs higher germination rates. Also provides phytohormones that stimulate roots and spur overall growth, contains trace elements (including phosphorus) that are solubilized and made readily available to the plant, encourages enzyme, phytoalexins and phenol production, and suppresses pathogens with vigorous and healthy root growth. With regular use of Mikro-Root, you can expect a vital and disease-free root system with lots of root hair and lateral growth, strong plant development, improved drought resistance, and increased yields.

SUGGESTED USE: Water Suspension: 1 tsp/gal of distilled or tap water and drench the root area. Repeat every 7-10 days. Dry Application: 1 tsp-1 Tbsp to and around root system while planting/transplanting. Water after applying. Follow with 1-2 applications of the water suspension at 7-10-day intervals.

1202520	Mikro-Root - 2 oz. Pouch	\$15.90
1202521	Mikro-Root - 4 oz. Pouch	\$25.90
1202522	Miko-Root - 5 lb. Pail	\$259.00
1202523	Miko-Root - 30 lb. Pail	\$899.00

Cannot be shipped to the following states: AL, CA, CO, ID, IA, KS, LA, ME, MD, MN, MO, NE, ND, OH, SC, SD, VA, WY



Unleash™

Get Wide-Ranging Benefits With This Simple-to-Use & Cost-Effective Inoculant.

DESCRIPTION: Contains a proprietary blend of rhizobacteria, containing both aerobic and anaerobic microbes, that spurs the growth of beneficial microbes in the root zone to provide multiple benefits to your plants. Microbes grow directly on the roots, where they digest fertilizer and deliver nutrients directly to the plant. Boosts nitrogen availability. Provides nutrients to clones and transplants to encourage growth, protect from pathogens and avoid transplant shock. Excellent for cannabis and hemp. Can be used in almost every system on the market. Can be used with fertilizers, compost teas and other common soil additives. Can also be used in a foliar application to make the treated area more resistant to insect pests and pathogens.

SUGGESTED USE: For a standard application, use 1 ml /1 gal water. Apply once every 2 weeks throughout the plant's life cycle. Soil inoculation/clones: 2 ml/gal water. Transplants: 2 ml/gal water. Vegetative: 1 ml/gal water. Flowering: 1 ml/gal water. Conventional agriculture: 1 liter/acre, split into 2 applications of 500 mL (2 cups). Shake well, then mix the 500 mL with 35 liters (10 gals) of non-chlorinated water. Second application should be applied 3 weeks after the first.

1202190	Unleash - 500 ml	\$89.90
1202191	Unleash - 1 Gallon	\$450.00
1202192	Unleash - 2.5 Gallons	\$1,100.00



Earth Alive™ Soil Activator™



Bring Your Soil To Life With This Powerful Organic Soil Inoculant!

DESCRIPTION: This OMRI listed soil inoculant is a patent-pending mix of three naturally occurring soil microorganisms and an all-natural wood extract (a forestry by-product). The beneficial bacteria in Soil Activator solubilize phosphorus and fix atmospheric nitrogen for improved nutrient availability to plants and increased yields. They also encourage active root growth for robust plants from the root up. Can be used as a dry mix soil or as a soil drench.

SUGGESTED USE: Use at the beginning of each growth cycle or season. Option 1: 3.5 oz. of treats up to 21 gallons of soil. Mix with soil at seeding or transplant. Option 2: 3.5 oz. treats up to 1,080 sq. ft. of garden. Mix with at least 2 gallons of water and apply at the base of plants.

1202170	Earth Alive Soil Activator, 50 gr. / 1.76 oz.	\$6.99
1202171	Earth Alive Soil Activator, 425 gr. / 15 oz.	\$19.99
1202172	Earth Alive Soil Activator, 1 kg. / 2.2 oz.	\$36.99

Cannot be shipped to the following states: AL, AR, CA, LA, SD, VT, WV, WI



Biojuvant® Beny-Gro™

These Microorganisms Work Together To Work Better For You.

DESCRIPTION: Beny-Gro consists of 7 microorganisms from 3 groups formulated together to create a microbial community that works symbiotically to provide multiple benefits for your plants. *Bacillus* and *Lactobacillus* spur root development, balance the microbial environment and produce organic acids that solubilize nutrients. Phototrophic bacteria work in anaerobic and aerobic conditions to convert or degrade organic and inorganic compounds into simple forms. Due to the low pH (3.9) of this product, do not apply undiluted to young, developing plants. Works exceptionally well in hemp production and hydroponic growing.

SUGGESTED USE: No pre-incubation or pre-mixing required. Simply dilute and apply. Potted plants: 1/4 - 1/2 Tbl/cup of water. Foliar spray: Dilute 1:500 w/water & apply. Hydroponic: 5 mL/gal nutrient solution or water. Seed/Clone treatment: Dilute 1:500 w/water & soak for 15 minutes.

1202751	Biojuvant Beny-Gro Conc. - 1 Liter	\$22.95
1202752	Biojuvant Beny-Gro Conc. - 1 Gallon	\$69.85
1202755	Biojuvant Beny-Gro Conc. - Case of Liters/12 Ct.	\$199.99
1202756	Biojuvant Beny-Gro Conc. - Case of Gallons/4 Ct.	\$252.00



ROOT™

Stronger, Healthier, Happier Plants Start At The Root!

DESCRIPTION: With eight different beneficial microbes, fully soluble ROOT is the ideal biological inoculant and soil amendment wherever you are growing. ROOT introduces naturally occurring beneficial microbes that boost bacterial colonization at the roots. With increased microbial activity at the roots, the plant is more efficient at absorbing the nitrogen and breaking it down into ammonia and nitrate. Likewise, normally insoluble phosphorous is made more soluble. The Myconate (Formononetin) in the formulation is a naturally occurring, signaling molecule, that spurs bacterial colonization and the growth of mycorrhizal fungi. This improved mycorrhizal network serves the plant by providing an increased surface area of the root that allows the plant to absorb more nutrients and water.



SUGGESTED USE: Not recommended for use in Recirculating or Deep Water Culture Systems. Use ROOT as a separate feeding from regular nutrient feedings. Use within 6 hours of mixing ROOT into water. **Transplanting:** Mix 1 tsp. of ROOT per gallon of water. Transplant and apply ROOT solution as a root drench. **Vegetative and Flowering Plants:** Mix 1 tsp. of ROOT per gallon of water. Apply ROOT solution as a root drench to the growing medium every 2 weeks.

3000508 ROOT - 5 lbs. **\$299.99**
Cannot be shipped to the following states: AL, CA, GA, ID, IN, IA, KS, KY, MS, MO, NE, NC, ND, SC, SD, TN, UT, VA, WV, WI, WY

LALRISE VITA

Contains A Robust Rhizobacteria That Increases Vitality In Plants.

DESCRIPTION: This wettable powder contains a unique plant growth promoting rhizobacteria (PGPR) *Bacillus velezensis*. It begins its work in the root zone by quickly multiplying and colonizing the area. It will then produce enzymes that solubilize phosphorous in the soil. Spurs growth, enhances crop uniformity, encourages root mass, makes plants more resistant to environmental stressors, builds blooms, boosts yields, increases available phosphorus and more.



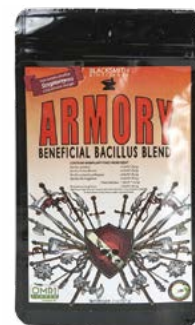
SUGGESTED USE: Apply product at temps between 50°F-86°F under moist conditions, in the morning or late afternoon. Agriculture: Annuals-Apply 1-2 times per crop monthly intervals, from planting to emergence or at transplanting. Perennials-Apply 2-3 times per crop at monthly intervals. Tree, Turf & Ornamentals: Apply in spring when buds first open. Reapply 2-3 times at monthly intervals. Apply in fall to boost the root system and ensure nutrient storage prior to dormancy. Application rates vary greatly according to application method and size of plant/area to be treated; call for specifics when ordering.

1202148 LALRISE VITA - 2 lbs. **\$78.00**
Cannot be shipped to the following states: IL, AR

Armory® SP

A Blend Of Beneficial Bacteria That Provides Multiple Plant Promoting Benefits.

DESCRIPTION: Each of the four *Bacillus* and *Streptomyces* species in this 100% water soluble organic powder bring their own assets to the table, and in combination with the others they work synergistically to achieve maximum performance in promoting plant health. Also provides a steady food source for the microbes so they can continue to flourish in your soil (or soilless media) throughout the life of your plants. Solubilizes phosphorus and makes iron and manganese more available. Breaks down cellulose and lignin and enhances nutrient cycling. Leaves no residue and is not phytotoxic. Compatible with fungicides, insecticides, fertilizers and biological stimulants **but avoid mixing with** copper sulfate pentahydrate, sulfur and hydrogen peroxide type products.



SUGGESTED USE: Residential Use or Reservoir Application: 0.25-1 tsp/gal water. Greenhouse/Nursery: 1-8 oz/100 gals water. Soil Incorporation: 1-2 oz/cu yd soil/media. Outdoor Soil or Foliar: 1-6 oz/acre. In-furrow: 0.5-6 oz/acre. Hydroponics: 1-6 oz/100 gals tank water. Bed, Field or Roe Prep: 1-4 oz/acre. Post Fumigation Soil Application: 4-16 oz/acre through irrigation directly to the area fumigated.

1202165 Armory SP - 2 oz. **\$34.99**
1202166 Armory SP - 1 lb. **\$165.45**

ENDzyme

All The Enzymes Without All The Water.

DESCRIPTION: The microbial-based enzymes in this biostimulant assist in chemical processes within your plants and in your soil/reservoir to allow maximum function with less energy output for healthier, less stressed plants. The same enzymes that help your plants thrive also work as excellent cleaners to keep drip lines, emitters, reservoirs, and stock tanks clean. After the microbes are done cleaning an area, they will then protect that area by colonizing it with their beneficial bacteria. The result is a clean system that stays that way over time.



SUGGESTED USE: Use in the rooting/vegetative and fruiting/blooming stages of plant life and apply via root drench, in hydroponics and aeroponics, as a foliar spray, and as a tea. This is a supplement, use in addition to current regime. Can be combined with other microbes. General application rate - 1 pod/50-150 gallons of water. Use dechlorinated/R.O./high quality water. Keep pH levels between 5.5-6.8.

1305700 ENDzyme - 8 Pods - .5 lb. **\$49.96**
1305701 ENDzyme - 32 Pods - 2 lbs. **\$155.96**
1305702 ENDzyme - 4 lbs. **\$279.43**
1305703 ENDzyme - 10 lbs. **\$649.78**

Larger sizes available.

ARBICO Organics® Root Build 240™ Mycorrhizal Fungi



This Potent Mycorrhizal Fungi Has An Incredible 240 Spores/gr To Maximize Root Colonization.

DESCRIPTION: New Root Build 240 contains both micronized Endo and Ecto mycorrhiza for a wide range of plant applications. This greater diversity in beneficial fungi meets the needs of a greater variety of plants. When introduced early in the life of a plant, the endo and ecto will increase the roots' ability to absorb water and nutrients. Endomycorrhizae work within and around the roots of most vegetables, grasses, flowers and ornamentals while ectomycorrhizae live only on the outside of roots and focus on conifers. The high spore count in Root Build 240 means there will be maximum colonization of your plants' roots. Endo Spores: 240 spores/gr. Ecto Spores: 1 x 10⁶ spores/gr.



SUGGESTED USE: Inoculate roots with mycorrhizal spores (1 oz. is ≈3 Tbsp.) For vegetables, grasses, flowers, shrubs, fruit trees and ornamentals.

1135001	ARBICO Organics Root Build 240 - 1 oz.	\$9.00
1135002	ARBICO Organics Root Build 240 - 2 oz.	\$12.50
1135003	ARBICO Organics Root Build 240 - 8 oz.	\$31.50
1135004	ARBICO Organics Root Build 240 - 1 lb.	\$45.00
1135005	ARBICO Organics Root Build 240 - 10 lbs.	\$329.00

*Free shipping in the contiguous 48 United States via USPS mail.

Great White® Premium Mycorrhizae

Promote Strong Root Systems, While Reducing Water & Fertilizer Needs!

DESCRIPTION: Great White Premium Mycorrhizae is a concentrated formula that boosts nutrient and water absorption generating root development, plant growth and yield. Water soluble, this product is easy to apply and will quickly begin interacting with plants. It features:

- 15 different species of various endo and ectomycorrhizal
- 14 different species of beneficial bacillus bacteria
- 2 species of trichoderma (commonly found to help fight against fungal diseases, i.e., *Sclerotinia sclerotiorum*, *Botrytis*, *Fusarium*, and *Penicillium*)
- Plant vitamins



SUGGESTED USE: For hydroponic, drenching or injection applications, mix at a ratio of about 1 tsp./2 gal. of water or ≈ 1 part/2 parts water.

2000064	Great White Mycorrhizae - 1 oz.	\$18.49
2000065	Great White Mycorrhizae - 4 oz.	\$34.95
2000066	Great White Mycorrhizae - 8 oz.	\$63.95
2000067	Great White Mycorrhizae - 32 oz.	\$199.99
2000072	Great White Mycorrhizae - 5 lbs.	\$380.70

Cannot be shipped to the following states: CT, HI, IL, OK, PR

Mikro-Myco

A Heady Combination Of Mycorrhizae, Rhizobacteria & Beneficial Fungi.

DESCRIPTION: Mikro-Myco contains a combination of endo and ectomycorrhiza, phosphate solubilizing fungi (PSF) and plant growth promoting bacteria (PGPB). Together, the mycorrhizae and supplemental microbes work to develop the ultimate interchange between roots, soil, and plants. It will encourage root growth, but also provide fungal hyphae in the root zone to help move nutrients up into the soil. The beneficial fungi in this blend are able to release fixed phosphorus and provide support for the plant to fight off pathogens and overcome stressors, allowing the plant to put its energy into maximizing growth and fruit/flower output.



SUGGESTED USE: Water Suspension: 1 tsp/1 gal distilled or tap water and drench the root area. Dry Application: 1 tsp-1 Tbsp to root system while planting/transplanting. Powder must come in direct contact with the roots.

1202510	Mikro-Myco - 2 oz. Pouch	\$10.99
1202511	Mikro-Myco - 4 oz. Pouch	\$19.99
1202512	Miko-Myco - 5 lb. Pail	\$279.00
1202513	Miko-Myco - 30 lb. Pail	\$1,399.00

Cannot be shipped to the following states: AL, CA, CO, ID, IA, KS, LA, ME, MD, MN, MO, NE, ND, OH, SC, SD, VA, WY

DYNAMYCO™

Two Strains Of Cannabis-Specific Synergistic Mycorrhizae.

DESCRIPTION: This innovative mycorrhizal inoculant is designed specifically for growing cannabis and contains *Glomus intraradices* and *Glomus mosseae*. Sourced from the Israeli desert, these two strains have adapted to thrive in harsh conditions (high salinity, drought), but they have also shown themselves to be uniquely synergistic with cannabis. Rapidly colonizes the root zone for multiple benefits. Provides improved phosphorus availability. Can be used with organic and synthetic fertilizers. Highly concentrated & cost effective. Compatible with soil, coco, or soilless blends. Provides a high rate of transplant success and rapid, strong plant development with robust root growth and improved nutrient uptake. Do not use with systemic fungicides.



SUGGESTED USE: Apply before transplant in the transplant hole, as a root-ball coating, or mixed into the growing medium. Must make direct contact with the roots of the plants to be fully effective. With initial planting of seeds, clones, or seedlings: 1 tsp/pint of growing media. When transplanting: 1 tsp/gal either mixed in media or spread in bottom and sides of planting hole.

1135110	DYNAMYCO Mini-Pouch - 3.5 oz.	\$14.00
1135111	DYNAMYCO Dynamite Stick - 7 oz.	\$26.00
1135112	DYNAMYCO Small Pouch - 12 oz.	\$28.00
1135113	DYNAMYCO Large Pouch - 1.65 lb.	\$52.00

Cannot be shipped to the following states: AR, DC, HI, ID, IN, IA, KS, LA, MD, MN, MS, NE, NH, NJ, NC, ND, SC, SD, TN, UT, VA, WV, WI, WY

AXIOM

Harness The Power Of Harpin Protein!

DESCRIPTION: Axiom works as a plant health promoter and growth stimulator by signaling defense systems in the plant with the introduction of the naturally occurring Harpin Protein (an endopyhtic bacteria). In order to fight off the perceived threat of this specific bacteria, the plant will amp up its growth and disease fighting ability. Many years of university and field testing has developed this process into an easy-to-use commercial product. This translates to healthier plants as well as increased production and growth within your crop.

SUGGESTED USE:

Application Rate For .5 gram packets:

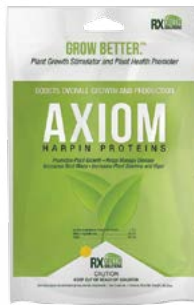
- 1 packet mixed with 32 oz. of water covers 250 sq. ft.

Application Rate For 2 gram packets:

- 1 packet mixed with 1 gallon of water covers 1,000 sq. ft.
- 1 packet mixed with 50 gallons of water covers 1 acre.

3000605	Axiom - .5 g (Package of 3)	\$12.99
3000606	Axiom - 2 g (Package of 3)	\$37.99
3000607	Axiom - 2 oz.	\$108.99

Cannot be shipped to the following states: CA



Mikro-BW

Can Be Used In Soil And Hydroponics But Can Also Be Applied To Leaves.

DESCRIPTION: This product contains *Bacillus subtilis* and *Bacillus amyloliquefaciens*. These bacteria will colonize the root zone and actively promote lively root and plant growth. Mikro-BW aids in nutrition uptake, nitrogen assimilation and pathogen displacement. But, it also has the non-microbial ingredients of amino acids, kelp extract, humic, and fulvic acid, which all have super-powers for healthy plant growth. Additionally, the kelp extract and amino acids serve as food sources for the microbes to keep them going. Unlike most microbial inoculants that focus solely on the soil, this formulation has been created to be used as a foliar spray as well. The bacteria will form a biofilm on the leaves to protect them from pests and pathogens and aid in nutrient absorption through leaves.

SUGGESTED USE: Do not apply under hot, direct sunlight, especially when applying using foliar or broadcast methods. Foliar Spray: 1 tsp/gal water every 5-7 days. Soil Drench: 1 1/2-2 tsp/gal water every 7-10 days. Hydroponics: 1 tsp/gal water every 7 days.

1202540	Mikro-BW - 8 oz. Bottle	\$25.90
1202541	Mikro-BW - 16 oz. Bottle	\$49.90
1202542	Mikro-BW - 5 Gallon Pail	\$399.00

Cannot be shipped to the following states: AL, CA, CO, ID, IA, KS, LA, MD, ME, MN, MS, MO, NE, ND, OH, OR, SC, SD, VA, WY



SumaGrow®



Improve Your Brix Levels & Save Money With This OMRI-Listed Liquid Concentrate.

DESCRIPTION: This awarding-winning microbial inoculant is made of liquid humates and a carefully chosen assortment of beneficial microbes. It boosts plant health and increases production, but it can also remediate soil and improve its water retention capability. Healthier, more nutrient-rich plants from vibrant soil require less fertilization – a significant cost saver over time.

SUGGESTED USE: For best results, apply 3 times during the first 5-7 weeks of vegetative growth. Smaller areas: Dilute 6 oz./gal. water and distribute evenly over 1,000 sq. ft. Subsequent applications at sowing or planting: 3-4 oz./1 or more gals. water. Larger areas: Dilute 1 gal./acre with adequate water (approx. 8 oz./2500 sq. ft.). Subsequent applications: .5 gals/acre (4 oz./2500 sq. ft.)

1202130	SumaGrow - 1 Quart	\$18.75
1202131	SumaGrow - 1 Gallon	\$70.00

Larger sizes available.

Cannot be shipped to the following states: AR, IL, SD



MegaPhos™ SP



OMRI Listed & CDFA Registered. Helps Cure Phosphorus Deficiency While Encouraging Strong & Healthy Growth.

DESCRIPTION: This organic, water-soluble powder uses the unique beneficial bacteria *Bacillus megaterium* HM87 to solubilize phosphorus bound up in the soil and make it available to plants. All natural and non-GMO MegaPhos offers a safe and eco-friendly alternative to phosphate fertilizers by utilizing an endospore-forming beneficial bacterium that colonizes the root zone and produces enzymes that naturally solubilize phosphorus. Additionally, this bacillus will produce metabolites that spur root production, plant growth and yield. Works even in high calcium soils.

SUGGESTED USE: Can be tank mixed chemicals, fertilizers and other biologicals. Can be applied as a foliar spray, soil drench, row/ in-furrow applications, soil/soil-less incorporation, seed treatments and in hydroponics. Foliar Spray & Soil: Approx. 1-2 tsp/gal water or 1-6 oz/gal water/acre. Row/ In-Furrow: Approx. 1/2-6 oz of per acre. Incorporation: Approx. 1/2-1 oz/ cubic yard of soil or growing media. Seed: Use 10-100 gr/100 lbs of seed. Hydroponics: 1-6 oz/100 gal of tank water

1202145	MegaPhos SP - 2 oz.	\$42.51
1202146	MegaPhos SP - 1 lb.	\$167.35



NUTRIENTS

Grow A & B

These Two Awesome Parts Combine For A Powerful Blast Of Nutrients.

DESCRIPTION: The high-quality ingredients in this two-part nutrient product provide the foundation for strong, healthy vegetative growth and overall exceptional plant performance. Enables phosphorus availability, serves as a metabolic enhancer, provides better nitrogen usage and offers direct support for chlorophyll production, enzymatic activity and carbohydrate metabolism. With a full range of nutrients at balanced ratios, you will see an improvement in both quality (terpenes, cannabinoid profiles and potency) and yield.



SUGGESTED USE: *This product is a 2-part nutrient and is meant to be mixed with equal parts GROW A & B and used all at once.* Standard application rate: 4-8 ml/gal. This product works best when pH is unadjusted before application. A pH range of 3.0-6.0 with these products is safe for plants. Adjust as needed. Apply as a drench in any type of growing media or hydroponic system. Add desired amount of GROW A to water and mix well, then add equal parts of GROW B to water and mix well. If using additives, mix them in after you've mixed together the A & B.

3000520	Grow A - 1 Quart Conc.	\$31.99
3000521	Grow A - 1 Gallon Conc.	\$83.99
3000522	Grow B - 1 Quart Conc.	\$31.99
3000523	Grow B - 1 Gallon Conc.	\$83.99
3000526	Grow A & B - 1 Quart Conc. (1 ea.)	\$56.99
3000527	Grow A & B - 1 Gallon Conc. (1 ea.)	\$157.99
3000524	Grow A & B - 2.5 Gallons Conc. (case of 1 ea.)	\$365.98

Cannot be shipped to the following states: AL, AR, DE, GA, ID, IN, IA, KS, KY, MS, MO, NE, NC, ND, SC, SD, TN, UT, VA, WV, WI, WY

Bulk PK Booster, 2-12-3

Give Your Plants A PK Boost & Stand Back & Watch Them Bloom!

DESCRIPTION: This PK booster contains high-quality phosphorus, potassium and calcium to boost flower production. While these minerals are essential to healthy growth at any stage, this formula has been specially developed for use in the flowering stage of cannabis production. This powerful blend will give plants that extra push to maximize flower yields. Use Week Three of Flower through Week Six of Flower.



SUGGESTED USE: Standard dilution rate: 2-6 ml/gal. This product works best when pH is unadjusted before application. A pH range of 3.0-6.0 with these products is safe for plants. Apply as a root drench in any type of growing media. Add desired amount to solution after mixing in base nutrients. Use as an additive to base nutrients or use it on its own.

3000550	BULK PK Booster - 1 Quart	\$46.99
3000551	BULK PK Booster - 1 Gallon	\$138.99

Cannot be shipped to the following states: AL, AR, DE, GA, ID, IN, IA, KS, KY, MS, MO, NE, NC, ND, SC, SD, TN, UT, VA, WV, WI, WY

Bloom A & B

Build Your Best Buds With This Nutrient Duo.

DESCRIPTION: This two-part nutrient product has been developed with top-shelf ingredients to provide your flowering plants with high performance inputs in their reproductive stage for exceptional bud development and structure. With a full range of nutrients at balanced ratios, you will see an improvement in both quality (terpenes, cannabinoid profiles and potency) and yield with these easy-to-use liquids. Stabilizes phosphorus and enhances it availability and absorbency. Strengthens amino acid output and availability and supports the shikimic pathway. Allows for improved uptake and use of nitrogen.



SUGGESTED USE: *This product is a 2-part nutrient and is meant to be mixed with equal parts BLOOM A & B and used all at once.* Apply as a drench in any type of growing media or hydroponic system. Works best when pH is unadjusted before application. A pH range of 3.0-6.0 with these products is safe for plants. If using additives, mix them in after you've mixed together the A & B. Standard application rate: 8-12 ml/gal. Add desired amount of BLOOM A to water and mix well, then add equal parts of BLOOM B to water and mix well.

3000530	Bloom A - 1 Quart Conc.	\$31.99
3000531	Bloom A - 1 Gallon Conc.	\$83.99
3000532	Bloom B - 1 Quart Conc.	\$31.99
3000533	Bloom B - 1 Gallon Conc.	\$83.99
3000536	Bloom A & B - 1 Quart Conc. (1 ea.)	\$56.99
3000537	Bloom A & B - 1 Gallon Conc. (1 ea.)	\$157.99
3000534	Bloom A & B - 2.5 Gallons Conc. (case of 1 ea.)	\$365.98

Cannot be shipped to the following states: AL, AR, DE, GA, ID, IN, IA, KS, KY, MS, MO, NE, NC, ND, SC, SD, TN, UT, VA, WV, WI, WY

E-Plus

Traditional Ingredients For Modern Growers.

DESCRIPTION: Well-known and time-proven ingredients for strong plant growth and overall exceptional plant health: calcium for strong, thick cell walls; humic acid as a chelating agent to micronutrients; help for its naturally occurring growth hormones and yucca to keep water and nutrients moving in the soil. Use as an additive to base nutrients or use it on its own.



SUGGESTED USE: Use as a root drench in any type of growing media. Works best when pH is unadjusted before application; range should be 3.0-6.0. Standard dilution rate: 2-4 ml/gal. In cannabis production, use Week One of Veg through Week Six of Flower.

3000540	E-Plus - 1 Quart	\$46.99
3000541	E-Plus - 1 Gallon	\$138.99

Cannot be shipped to the following states: AL, AR, DE, GA, ID, IN, IA, KS, KY, MS, MO, NE, NC, ND, SC, SD, TN, UT, VA, WV, WI, WY

Geoflora VEG & BLOOM Combo Pack



A Two-Part Solution To Maximize Your Plants' Production Potential

DESCRIPTION: These organic fertilizers are packed with high quality ingredients, including beneficial bacteria, to take your plants smoothly through the growth stage and into the phase of bountiful blooms. Geoflora VEG helps establish strong microbial activity in your soil, which aids in nutrient availability and uptake for healthy, fertile plants. Geoflora BLOOM eases up on the nitrogen (N) while providing strong phosphorus (P) and potassium (K) levels. These macro and micro-nutrients are aided in their task by the beneficial bacteria. The granular form of these products makes for easy, dust-less application with no pre-mixing needed. Geoflora VEG & BLOOM can each be used individually, or as a stand-alone system. OMRI listed and CDFA registered.



SUGGESTED USE: Amending - Mix 8 oz. per cubic foot of growing medium prior to transplant. For small applications, use 1 oz. per 1 gallon prior to transplant and for soil amending purposes, apply 1 oz. per sq. ft. **Top Dress** - Apply 8 oz. per cubic foot of growing medium every 14 days. Water in thoroughly.

1305690	Geoflora VEG & BLOOM - 4 lbs. of Each	\$43.49
1305691	Geoflora VEG & BLOOM - 8 lbs. of Each	\$79.99

Both products are available individually and larger sizes are available individually and in the combo packs.

Cannot be shipped to the following states: AL, AK, DC, FL, GA, HI, ID, IA, KS, KY, LA, MS, MO, NE, NC, ND, SC, SD, TN, UT, VA, WI, WY

Terpinator[®], 0-0-4

Enhances The Terpenes For Plants That Dazzle.

DESCRIPTION: Terpinator is a proprietary blend of organic inputs and plant extracts that create a soluble liquid plant food with Potassium (derived from potassium sulfate) that improves the terpene concentration in plants. Terpenes form the essential oils found in most flowers and plants and enhanced terpenes mean more vigorous growth that results in plants that have better taste, smell, and potency. Can be used in all life stages of the plant and in all grow applications. Will not leave chemical residue or affect the final product in a negative way. Can be added to any nutrient regime without adjusting your schedule.



SUGGESTED USE: This product is designed for use in hydroponic and continuous feed applications as a root drench; do not spray onto leaves. Compatible with any fertilizer brand. Can be used at each feeding or when you water. Safe to use in all fertilizer injectors. Vegetative Stage: 5-10 mL/gal water. Reproductive and Fruit-Set Stages: 10-30 mL/gal water.

1305665	Terpinator - 1 Quart	\$21.35
1305666	Terpinator - 1 Gallon	\$71.10

Cannot be shipped to the following states: AZ, AR, DC, MO, NC, OK, OR, SC, WA, WY

Molasses Magic, 0-0-3

The Perfect Sweet Treat To Satisfy Your Plant's Cravings.

DESCRIPTION: This water-soluble molasses powder comes from the waste product of sugar cane production, Unsulphured Blackstrap Molasses. Besides providing a food source for healthy microbial growth, Molasses Magic is brimming with vitamins and increases brix levels. Begin use in early veg to kickstart a healthy microbial network in/around roots and to start accumulating internal plant sugars. Use during transplanting, and other stressful times (trimming, heavy feeding, or photoperiod change). Apply during fruiting/flowering to increase nutrient density and flavor. To make nutrients, sugars, and energy immediately available, use as a foliar spray.



SUGGESTED USE: Can be used in soil, coco coir, hydroponics and aeroponics. Use in all stages of plant life. As a soil amendment: 1 Tbsp/gal soil. As a top dress: 1 tsp/gal of media. For root drench, hydro/aero, and tea: 1/2-1 tsp/gal water. For foliar spray: 1/2 tsp/gal water. For soil/top dress: 1/2 tsp/gal soil.

1305710	Molasses Magic - 8 oz.	\$19.96
1305711	Molasses Magic - 32 oz.	\$49.96
1305712	Molasses Magic - 4 lbs. in 2 Gal. Buckets	\$96.67
1305713	Molasses Magic - 10 lbs. in 5 Gal. Buckets	\$164.38

Larger sizes available.

Cannot be shipped to the following states: AL, AR, CA, CT, DE, DC, GA, ID, IL, IN, IA, KS, KY, ME, MD, MA, MN, MS, MT, NE, NH, NJ, NM, NY, NC, ND, OR, PA, RI, SC, SD, UT, VT, VA, WV, WI, WY

Silver Bullet

Not A Magical Cure, Just A Frightfully Good Terpene Enhancer.

DESCRIPTION: Silver Bullet uses Sulfur to deliver multiple benefits to your plants, including improved terpene content. This product contains over 97% wettable powder sulfur combined with an enzymatic ionic wetting agent, allowing it to self-mix and spread evenly with little or no residue. Supports vigorous growth with strong structure in the vegetative stages. Improves nitrogen uptake and spurs carbon, hydrogen and oxygen absorption. Safe for use on clones. Stays suspended in tanks. Does not cause burning like oil-based sulfur products can. 24-hr REI.



SUGGESTED USE: Use this product in the rooting/vegetative stage until week 3-4 of the fruiting/blooming stage. Apply as a root drench, a foliar spray and in hydroponics. Root Drench & Foliar Spray: 1/2 tsp/gal water once a week. Use dechlorinated/R.O./high quality water. Keep nutrient mix/water aerated and below 73°F. Maintain proper pH levels, between 5.5-6.8. Do NOT Apply: when temps are over 75°F; after week 3 of bloom; 21 days after or before using an oil-based spray; use on plants that have received Neem Oil in the last 2-4 wks.

1305720	Silver Bullet - 8 oz.	\$53.96
1305721	Silver Bullet - 32 oz.	\$131.96
1305722	Silver Bullet - 4 lbs. in 2 Gal. Buckets	\$255.34

Larger sizes available.

Cannot be shipped to the following states: AL, AR, CA, CT, DE, DC, FL, GA, ID, IL, IN, IA, KS, KY, ME, MD, MA, MN, MS, NE, NV, NH, NJ, NM, NY, NC, ND, OR, PA, RI, SC, SD, UT, VA, WV, WI, WY



CRD™ Botrytis Test

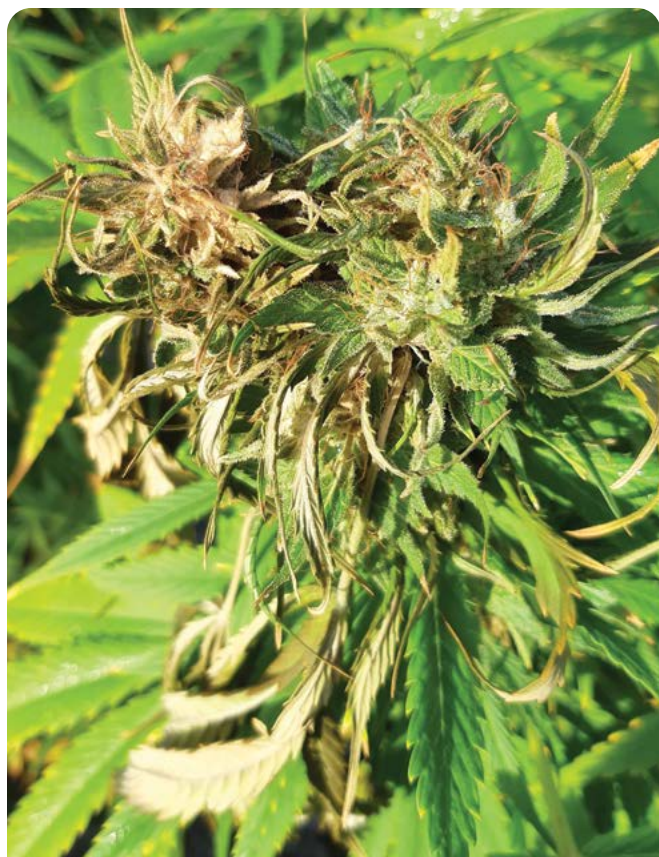
Find Out Quickly If It's *Botrytis* That's Plaguing Your Plants.

TARGET: Over 200 crops including hemp and fruiting crops.

DESCRIPTION: *Botrytis* (aka Bud Rot, Grey Mold, Bunch Rot and more) can be devastating to crops and once it's gotten a foothold it can be difficult to control. Early detection and treatment are essential to keeping this pathogen away from your plants, so the quicker you know the better you are. With this easy-to-use test you'll know on the spot if its *Botrytis* you're dealing with. This kit comes with everything you'll need to get results in 10 minutes. Results can be read on included scorecard.

SUGGESTED USE: Apply plant material to buffer solution and agitate. Insert test strip and leave it for 10 minutes. Read test strip at 10 minutes. If so desired, you can read it again but not after 20 minutes.

1275010 CRD Botrytis Test Kit - 25 Pack \$300.00



BotryStop™ Biofungicide



These Fungal Spores Will Fight To Replace Pathogens On Plants.

TARGET: To be used as a preventative biological fungicide for the control of the pathogens *Botrytis cinerea*, *Sclerotinia sclerotiorum* and *Monilinia spp.*

DESCRIPTION: This preventative biological fungicide contains the naturally occurring, non-pathogenic saprophytic fungus *Unocladium oudemansii* (U3 strain). These spores control pathogens by aggressively occupying the same ecological space and out-competing them for resources. Spores will colonize dead and senescing plant tissue and push pathogens out, providing protection to fruit, blossoms and plant tissue. OMRI listed BotryStop is non-invasive and poses no threat to living tissue. For use on a wide variety of crops and ornamentals in most areas; in CA it is **not** labeled for use on vegetables and ornamentals.

SUGGESTED USE: Do not apply through any type of irrigation system. Use with a surfactant or non-ionic adjuvant such as ThermX™-70 Natural Wetting Agent (available online) to ensure proper product wetting and spreading. Can be used in combination with other fungicides, but not more than one. The application rate range is 2-4 lb./acre. The most common rate is 3 lb./acre.

This product requires overnight shipping and must be kept refrigerated. It must be kept stored around 40°F, but not freezing.

1332842	BotryStop Biofungicide - 6 lb. Bag	\$155.00
1332840	BotryStop Biofungicide - 12 lb. Bag	\$285.00
1332843	BotryStop Biofungicide - Case of 8 - 6 lb. Bags	\$1,116.00
1332841	BotryStop Biofungicide - Case of 4 - 12 lb. Bags	\$1,026.00



Stargus™



From A Leader in Bio-Innovations Comes This Triple-Action Biofungicide.

TARGET: Foliar and soil-borne plant diseases like downy mildew, *Botrytis*, *Fusarium*, white mold and many more.

DESCRIPTION: This organic biological fungicide uses *Bacillus amyloliquefaciens* strain F727 to deliver several modes of action against fungal and bacterial pathogens. Stargus uses the *Bacillus* rhizobacterium to colonize root and plant surfaces, which prohibits the pathogens from accessing the plant. It also has a protective effect by inducing a systemic resistance and acquired resistance response within the plant and a curative effect by inhibiting mycelial growth and sporulation of the fungus on the leaf surface. MRL exempt. O-day PHI and 4-hr REI.

SUGGESTED USE: Can be used alone or in rotation. Labeled rates of 2 quarts to 4 quarts/acre. Usual recommendation of 2 qts/acre. Apply 2-4 times at 7-10 day intervals.

1332975	Stargus - 2.5 Gallons	\$178.00
1332976	Stargus - 2.5 Gallons - Case of 2	\$340.00

Cannot be shipped to the following states: CA



Actinovate® AG



Developed For Commercial Ag – Now Available To All Growers.

TARGET: Use to control damping-off, root and stem rot, charcoal rot and wilt caused by many different pathogens. Also controls Downy Mildews and Powdery Mildews.

DESCRIPTION: This organic biological fungicide/bactericide uses a microbe (*Streptomyces lydicus* WYEC 108) for the suppression and control of a wide swath of soil-borne and foliar diseases. This *Streptomyces* strain will colonize the root system and foliage of plants, which will not only displace pathogenic fungi present there, it will protect it from further fungal development. Water-soluble, will not clog machinery and doesn't require constant agitation when applying. 4-hr REI.

SUGGESTED USE: Use in foliar applications, as a soil drench, in irrigation, chemigation, as a dip, and more. Don't use at temps below 45°F. Foliar spray: Mix with 10-150 gals water/acre (in CA, mix with 20-150 gals water/acre). Apply initial application prior to disease onset or in the early stages of disease development. Crop-specific instructions on label.

1420012 Actinovate AG - 18 oz. Bag **\$124.99**
Cannot be shipped to the following states: DC, HI, MD, MN, MS, OK, VA, VT



CEASE® Biological Fungicide



For Control Of Soil Pathogens That Cause Fungal & Bacterial Plant Diseases.

TARGET: *Alternaria*, anthracnose, *Botrytis*, *Didymella bryoniae* (gummy stem blight), *Entomosporium*, *Erwinia*, *Fusarium*, powdery mildew, *Pseudomonas*, *Xanthomonas*, *Rhizoctonia*, *Pythium*, *Phytophthora* and more.

DESCRIPTION: Cease is an organic contact fungicide/bactericide containing a patented strain of *Bacillus subtilis*. It works by occupying space that the invading pathogens would use and then it disrupts the germination and growth of those pathogens. OMRI listed and NOP compliant. Can be used in combination and/or rotation with other products. 0-day PHI interval and 0-hours REI. No phytotoxicity or residues on flowers or foliage.

SUGGESTED USE: Use 2-8 qts/100 gals water about once a week. See label for crop and disease-specific directions. Suitable for wet applications, but use of a spreader/sticker is recommended under those conditions.

1332724 Cease - 1 Gallon **\$84.00**
1332727 Cease - 2.5 Gallons **\$180.00**
1332725 Cease - 1 Gallon, Case of 4 **\$302.40**
1332728 Cease - 2.5 Gallons, Case of 2 **\$324.00**



RootShield® Plus Granules & RootShield® Plus WP



Use This Biological Fungicide To Eliminate Hard To Control Diseases!

TARGET: Plant pathogens and resulting diseases such as *Phytophthora*, *Rhizoctonia*, *Pythium*, *Fusarium*, *Thielaviopsis*, and *Cylindrocladium*.

DESCRIPTION: OMRI listed and EPA registered, this product will help eliminate damaging fungal pathogens by colonizing plant root systems and by boosting biological diversity of the rhizosphere. This unique product is comprised of live microbial beneficial fungi *Trichoderma harzianum* strain T-22 and the newly developed *Trichoderma virens* strain G-41, delivering an extended array of pathogen control.

SUGGESTED USE: For control and prevention of major fungal pathogens and resultant diseases on greenhouse and nursery vegetables, herbs, ornamentals, fruits, conifer tree seedlings, various trees, legumes, oil seeds and peanuts. One application will last for approximately 12 weeks, and can be used with a 0-hr REI. This product can be used in conjunction with certain other fungicides, see label and other online resources for details.

For granular usage, mix about 1.5-3 lbs. to 1 cu. yd. of mix or about four 40 lb. bags to 100 cu. yds. of soil mix. For WP, use about 6 oz. of powder to 100 gal. of water. For plug trays, flats and small pot with 1-3 in. of soil, use about 100 gal. mix/800 sq. ft. For beds and pots 4-5 in. deep, use about 100 gal. mix/400 sq. ft. For azalea pots 6 in. deep, use about 100 gal. mix/1600 pots.

1332754 RootShield Plus Granules - 10 lb. Box **\$197.00**
1332755 RootShield Plus Granules - 40 lb. Bag **\$428.00**
1332756 RootShield Plus WP - 1 lb. Bag **\$132.00**
1332757 RootShield Plus WP - 3 lb. Box **\$280.00**

Large sizes available.

Granular cannot be shipped to: AK • **WP cannot be shipped to:** AK

LALSTOP® G46 WG



A New Branding For An Old Favorite – Prestop WG.

TARGET: Use to control seed-borne and soil borne plant diseases such as damping-off, root and stem rot, charcoal rot and wilt. Also, certain storage diseases caused by *Helminthosporium* and *Rhizoctonia*; and foliar diseases like grapevine trunk diseases (several pathogens).

DESCRIPTION: This organic granular fungicide contains the naturally occurring fungus *Gliocladium catenulatum* Strain J1446. The mycelia and spores from this strain move into and take over the rhizosphere and aerial parts of the plant. Once there, they fight disease-causing fungal pathogens with hyperparasitism, by competing for resources, and by inhibiting pathogen growth. 4-hr REI & 0-day PHI. 1 yr shelf life.

SUGGESTED USE: For use on plants grown in soil or soil-less media indoors, outdoors, in greenhouses & in hydroponics. General use rate: 0.05% (10 grams/5 gals of water). Apply every 3-6 weeks depending on disease pressure.

1332987 LALSTOP G46 WG - 100 g packet **\$145.00**
Cannot be shipped to the following states: HI, DC



Howler Fungicide



A Super-Effective & Ultra-Versatile Biofungicide.

TARGET: *Alternaria*, *Botrytis*, *Colletotrichum*, downy mildew, *Fusarium*, *Pestalotiopsis*, *Phytophthora*, powdery mildew, *Pythium*, *Rhizoctonia* and *Sclerotinia*.

DESCRIPTION: This organic wettable powder fungicide uses the active ingredient of *Pseudomonas chlororaphis* strain AFS009 to work inside the plant microbiome to attack the pathogenic fungi that cause plant diseases. It does this by producing natural antibodies that directly attack the fungi and enzymes that break down fungal cell walls and prevent spore attachment. All of this action induces a resistance response in the plants that further inhibits fungal growth. For use on a wide range of crops. Can be applied into the soil, in a drench, in a drip, as a foliar spray and in chemigation. 4 hr. REI and 0-day PHI. Approved for use on cannabis in CO.

SUGGESTED USE: Do not apply by aerial application. To ensure tank-mix combinations, they must be evaluated prior to use. Using Howler Alone: 5 lbs/acre. Fruiting & Leafy Vegetables, Beans, Peas, Dry Pulses & Cole Crops: 67-100 oz/100 gal or 5-15 lbs/acre, depending on application method. Greenhouse soil incorporation: 1.75-8.5 lbs/cu. yd. Hydroponic Crops: 1.8-6 oz/1,000 sq. ft. Repeat at 7-10 day intervals.

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| 1332930 | Howler Fungicide - 5 lbs. | \$64.50 |
| 1332935 | Howler Fungicide - 5 lbs. - pack of 3 | \$174.00 |

Cannot be shipped to the following states: HI



Cueva® Fungicide Concentrate



Kills Fungal & Bacterial Plant Diseases With Good Ole' Copper Soap.

TARGET: *Alternaria*, anthracnose, spots, bacterial blast, bacterial cankers, specks, rots, black pod, blotch, molds, *Botrytis*, downy mildew, fireblight, fly speck, leaf smut, knots, powdery mildew, *Rhizoctonia*, rusts, scab & more.

DESCRIPTION: Organic Cueva combines a soluble copper fertilizer with a fatty acid to create a true soap in a patented flowable liquid formulation. This formula lets the product spread easily across plant surfaces and helps the copper get into fungal or bacterial cells and destroy them. As it moves across the plants and into the cells, it forms a protective layer that creates a hostile environment for pathogens.

SUGGESTED USE: On vegetables, field-grown herbs and crops, nuts, fruits, citrus and berries: Mix 0.5-2.0 gals/30-100 gals of water and apply to one acre. Begin treatment when disease first appears and reapply at 7-10 day intervals. This schedule may vary somewhat according to crop specific application needs. Use the higher rate following heavy rain or when the amount of disease is increasing rapidly. If possible, time applications so that 12 hours of dry weather follow application. Use the higher rate to control diseases that may go dormant and overwinter.

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| 1332920 | Cueva Fungicide Concentrate - 2.5 Gallons | \$143.50 |
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Regalia® CG & Regalia®



OMRI Listed Control For Both Bacterial & Fungal Diseases.

TARGET: Powdery mildew, downy mildew, white mold, early blight, shot hole, *Fusarium*, bacterial spots and specks, brown rot, *Rhizoctonia* and more.

DESCRIPTION: This biofungicide uses a plant (*Reynoutria sachalinensis*) extract to protect crops from certain soil-borne or foliar diseases and to boost production by improving overall plant health. Regalia can be used in multiple application methods on field and edible crops in conventional, sustainable and organic production. Unique FRAC P₅ classification. 4-hour REI.

SUGGESTED USE: Use early for disease prevention and overall plant health and through the season for continued disease control. Small scale applications: 2 Tbsp./gal. of water. Foliar applications: Downy Mildew and White Mold: 2-4 qts/acre. Soil applications: *Fusarium*: 3-4 qts/acre.

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| 1332968 | Regalia CG - 1 Quart | \$51.00 |
| 1332969 | Regalia CG - 1 Gallon | \$117.00 |
| 1332970 | Regalia - 2.5 Gallons | \$220.00 |

Regalia - 2.5 Gal. (1332970) cannot be shipped to the following states: CA



MilStop SP Foliar Fungicide



Excellent For Controlling Powdery Mildew & Other Fungal Diseases!

TARGET: Powdery mildew, *Alternaria* blight, anthracnose, black spot, *Botrytis* blight, *Cercospora* leaf spot, downy mildew, *Phomopsis* blight, and *Septoria* leaf spot.

DESCRIPTION: MilStop SP is an OMRI listed, WSDA registered foliar fungicide. Potassium bicarbonate-based fungicide that kills powdery mildew on contact by pulling water from spores and their growing strands. It also inhibits enzymes involved in fungal cell wall formation by altering the pH on the leaf surface. Foliar applications provide 1-2 weeks of residual protection.

SUGGESTED USE: Generally 2.5 lbs./100 gal. of water. (See label online for specific crops, diseases and application systems.)

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| 1332766 | MilStop SP Foliar Fungicide - 5 lbs. | \$65.00 |
| 1332767 | MilStop SP Foliar Fungicide - 25 lbs. | \$275.00 |



Thymox® Control Organic



Thyme Oil Control Delivered With Nano Technology.

TARGET: Fungal diseases like Powdery Mildew and Grey Mold and bacterial diseases like Fireblight.

DESCRIPTION: This organic foliar spray combines thyme oil with innovative and proprietary nano emulsion technology to provide a highly effective, broad-spectrum, non-specific fungicide/bactericide. It delivers billions of nano-sized droplets of botanically based thyme oil for superior coverage of plant surfaces and thorough contact with pathogens. Once this product touches the plant surfaces it begins to destabilize and damage the cell of any pathogens it encounters, which causes cell leakage and subsequent death of the pathogen. MRL & FIFRA 25(b) exempt. 0-day PHI & 0-hr REI.



SUGGESTED USE: *Not for aquatic use.* Dilute 1 part of product/200 parts water (0.5%) or 64 fl oz/100 gals of water. Do not apply undiluted. Use immediately after dilution, do not store diluted product. Apply as a foliar treatment any time during growing season, when conditions (humidity, temperature, etc.) promote microbial growth or when fungal disease symptoms first begin to appear. Reapply every 5-7 days, or as needed.

1458380	Thymox Control Organic - 1 Liter	\$47.25
1458381	Thymox Control Organic - 1 Gallon	\$148.99
1458382	Thymox Control Organic - 2.5 Gallons	\$350.99

Cannot be shipped to the following states: AL, AK, AR, CO, CT, DE, FL, HI, ID, IN, IA, KS, KY, LA, ME, MD, MI, MS, MT, NE, NV, NH, NM, ND, OH, PA, RI, SD, TN, UT, VT, VA, WV, WI, WY

Grower's Ally® Fungicide



OMRI Listed & WSDA Certified. Give Your Grow Powerful Pathogen Control.

TARGET: Powdery mildew, downy mildew, blight, canker, black spot, leaf spot and more.

DESCRIPTION: Specifically formulated for use on cannabis and hemp, this product uses food-grade citric acid to kill and prevent common plant pathogens like powdery mildew. The citric acid kills pathogens on contact and works preventatively by forming a protective barrier on the leaf surface that prevents the pathogens from developing. This organic foliar spray tests clean and contains no residual solvents, no synthetic pesticides, and no heavy metals. Can be safely applied through all stages of growth, from clones through flowering and can be used in all cultivation environments. Approved for use on cannabis in Colorado and Washington state. 0-hr REI and 0-day PHI.



SUGGESTED USE: For maximum effectiveness, apply at the first sign of disease. It's best to use a sprayer that emits a fine mist for full coverage. No need to add surfactant. RTU: Cover all plant parts. Reapply every 7 days. For heavy disease, apply and wait 4 hours and apply again. Repeat every 5 days as needed. Concentrate: Makes up to 20 gals. Disease Control: 1 1/2-3 Tbsp/gal of water (1.2% mix rate). Same directions as RTU.

1459350	Grower's Ally Fungicide - 24 oz. RTU	\$12.99
1459351	Grower's Ally Fungicide - 1 Quart Conc.	\$29.99

Procidic²



This Organic Fungicide/Bactericide Works Two Ways: On Contact & Systemically.

TARGET: Agrobacterium, *Alternaria*, anthracnose, bacterial complex, black chaff, black sigatoka, *Botrytis*, cankers, citrus greening, damping off, dirty grain, downy mildew, *Fusarium*, gummosis, leaf streak, leaf stripe, lettuce drop, mummy berry, root tumor, rust, spots, specks, wilts and more.



DESCRIPTION: This WSDA certified foliar spray uses citric acid to eliminate pathogenic fungi and bacteria. This exceptional product will work on contact, but is also absorbed rapidly into the plant. Once inside, it will work its way towards the apex of plant. This action allows new tissue to grow infection-free. Additionally, as it moves through the plant, it stimulates the production of phytoalexins (a plant's natural defense against microbial attacks), which inhibits the future growth of fungi and bacteria. May be applied in regular foliar spray applications or in tank mixes and there is no maximum number of applications per season. 0-hour REI and 0-day PHI.

SUGGESTED USE: Best when applied preventatively. Procidic² has disease-specific application rates that can be found on the manufacturer's label.

1458230	Procidic ² - 32 oz. Concentrate	\$75.00
1458231	Procidic ² - 1 Gallon Concentrate	\$280.00

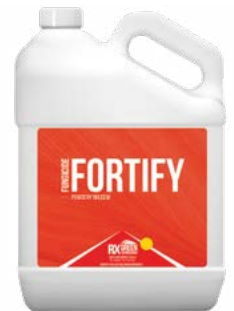
Cannot be shipped to the following states: AL, AK, AR, DC, GA, ID, KS, LA, MD, MN, MS, NE, NM, ND, OH, RI, SD, UT, VA, WV, WI, WY

FORTIFY Fungicide

Modern Technology + Time-Honored Ingredients = 1 First-Rate Product

TARGET: Use to prevent and cure Powdery Mildew

DESCRIPTION: This broad spectrum fungicide offers a combination of proven fungus-fighting oils, cinnamon, thyme and linseed, in a proprietary surfactant and stabilization formula. This chemical technology creates a seamless blend that provides exemplary coverage of plant surfaces with quick and efficient absorption of active compounds. No additional surfactant needed. Can be used on indoor, greenhouse and outdoor crops.



SUGGESTED USE: Apply as a foliar spray. Maintenance application: Mix 1 oz/ gal water and apply on a weekly basis. Aggressive application: Mix 6 oz/gal water and apply every 3-4 days for a period of 2 wks.

3000560	Fortify Fungicide - 1 Gallon Conc.	\$154.99
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Cannot be shipped to the following states: AL, CT, DC, GA, ID, IN, IA, KS, KY, MD, ME, MN, MS, MO, NE, NC, ND, RI, SC, SD, TN, UT, VA, VT, WV, WI, WY



The Power of Peroxyacetic Acid

Similar in chemical makeup, SaniDate 5.0 and OxiDate 2.0 are two very different products with very different uses.

SaniDate 5.0 is a no rinse required sanitizer for greenhouse use. Using a peroxy compound, SaniDate can quickly and effectively reduce harmful pathogens. Not only can this product be used on hard surfaces in the greenhouse, it can be used for equipment sanitation, food prep surfaces and also irrigation lines. It can also be used as a post-harvest sanitizer. Mix SaniDate in your dip tank or spray directly onto harvested fruits and vegetables to prevent the pathogens that cause spoilage. SaniDate is a great, environmentally responsible alternative to chlorine.

OxiDate 2.0 is a pre-harvest bactericide and fungicide. OxiDate can be used in certified organic and conventional agriculture. Not only does OxiDate help prevent plant pathogens, it works as a curative product by killing fungal spores and bacterial inoculum. OxiDate does not have a REI and can be used until harvest. This product can be tank mixed with fungicides and insecticides for extra protection and because of the active ingredient is peroxygen, there is not concern of resistance.

SaniDate® 5.0



An OMRI Listed Sanitizer/Disinfectant.

TARGET: Bacteria including *Salmonella*, *Streptococcus*, *E. coli*, *Pseudomonas*, *Staphylococcus aureus*, *Listeria* and molds, including mildew.

DESCRIPTION: Contains hydrogen peroxide and peroxyacetic acid as an alternative to chlorine to sanitize and disinfect post harvest equipment, fruit and vegetables and various hard surfaces. Usage industries include farms, dairies, beverage plants, food processing plants, greenhouses, etc. No dumping or run-off restrictions.

SUGGESTED USE: For general disinfection, sanitation of surfaces, food safety programs, irrigation systems and greenhouse use mix about 0.5 fl. oz./1 gal. of water. Solution can be applied various ways depending on desired usage. Applications can be made with mops, sponges, spraying devices, etc.

1222515 SaniDate 5.0 - 2.5 Gallons **\$230.00**
1222517 SaniDate 5.0 - 5 Gallons **\$300.00**

Larger sizes available. All sales are final. No returns or refunds allowed.

*Free Shipping in the contiguous 48 states. Ships via Ground ONLY.

Cannot be shipped to the following states: AK, HI, PR

WARNING Corrosive: Causes irreversible eye damage and skin burns. May be fatal if inhaled or absorbed through skin. Harmful if swallowed. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Wear goggles, face shield, and rubber gloves when handling. Do not enter an enclosed area without proper respiratory protection. Wash thoroughly with soap and water after handling and before eating, drinking, using tobacco or using the toilet. Remove contaminated clothing and wash before reuse. Strong oxidizing agent. Do not use in concentrated form. Mix only with water in accordance with label instructions. Never bring concentrate in contact with other pesticides, cleaners or oxidative agents.



OxiDate® 2.0



Bactericide & Fungicide For Wide Use

TARGET: Preventative and curative treatment against plant pathogens and diseases such as *Alternaria*, anthracnose, *Aphanomyces*, bacterial spot, bacterial speck, black spot, *Botrytis* (grey mold), brown spot, downy mildew, *Erwinia*, *Fusarium* (root rot), leaf spot, *Phytophthora*, *Plasmopara*, powdery mildew, *Pseudomonas*, *Pythium*, *Rhizoctonia*, rust, scab, smut and *Thielaviopsis*.

DESCRIPTION: OxiDate uses the rapid oxidative property of peroxygen to eliminate bacteria and fungi on contact. Use repeatedly on a variety of crops without cultivating resistance or leaving behind any visible residues or odor. OxiDate may also be used for cleaning surfaces, tools, water filters and equipment. Excellent for use in cleaning greenhouses.

SUGGESTED USE: Ensure that a minimum ratio of 1:100 is used.

1222501 OxiDate 2.0 - 2.5 Gallons **\$230.00**
1222502 OxiDate 2.0 - 5 Gallons **\$340.00**

Larger sizes available. All sales are final. No returns or refunds allowed.

*Free Shipping in the contiguous 48 states. Ships via Ground ONLY.

Cannot be shipped to the following states: AK, HI, PR



ZeroTol® 2.0



Kills Pathogens On Plants As Well As Bacteria, Algae & Fungi On Hard Surfaces.

TARGET: *Alternaria*, *Anthraxnose*, *Aphanomyces*, molds & mildews, bacteria, spots & rots, *Erwinia*, *Phytophthora* (blights, rots), *Plasmopara*, *Pseudomonas*, *Pythium*, *Rhizoctonia*, rust, scab, smut, *Thielaviopsis*, *Xanthomonas*, wilts & blights, fungi, algae and Tobacco Mosaic virus.

DESCRIPTION: This liquid wonder uses a combination of Hydrogen Peroxide and Peroxyacetic Acid to prevent and control a wide range of pathogens on plants and in the soil. It works equally well to suppress and control bacteria, fungi and algae on hard surfaces and equipment. This is especially useful to contain the spread of disease in your growing area. When used as directed, there will be no strong odor, visible residue or harmful effects on plants.

SUGGESTED USE: For use as a foliar spray, in irrigation and fogging applications, as a soil drench, seed treatment, in hydroponics, as a pre-plant dip and on hard surfaces. Curative treatment: between 1:100-1:400 (1-4 gals./100 gals. water). Apply every 3-5 days until control is achieved. Preventative treatment: 1:200-1:400 (or 32-64 fl. oz./100 gals. water) every 5-10 days. Large scale application: 50-500 gals./acre or 11.5-115 gals/10,000 sq. ft. Ensure thorough coverage of all foliage, stems, branches and stalks.

1222401 ZeroTol 2.0 - 2.5 Gallons **\$230.00**
 All sales are final. No returns or refunds allowed.

*Free Shipping in the contiguous 48 states. Ships via Ground ONLY.

Cannot be shipped to the following states: PR, VI, GU, AS, PW, AK, HI



Hygrozyme® Horticultural Enzyme Formula

A Simple Mode of Action With Complex Benefits For Your Plants.

TARGET: Decaying root material.

DESCRIPTION: A non-gmo enzyme cleaner for growing media that eliminates dead root matter and provides a cleaner and healthier root zone for your plants. It uses 4 core enzymes: cellulose, xylanase, hemicellulose and beta-glucanase to provide the power in its potion. Working synergistically, these enzymes provide all the ingredients needed to thoroughly break down decaying plant matter. The resultant clean root zone prevents diseases such as root rot by improving drainage and aeration in the growing media. A cleaner root zone will also give your young roots more space to grow exuberantly and more efficient access to nutrients to truly thrive. Can be used in all stages of the growing cycle and in all kinds of growing media. Compatible with all nutrient and supplement programs.

SUGGESTED USE: Use R.O. or filtered water. Mix fresh with each application and use it up within 7 days. Do not per-dilute. Mix 8-10 mL /gal of water or nutrient solution. Use with every watering or in your feeding schedule. For propagation: Use mL/gal water to soak trays and media prior to use. After harvest, use 10-15 mL/gal. water to wash equipment. Once cleaned, sanitize equipment with H2O2 at 3% concentration.

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| 3000700 | Hygrozyme Horticultural Enzyme Formula - 500 ml | \$21.95 |
| 3000701 | Hygrozyme Horticultural Enzyme Formula - 1 liter | \$36.95 |
| 3000702 | Hygrozyme Horticultural Enzyme Formula - 4 liters | \$132.95 |
- Larger sizes available.



TerraClean® 5.0

Eliminate Soil-Borne Pathogens With This Hydrogen Dioxide & Peroxyacetic Acid Blend.

TARGET: *Botrytis, Erwinia, Fusarium, Phytophthora, Pythium, Rhizoctonia, Thielaviopsis* and *Verticillium*.

DESCRIPTION: When this combination of Hydrogen Dioxide and Peroxyacetic Acid in TerraClean goes to work, the chemical reaction provides a three-fold benefit to your plants. First, it reacts with and disrupts the proteins and enzymes that make up the cell structures of pathogens (bacteria, fungus and spores), which will prove fatal. Second, it releases a high volume of oxygen that floods the root zone, stimulating root and plant development and nutrient uptake. Third, it creates a healthier soil environment overall, which translates into more robust plants that are able to keep diseases at bay.

SUGGESTED USE: For use as a direct soil treatment, a pre-plant application, at seeding and transplanting or as a periodic soil treatment throughout the growing season. Can be used in flood or drip irrigation, chemigation or as a soil drench. For soil treatments dilute at the rate of 1 gal. product/100 gal. water. Use 25-100 gals./acre. In areas with high disease pressure use 100 gals./acre. Call or go online for specifics on other application methods.

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| 1222550 | TerraClean 5.0 - 5 Gallons | \$275.00 |
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- Cannot be shipped to the following states: AL, HI, IA



OxiPhos®

Two Modes Of Action For Twice The Disease Fighting Power.

TARGET: Use to control and prevent diseases caused by the oomycete group of pathogens.

DESCRIPTION: Made with a combination of hydrogen peroxide and phosphorus acid, this product works both systemically and on contact. The phosphorus acid works inside the targeted pathogens to inhibit certain essential metabolic actions and to block enzymes vital to their growth. It can also spur a plant's natural defense mechanisms. The hydrogen peroxide works on contact to oxidize components of the pathogen's cell membranes, which causes cell breakdown and death. Can be used on all crops, turf and ornamentals in fields, greenhouses and storage areas. Can be applied throughout the growing system.

SUGGESTED USE: The following are representative dilution and application rates. See label for more specific information: Foliar spray for downy mildew-1:300 dilution-use 42.3 fl. oz./100 gals. water; apply 30-100 gals. of spray solution/treated acre. Soil drench for *Phytophthora* -1:3,000 – 4.3 fl. oz./100 gals. water. Foliar Spray for *Pythium* on turf-1:300 dilution.

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| 1222570 | OxiPhos - 2.5 Gallons Conc. | \$215.00 |
| 1222571 | OxiPhos - 5 Gallons Conc. | \$308.00 |

Cannot be shipped to the following states: AK, CA, HI, PR, TX



FORTIFY CLEAR

Industrial-Strength, Ready-To-Use ClO₂ Concentrate With Multiple Applications.

TARGET: Irrigation systems, hard surfaces, tools and other equipment needing disinfection.

DESCRIPTION: This liquid chlorine dioxide product is designed for use in irrigation systems and to be directly applied for cleaning and disinfecting hard surfaces, tools, and equipment. It can also be used to treat and purify water (see label for details). Quickly and efficiently controls biofilm in irrigation lines and other areas but is also effective against pathogenic organisms like *Raoultella Terrigena* (and other bacteria), Poliovirus, Rotavirus (and other viruses) as well as mold, mildew, protozoa, algae and fungi. It's also first-rate for odor control. When you don't want to use harsh disinfectants like ozone or chlorine bleach. This is the clear alternative to choose. Fortify Clear is EPA, FDA, NSF certified and much less corrosive and safer for the environment than many other cleaning/disinfecting options.

SUGGESTED USE: Concentration and contact times are application specific. Minimum contact time for control of listed pathogenic organisms is 5 minutes, but 10 minutes is the average time. Disinfecting in Horticulture & Greenhouses: 250 pp (dilution rate 1:12). Removing Slime: 50 ppm (dilution rate 1:60). Inhibiting Reemergence: 0.25 ppm (dilution rate 12000:1). Cleaning Pots & Flats: 500 ppm (dilution rate 1:6).

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| 3000580 | Fortify Clear - 5 lbs. | \$514.00 |
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- All sales are final. No returns or refunds allowed.

*Free Shipping in the contiguous 48 states. Ships via Ground ONLY.

Cannot be shipped to the following states: CA, ME, OR, SD



Root Cleaner

Get Right To The Root Of Soil Pests & Pathogen Problems.

TARGET: Root aphids, fungus gnats, thrips, plant-parasitic nematodes, *Pythium*, *Rhizoctonia* and more.

DESCRIPTION: Root Cleaner has been developed to get down into the root zone and eliminate soil-dwelling pests and pathogens. It works by disrupting the feeding and reproduction of insects and causes fungi and algae to fatally dehydrate. Can be used with its sister product, Green Cleaner (GC works on the surface while RC works below), but should not be used/mixed with other products. Can be used from start to harvest. RC is harmful to nematodes and should not be used at the same time as beneficial nematode applications. If you use beneficial microbes, re-inoculate after each RC use.

SUGGESTED USE: Can be used in soil, soilless and coco media. Apply to the plant's root zone and irrigate well so that the material moves throughout the zone to where the pests are located. To treat an active problem, apply every 3-4 days to ensure you break the egg cycle. For best results, use the drench and soak method. Root drench: 1 oz./gal. Weekly maintenance: 1/2 oz./gal. Flush: 1 oz./gal.

1458060	8 oz. Concentrate - Makes 8-10 gallons	\$23.99
1458061	32 oz. Concentrate - Makes 32-64 gallons	\$77.00
1458062	1 Gal. Concentrate - Makes 128-256 gallons	\$224.95

Cannot be shipped to the following states: AL, AR, DC, IL, IN, KS, MS, NM, SC, SD, TN, WV, WI



TweetMint™ Plant Wash

Keeps Plants Healthy & Your Area Smelling Great.

TARGET: Plants grown indoors or outdoors.

DESCRIPTION: The enzymatic action of this all-purpose, highly-concentrated and biodegradable product will get to work on plant surfaces to clean them and create an environment that less conducive to pest infestations. It also serves as an exceptional deodorizer. With regular use, you'll have healthy plants that can better fight off pests as well as a sweet-smelling growing area. Will not harm people, pets or the environment. Can be used on indoor and outdoor plants. Contains no parabens, dyes, phthalates, fragrances, formaldehyde, MEA, DEA, TEA, most common allergens, or synthetic and/or volatile compounds.

SUGGESTED USE: Use 1/2-1 oz of concentrate/gallon of water for low dose and 1-2 oz/gallon of water for high dose. Spray the dilution on the entire plant, both the top and bottom of the leaves. Do not apply (or store) in direct sunlight or in temperatures above 90°F degrees.

1202620	Tweetmint Plant Wash - 16 oz.	\$35.00
1202621	Tweetmint Plant Wash - 32 oz.	\$50.00
1202622	Tweetmint Plant Wash - 64 oz.	\$87.50
1202623	Tweetmint Plant Wash - 128 oz.	\$150.00



FORTIFY SKY

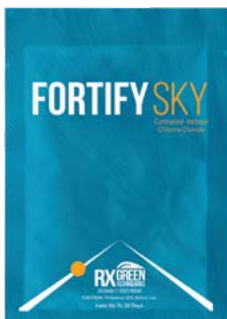
Continuous, Effective Odor Control Delivered From Above.

TARGET: Clone rooms, veg rooms, flower rooms, curing rooms, and other cultivation facilities.

DESCRIPTION: FORTIFY SKY is your no-fuss solution for routine odor control in cultivation facilities. Using a controlled release technology, this innovative product emits trace amounts of pure chlorine dioxide gas from a humidity-activated chlorine dioxide generation system contained in a small pouch. No chemical mixing and no expensive generator technology required. Leaves no residue on surfaces and requires no post-treatment cleanup.

SUGGESTED USE: Use one 50 g pouch to treat 4,000 cubic feet. To treat an area larger than 4,000 cubic feet, use additional pouches at equal spacing. Carefully open outer foil packet and remove inner pouch. Do not open inner pouch. Place inner pouch 12-18 inches above plant canopy by hanging via hole in pouch. Inner pouch is effective for up to 30 days of use. Avoid direct exposure to water.

3000570	FORTIFY SKY - 50 g	\$64.99
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Biofilm Buster Pro

Clear Your Lines Without Harsh Chemicals Using The Power of Enzymes.

TARGET: Irrigation and hydroponic lines clogged with biofilm.

DESCRIPTION: When you use organic fertilizers, nutrients and other inputs, biofilm can develop along your irrigation and hydroponic lines. Up until now, the methods to treat biofilm have all had harsh side effects, but this product uses bio-enzymes (not acids) to actively digest all the layers of biofilm. It can be used without the need to flush your system and will restore your system to 100% capacity. In addition, because extended exposure is harmless to plants and equipment, it can be used regularly in preventative maintenance applications. Also effective against non-biofilm deposits like scale. For use in hydroponics and in all irrigation systems, including drip lines, tape and pipes.

SUGGESTED USE: Only use with non-chlorinated water. For serious clogs, set the injector ratio to 1:100. For maintenance and preventative treatments, set the ratio to 1:500. Run system until product is injected throughout the lines. Turn system off and allow product to sit in the lines for at least 8 hours. Turn system on and water plants as normal. Irrigation. Can also be applied directly through a reservoir rather than an injector. For preventative maintenance: Use every 4-8 weeks (See above for ratio to be used).

1202200	Biofilm Buster Pro - 500 ml	\$69.00
1202201	Biofilm Buster Pro - 1 Gallon	\$320.00
1202202	Biofilm Buster Pro - 2.5 Gallons	\$775.00



AXXE Broad Spectrum Herbicide



OMRI Listed. Kill Your Weeds & Plant Within Hours!

TARGET: Contact spray control or burn down of weeds and grasses.

DESCRIPTION: Controls grasses, broadleaf weeds and most mosses and lichens. Works within hours of application, leaves no residue, does not migrate through soil; allowing for immediate replant after use. This spray is intended to be applied to places with undesirable plant growth. Caution should be taken when using close to desired plants.



SUGGESTED USE: Apply as contact spray control or burn down of weeds and grasses for field crops, food crops, pastures, turf, landscapes, greenhouses and around buildings and industrial sites. Repeat spray applications as necessary. Suggested percent volume/volume solutions of AXXE Broad Spectrum Herbicide to use for application:

- Use a 6-8 %: Weeds of 1-inch height or less (and control of liverworts and mosses).
- Use an 8-10%: Weeds between 1-4 inches in height.
- Use a 10-13%: Weeds over 4 inches in height (and hard to control weeds).
- A 15%: Maximum labeled rate for use and can be used to control perennial weeds or extremely dense weed growth.

1222600	AXXE Broad Spectrum Herbicide - 2.5 Gallons	\$207.00
1222601	AXXE Broad Spectrum Herbicide - 5 Gallons	\$385.00
1222602	AXXE Broad Spectrum Herbicide - 30 Gallons	\$1,800.00

Larger sizes available.

Earth's Ally® Weed & Grass Killer



Simple Ingredients Create Superb Results.

TARGET: Kills all common weeds, including broadleaf, crabgrass, dandelion, clover, ivy, chickweed and more.

DESCRIPTION: This organic, non-selective herbicide uses sea salt (sodium chloride) to quickly and thoroughly eliminate unwanted weeds. You'll get the results you want, without the harsh chemicals and harmful side-effects found in glyphosate herbicides. Kills all the way down to the roots with visible results in 3 hrs. Contains no pre-emergent qualities and will not inhibit future plant growth, so you can replant or sod once the area is dry.



SUGGESTED USE: Use on a bright, sunny day and be careful to avoid overspray on desirable plants. Do not dilute. Thoroughly wet the weed you want to eliminate. Do not use during rainfall or when the weeds are wet. Multiple applications may be needed for certain tough and dense weeds. Avoid use when pollinators are active, otherwise this product is bee safe.

1459340	Earth's Ally Weed & Grass Killer RTU - 24 oz.	\$12.99
1459341	Earth's Ally Weed & Grass Killer RTU - 1 Gallon	\$29.99

BioSafe Weed & Grass Killer



This Soap-Based Weed Killer Produces Visible Results Within 24 Hours.

TARGET: For control and burndown suppression of annual & perennial broadleaf and grasses. Also controls spore producing plants such as mosses and liverworts.

DESCRIPTION: Biosafe Weed & Grass Killer is a non-selective herbicide that works on contact when applied as a foliar application with a manual sprayer. For best results, cover plant leaves thoroughly and uniformly with spray. Take care to avoid contacting wanted plants. This soap product uses Ammonium Nonanoate to penetrate the cell walls of the plant to disrupt their normal functioning and cause death. This product does not move through the soil or between plants and leaves no harmful residue.

SUGGESTED USE: Do not apply this product through any type of irrigation system. Use a hand-held or hose-end sprayer that produces a uniform spray; this will cover the most leaf area for optimal weed control. A 10-13% volume to volume (V/V) dilution (13-16 fl. oz. per gal. of water) is recommended for most situations. Larger weeds, perennial weeds and some grasses may require several applications. Also available in a ready-to-use formulation.

1453822	Biosafe Weed & Grass Killer - 1 Gallon Concentrate	\$69.99
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Torched Weed Killer

This Non-Selective Oil-Based Herbicide Digs Deep To Kill The Root.

TARGET: Unwanted grasses and weeds.

DESCRIPTION: This ingenious combination of Mint Oil and soaps offers the fast-acting power of toxic weed killers without the risk to health and the environment. This non-selective, post emergent herbicide works best at temperatures over 60°F and generally only takes one application (except for those especially tough weeds). It begins working on contact and does not stop until it has killed down to, and including, the root.

SUGGESTED USE: Mix 8-10 oz per gal/water. Apply when weeds are actively growing. Re-treat if it rains within 25 hours of spraying. If needed, reapply to hard-to-kill weeds after 5 days. Protect desirable plants during application by shielding them with cardboard or plastic. If accidentally sprayed, immediately rinse the plants and surrounding area with large amounts of water.

1453890	Torched Weed Killer - 1 Gallon	\$50.00
1453891	Torched Weed Killer - 2.5 Gallons	\$105.00



PH ADJUSTERS

TNB pH Up & TNB pH Down

A Super-Simple, Affordable & Non-Caustic Way To Adjust Your pH Levels.

TARGET: Use when you need to assure that your pH level is right where it needs to be.

DESCRIPTION: Using all natural ingredients derived from Potassium Hydrogen Carbonate (TNB pH Up) and Hydroxypropane Tricarboxylic Acid, (TNB pH Down), these products offer a non-caustic and innovative way to increase pH (potential hydrogen) levels in liquid fertilizers. This granular product is both easy and economical to use – simply add a small amount to your water and you're ready to go. Maintaining the proper pH in the water going to your plants allows for optimal nutrient availability and lush, healthy plants. Won't harm beneficial bacteria. Suitable for use in hydroponics and aquaponics. Contains no harmful chemicals.

SUGGESTED USE: Add a small amount of the contents to your reservoir. Mix well and check the pH level. Repeat as necessary.

- | | | |
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| 2000730 | TNB pH Up - 1 lb. | \$19.99 |
| 2000740 | TNB pH Down - 1 lb. | \$19.99 |

Cannot be shipped to the following states: OR



Tiger 90CR® Organic Sulphur, 0-0-0-90



Ideal For Acidifying Soil That Is Too Alkaline.

TARGET: Alkaline soils with a pH above 7.0 and plants that love sulphur.

DESCRIPTION: When your test results show a pH above 7.0, it is difficult for plants to get the nutrients they need. This OMRI-listed product will lower your soil pH and provide a source of the plant nutrient sulphur for high sulphur-using crops like oil seeds and legumes. This controlled release formulation will give you a steady supply of sulphur throughout the growing season. Application recommendations should be based on soil tests and crop removal rates of sulphur.

SUGGESTED USE: 15 lbs./1,000 sq. ft. or 250 lbs./acre and monitor pH level.

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| 1440077 | Tiger 90CR Organic Sulphur - 50 lb. Bag | \$34.50 |
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*Pallet quantities available.



Active Air 2-Way Moisture/pH Meter & Active Air 3-Way Meter

Eliminate The Guesswork & Get Your Growing Right With These Easy-To-Use Meters.

TARGET: Untested soils with unknown amounts of pH, moisture or access to light.

DESCRIPTION: The Active Air 2-Way Moisture/pH Meter can quickly and clearly give you the answers you need when it comes to determining whether your plants are getting the right amount of moisture and if the pH in their soil is in the optimal range. With the 3-Way Meter, you will get the moisture and pH readings, but will also be able to determine how much light your planting area is getting. Armed with this crucial information, you can be successful in your growing from planning to plant all the way to plant maturity. No batteries required. For indoor and outdoor use.

SUGGESTED USE: Simply slide the switch into the meter function you wish to deploy and insert into the soil. Moisture Meter Function: The moisture readings registers on a scale of 0 (dry) to 10 (moist) and the meter is also colored-coded for guess-free readings. pH Meter function: You will need distilled water for these readings-apply some to the soil to create a little mud before taking a reading. Light Meter Function: Readings will be determined by a sensor on the front of the meter and will range from low light (0-500) and stronger light (700-2000) levels.



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| 1275220 | Active Air 2-Way Moisture/pH Meter | \$9.49 |
| 1275221 | Active Air 3-Way Meter (Moisture/Light/pH) | \$10.89 |

SaferGro pH Down®

This Gentle Acidifier Lowers The pH In Water To Benefit Your Plants In Many Ways.

TARGET: Water that needs to be adjusted to a lower pH level.

DESCRIPTION: This product is made with organic acids to safely lower water pH to a more acidic range. This lower pH breaks down deposits, improves nutrition availability/uptake and provides water at the best pH level for optimum insecticide applications. It is also an excellent overall cleaning solution for equipment, including hydroponic/irrigation lines and nozzles. As an antioxidant, it can be applied to fresh cut fruit and vegetables to extend their shelf life. **Not compatible with calcium thiosulfate.**

SUGGESTED USE: Can be used in hydroponic, organic and conventional growing. You will need 2-18 fl oz of product in 10 gals of water, depending upon your desired pH level (4.5-7) and the original pH level (7-9) of your water. The large amounts of product will be for water that has an original high (9) pH that needs to be reduced to a low level (4.5) and vice versa.

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| 1810981 | SaferGro pH Down - 1 Pint Concentrate | \$9.79 |
| 1810982 | SaferGro pH Down - 1 Quart Concentrate | \$13.99 |
| 1810983 | SaferGro pH Down - 1 Gallon Concentrate | \$37.99 |

Cannot be shipped to the following states: AK, AR, ME, NH, OK, WI



ThermX™ -70 Natural Wetting Agent



Overcome Adverse Water Conditions!

TARGET: Increases water & fertilizer uptake.

DESCRIPTION: This natural wetting agent is derived from yucca and contains 20% saponin extracted from *Yucca schidigera*. Saponin helps plants overcome adverse water conditions and is a great sticker for other sprays. Use ThermX-70 to increase crop's ability to establish in stressed conditions and increase water and fertilizer uptake. Increases permeability in heavy clay soil and reduces salt and alkali problems by improving drainage. Stimulates root growth, extending the area irrigation reaches.



SUGGESTED USE: Wetting Agent: ≈1/4 tsp./gal. water, ≈2-3 oz./acre. **Soil:** ≈1-2 tsp./gal. water, ≈16 oz./acre

1402403	ThermX-70 Natural Wetting Agent - 1 Quart	\$27.00
1402404	ThermX-70 Natural Wetting Agent - 1 Gallon	\$94.50
1402405	ThermX-70 Natural Wetting Agent - 5 Gallons	\$330.55
1402406	ThermX-70 Natural Wetting Agent - 55 Gallon Drum*	CALL

*Call for freight quote. Call for larger sizes.

RAW Yucca Flow

Add Just A Pinch Of This And Watch Your Plants Take Off.

TARGET: Improves nutrient delivery and water retention, prevents nutrient lock-up and removes excess salts.

DESCRIPTION: Made from 100% natural yucca extract, this is the perfect addition to any nutrient or foliar spray program. It will keep minerals and nutrients in suspension during delivery and prevent nutrient lock-up. When used in a soil drench or flush, it helps distribute water and nutrients deeper and more thoroughly while pushing out excess salts from the root zone. Fully water soluble and very concentrated. Can be used in all stages of growth and flower. Increases water retention and helps plants recover from drought stress.



SUGGESTED USE: Works in conjunction with all nutrient and feeding programs. Add 1/16 to 1/8 tsp./5 gal. water in reservoir for irrigation or final spray solution. Apply directly to soil or foliage as needed. Do not exceed recommended dilution amounts.

1308420	RAW Yucca Flow - 2 oz.	\$18.99
1308421	RAW Yucca Flow - 8 oz.	\$53.99

Cannot be shipped to the following states: AK, MA, ME, MT, NC, NH, PA, RI, SC, TN, UT, VA, WI

Boogie Blue Water Filters

A Great Grow Deserves Great Water.

TARGET: Chlorine, chloramine, pesticide residue, mercury, heavy metals, dissolved solids, fluoride and other chemicals



DESCRIPTION: Whether you are dealing with additives in municipal water, or worry about what-all is in your well water, Boogie Blue filters can help. They attach quickly and easily to your hose and use catalytic carbon and/or KDF membranes to greatly reduce chemical compounds and organic matter in your water (up to 99% of the chlorine and 87% of the chloramine in municipal waters). Available as Boogie Blue Basic, which will last for 10,000-50,000 gallons of spray volume and Boogie Blue Plus, which will last for 40,000-50,000 gallons.

SUGGESTED USE: Attach filter to any standard 3/4" hose. Before initial use, flush filter by running water through it for 1 minute or until water runs clear. When not in use, keep attached to hose or remove and keep closed at both ends. Do not leave filter under constant water pressure. When storing, do not allow filter to dry out; storing in a zip-lock type bag works well.

2000600	Boogie Blue Basic	\$29.90
2000605	Boogie Blue Plus	\$59.00

Exhale CO₂ Bags

A Continuous Shower Of CO₂ Directly Onto Your Plants.

TARGET: Plants grown under artificial light.

DESCRIPTION: Because plants grown indoor struggle to get enough carbon dioxide to photosynthesize effectively, Exhale CO₂ Bags have been developed to provide the supplemental carbon dioxide they need. The innovative, maintenance-free design of these bags utilizes natural processes of beneficial fungal mycelia to cultivate carbon dioxide 24 hours a day for months without refilling or installing additional equipment. Use in vegetative and flowering stages for increased canopy size, faster growth and prolonged production during budding. Increasing CO₂ levels can also help plants tolerate higher temperatures in grow rooms using bright lighting.



SUGGESTED USE: Place bags slightly above the plants in grow room to allow CO₂ to precipitate down onto the cultivated plants. These bags come ready to use and should be placed as soon as possible after delivery. ExHale Micro: Clone domes and seeds trays (3.5 cu ft); produces CO₂ for 3 mos. Exhale Original: Small-med spaces (128 cu ft); produces CO₂ for 6 mos. ExHale XL: Med-large spaces (288 cu ft); produces CO₂ for 6 mos. ExHale 365: Area needing prolonged CO₂ production; produces CO₂ for 9 mos (3 wks to build up to peak output).

2000502	Exhale CO ₂ Micro	\$20.95
2000500	Exhale Original Bag	\$27.00
2000503	Exhale CO ₂ 365	\$31.50
2000501	Exhale CO ₂ XL	\$42.20
2000504	Replacement CO ₂ Bag Hanger	\$9.80

Cannot be shipped to the following states: HI, PR, VI

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ABOUT ARBICO ORGANICS

ARBICO Organics began in 1979 when Rick Frey began rearing and selling insects that parasitize developing flies (Fly Eliminators). Rick and Sheri's passion for the environment grew into Arizona Biological Control.

In the early '80s, as demands for Fly Eliminators grew, ARBICO expanded to a 10 acre facility nestled in the Catalina Mountains north of Tucson. We are proud to provide carefully curated pesticide-free and non-toxic solutions for your home, garden, agricultural and livestock needs. In 2011, ARBICO expanded to a facility that includes a retail location, offices and warehouse in Oro Valley, AZ. This main facility houses our team of personnel that offer our customers education and support.

What started with one bug has grown to include so much more - forty years of environmental stewardship and service to our customers. It is our joy and privilege to provide solutions for you to create and nourish what you grow.



Fly Eliminators launch as first product.



ASK THE EXPERTS

Take advantage of our FREE consultation! Let us help solve your gardening and farming issues with our start to finish ARBICO Organics solutions. Our trained staff will help determine what problem you have (insect, disease, weed, nematode, critter, pet issue, fertility needs), offer solutions for immediate relief and prescribe a long term sustainable program for continued success.

AUTO SHIP PROGRAM

We can automatically ship any product on a schedule so you won't run out. Popular auto ship products include: Fly Eliminators, Beneficial Nematodes, Predatory Mites as well as most in stock pest control and soil health products.

PAYMENT OPTIONS

Credit Cards (ARBICO accepts all major credit cards) and **PayPal**.

Mail Checks or Money Orders To:

ARBICO Organics, 10831 N. Mavinee Dr., Ste. 185, Oro Valley, AZ 85737-9531

We do not accept cash via mail.



CUSTOMER SERVICE

All phone calls answered by a live person during regular business hours: Monday through Friday, 8:00 AM - 4:30 PM (Arizona Time)

• Se habla Español

Toll Free: 800-827-2847

International calls: 520-825-9785

Fax: 520-825-2038

CRITICAL INFORMATION FOR CERTIFIED ORGANIC GROWERS

Please be aware that the certified status of a product can change at any time without notification from the manufacturer or OMRI. Although we make every attempt to assure that the status of the products listed as certified organic are current and up-to-date, when purchasing a product we advise you to protect your certification by checking with your certifying agency that it is acceptable or by going online to OMRI at www.omri.org.

LIVE DELIVERY & REFUND POLICY

For products other than live insects: Unused, unopened, undamaged items in original packaging can be returned within 30 days. For full details, see our Return Policy at www.arbico-organics/category/return-policy.

For live insects: We guarantee that you will receive live beneficial insects (mites and beneficial nematodes). If your insects perish en route, we will gladly send you a replacement order. We cannot accept returns or make refunds for other reasons since these are perishable products with a limited lifespan and cannot be resold. We cannot guarantee results with live insects since we have no control over how the product is applied, the extent of the problem, and other variables. But if you are not satisfied with your results, we will cancel any unshipped orders and refund the portion of any prepayment that applies to unshipped orders.

Visit Our Retail Store!

10831 N. Mavinee Dr., Ste. 185
Oro Valley, AZ 85737-9531

800-827-2847

Please call for product availability.

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Monday - Friday: 8:00 AM - 4:30 PM
(Arizona Time)



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This publication is designed and produced by ARBICO Organics solely for informational purposes. Reasonable efforts have been made to provide accurate information, but errors may occur. All insect quantities are approximate (and the "double tilde" symbol ≈ so indicates). All prices are subject to change without notice. Product specifications are provided by the manufacturers and are also subject to change without notice. Photographs are for illustrative purposes only.

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