

**Vegetable and Fruit**

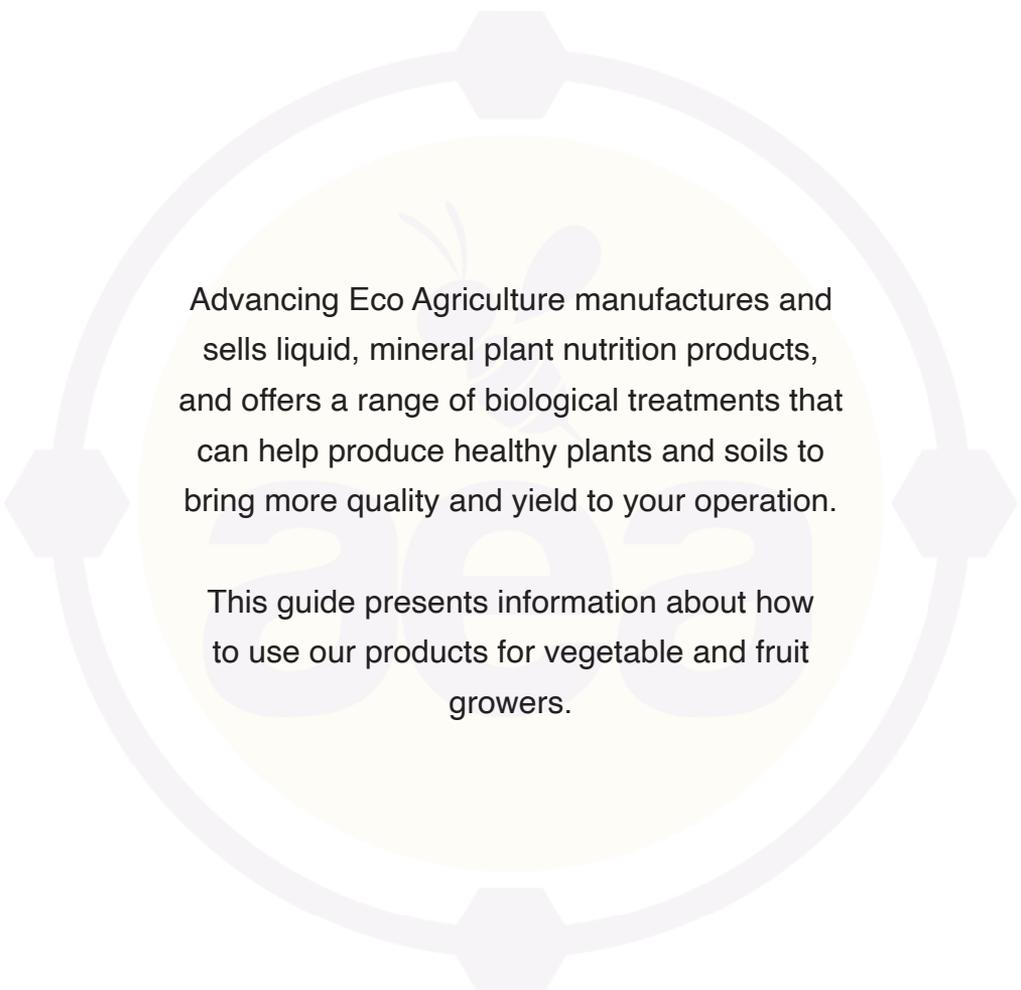
**Growers' Guide**

**to Regenerative Production**



**Advancing Eco Agriculture**

*Helping growers make more money with regenerative agriculture since 2006.*



Advancing Eco Agriculture manufactures and sells liquid, mineral plant nutrition products, and offers a range of biological treatments that can help produce healthy plants and soils to bring more quality and yield to your operation.

This guide presents information about how to use our products for vegetable and fruit growers.



## BIOCOAT GOLD™

### BioCoat Gold™ For Every Seed

BioCoat Gold™ contains diverse mycorrhizae and bacteria that act as catalysts for improved seed germination and consistency. Seeds that sprout together mature together for even ripening and optimal harvest timing.

BioCoat Gold™ improves:

- Seedling vigor
- Emergence timing
- Seedling uniformity
- Stand establishment
- Crop resilience against weather events

BioCoat Gold™ boosts soil microbial populations needed for sustained nutrient availability throughout the growing season.

Add BioCoat Gold™ to a packet or container of seeds anytime before planting. Gently shake to distribute the powder evenly on the seed surface. The powder coats seeds adequately, even if you cannot see it. No pre-wetting is necessary. Pre-treated seed can be stored and used as needed.

**Application rate is 1g per pound of seed, or 4 oz per 100 lb of seed.**

# THE REGENERATIVE SOIL PRIMER



At Advancing Eco Agriculture, we believe that soil biology is essential to healthy crops. Establishing a high-functioning soil system is vital to successful growing.

Our Regenerative Soil Primer is the core application that inoculates the soil. It digests crop residue, reduces compaction, makes nutrients plant-available through mineralization, promoting a disease-suppressive soil. This is key to unlocking soil fertility.

## Applying the Soil Primer

The following products, Rejuvenate, SeaShield, and Spectrum, are to be combined and applied as a single application. Of primary importance is to get the application onto crop residue and under the soil surface. The bacteria in Spectrum need food, water, shelter, and oxygen to thrive. Techniques to accomplish this are different for each unique situation. Here are some options:

- Use ample water (at least 20 gal per acre, 20:1 water to product) to soak the materials into the top 2-3 inches of soil
- Lightly incorporate with shallow tillage directly after application
- Apply just prior to a gentle soaking rain, or use sprinklers or overhead irrigation directly after application
- Apply prior to laying plastic mulch or other soil covering

# SOIL PRIMER APPLICATION TIMING

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## Post Harvest/Fall

The most common timing for the Soil Primer application is after crops have been harvested. This provides the longest period of time for microbial growth, nutrient release, and residue digestion without setbacks from tillage, herbicides, or other disturbances.

If planting a fall/winter cover crop, it is ideal to apply the Soil Primer just before the last tillage pass and before seeding, regardless of the crop to follow next season, even if you have a perennial crop left to overwinter.

## Springtime

When preparing for planting in the spring, the Soil Primer provides an opportunity to jump start microbial activity in cooler soil temperatures and allow optimal root symbiosis with newly emerging seedlings. Spring applications can be made when incorporating cover crops or at the final tillage pass before planting/transplanting.

A half rate of the Soil Primer can also be applied multiple times during the season as beds are replanted with subsequent seedings or succession plantings.

PRODUCT	RATE PER ACRE	RATE PER 1000 FT <sup>2</sup>
Rejuvenate	2 gal	6 oz
SeaShield	2 gal	6 oz
Spectrum	50 g	1/4 tsp

# VEGETABLE APPLICATIONS

## Direct Seed Solution

For direct seeding operations, providing early nutrition is an important boost to the available fertility profile of the soil ecosystem to ensure rapid development at germination, a critical point of influence in the plant growth cycle. The amount of water needed for these applications is highly variable and will depend on the local conditions in your field.

For direct seeding in the field, put the following planting solution directly in the row before or after row closure. For no-till drilling, apply in-furrow.

Use at least 10:1 water to product, or as much water as needed to drench the solution around seed at the provided rates.

PRODUCT	RATE PER ACRE	RATE PER 1000 FT <sup>2</sup>
Forage Foliar*	4 qt	3 oz
Rejuvenate*	1 qt	.75 oz
MycoGenesis	50 g	1/4 tsp

\*AEA's Planter Solution can be substituted for these two ingredients

# Transplant Solution

The solution below should be mixed with as much water as it takes to ensure it is evenly distributed over all the transplants in a given area. It is common to use as much as 200-300 gal of water per acre depending on soil moisture level, number of plants per acre, and how the transplanter is set up. Ideally the solution should be applied into the holes while setting plants; where that is not possible, apply as a drench at the base of each plant after transplanting.

PRODUCT	RATE PER ACRE	RATE PER 1000 FT <sup>2</sup>
Forage Foliar	4 qt	3 oz
Rejuvenate	3 qt	2.25 oz
HoloCal	1 qt	.75 oz
BioCoat Gold*	25 g	1/8 tsp

\*It is important to stir this continuously because BioCoat Gold does not mix well with water and so has a strong tendency to fall out of solution.



## Instructions for Foliar Spraying

In a tank sprayer, backpack sprayer, or hand-held pump sprayer, mix the ingredients of the next three foliar programs at a rate of a minimum 10:1 (we prefer 20:1) water to product.

To avoid clogging, always screen or filter materials before adding to the sprayer reservoir. Set sprayer head for large droplets as this increases the amount of time the plant has to absorb the nutrients from the leaf surface before the liquid evaporates.

Morning and evening applications are preferred. Avoid overhead watering for two hours after foliar application and spray at least two hours prior to rain.



## Vegetative Stage Foliar

From seedling stage through harvest on non-fruiting crops, spray weekly through harvest. For fruiting crops, spray weekly until flowering, then proceed to Flowering Foliar.

PRODUCT	RATE PER ACRE	RATE PER 1000 FT <sup>2</sup>
Forage Foliar	4 qt	3 oz
HoloCal	2 qt	1.5 oz
Micro5000 Organic	25 g	1/8 tsp

## Flowering Foliar

Use as a weekly foliar application from onset of flowering through early fruit set to encourage abundant flowering, pollination, and cell division. Appropriate for cut flowers and all fruiting crops, such as tomatoes, cucumbers, and beans. This helps prevent leggy plants and promotes more compact bud spacing.

PRODUCT	RATE PER ACRE	RATE PER 1000 FT <sup>2</sup>
Forage Foliar	2 qt	1.5 oz
Accelerate	6 qt	4.5 oz
HoloCal	2 qt	1.5 oz
Micro5000 Organic	50 g	1/4 tsp

## Fruit Fill Foliar

Use as a weekly foliar application from fruit set through harvest. Weekly inclusion of Accelerate is important for continually fruiting crops such as tomatoes, green beans, cucumbers, and peppers.

PRODUCT	RATE PER ACRE	RATE PER 1000 FT <sup>2</sup>
Forage Foliar	4 qt	3 oz
HoloK	2 qt	1.5 oz
Accelerate	2 qt	1.5 oz
Micro5000 Organic	25 g	1/8 tsp

## Fertigation/Soil Drench

Fertigation is the application of nutrients through drip tape, micro-sprinklers, overhead irrigation systems, or even a watering can. Always thoroughly flush lines after fertigation.

In any overhead or surface application it is important to get nutrients watered into the soil without over saturating the root zone.

When using our products in a fertigation system, dilute them with enough water to allow the appropriate metering of the solution through your irrigation system.

Using an inoculant like Spectrum in a fertigation system serves to maintain optimal microbial activity and drive root growth but carries a higher risk for line clogging. Ensure your lines are well flushed.

Mix the products below with at least an equal volume of water and apply bi-weekly throughout the growing season.



PRODUCT	RATE PER ACRE	RATE PER 1000 FT <sup>2</sup>
Forage Foliar	8 qt	6 oz
HoloCal	2 qt	1.5 oz
Rejuvenate	1 qt	.75 oz
Spectrum*	25 g	1/8 tsp

\*Use only 5-10g of Spectrum through drip tape.



# FRUIT APPLICATIONS

## Bud Break and Blossoming Foliar

Early spring nutritional foliar applications, beginning at bud break, support all subsequent stages of leaf and fruit development. The formula below enhances blossom vigor, pollination, and cell division in early fruit development, reducing fruit quality issues and disease pressure that often initiate at bloom. Nutritional support at this stage is critical to building the plants' immune systems. Mix the products below with at least 20 gallons of water and apply weekly from bud break through petal fall.

PRODUCT	RATE PER ACRE	RATE PER 1000 FT <sup>2</sup>
Accelerate	4 qt	3 oz
Forage Foliar	1 qt	.75 oz
HoloCal	1 qt	.75 oz
Micro5000 Organic	50 g	1/4 tsp

## Monthly Fertigation/Soil Drench

PRODUCT	RATE PER ACRE	RATE PER 1000 FT <sup>2</sup>
Forage Foliar	4 qt	3 oz
HoloCal	2 qt	1.5 oz
SeaShield	2 qt	1.5 oz
Rejuvenate	2 qt	1.5 oz

## Cell Division Weekly Foliar

In the later stages of bloom, immediately following pollination, cell division occurs over 2-3 weeks. This is the optimal time to move calcium into developing cells, ultimately determining firmness, and quality of harvestable fruit.

Rates can be altered based on crop load—a younger, lighter crop may only need a half rate. For mature plants with a heavy blossom load, the full rate should be applied. Mix the products below with at least 20 gallons of water and apply weekly 2 or 3 times after petal fall.

PRODUCT	RATE PER ACRE	RATE PER 1000 FT <sup>2</sup>
Forage Foliar	4 qt	3 oz
HoloCal	2 qt	1.5 oz
SeaShield	2 qt	1.5 oz
Micro5000 Organic	50 g	1/4 tsp



## Fruit Fill Weekly Foliar

Managing nutrition at this stage influences the quantity of photosynthates transported from leaves to the fruit which can improve fruit color, storability, firmness, aroma, and flavor. Additionally, fruit that is more nutrient-dense will hang longer, providing more flexibility of harvest timing.

The number of applications is variable and depends on the number of weeks or months of the fruit fill period of each crop type. Mix the following products with at least 20 gallons of water and apply as a foliar beginning 7 days after the last Cell Division Foliar. Continue every 7-10 days until just before harvest.

PRODUCT	RATE PER ACRE	RATE PER 1000 FT <sup>2</sup>
Forage Foliar	3 qt	2.25 oz
Holo-K	1 qt	.75 oz
Micro5000 Organic	50 g	1/4 tsp



## Bud Initiation Foliar

Perennial fruit buds for next year's crop are initiated either while the fruit is still on the tree or during the post-harvest period. Late-season nutritional applications are often overlooked by growers, reducing the potential for high-quality yields the following year.

There are wide variances in bud initiation timing. Generally bush, cane, and stone fruits, along with early apples, initiate in mid-summer after harvest. Fall harvested apples, pears, and citrus buds are initiated with fruit still on the tree.

To improve quality markers including number, size, freeze resistance, and nutrient content of the following season's buds, mix the products below with at least 20 gallons of water and apply at least twice, up to four times, between harvest and leaf drop.

PRODUCT	RATE PER ACRE	RATE PER 1000 FT <sup>2</sup>
Accelerate	4 qt	3 oz
Forage Foliar	2 qt	1.5 oz
HoloCal	1 qt	.75 oz

*“AEA products have completely changed the growth of my small orchard and vegetable garden. We have fruit set like I have never seen before! I am amazed by the difference that the products have made! Thank you for the advice and products.”*

**- Eric C, California**



# Further Considerations

## Nitrogen Needs

These applications do not account for nitrogen needs which are critical to a growing crop. Different sources can have a detrimental or beneficial effect on soil biology. Some organic sources of nitrogen are fish emulsion, soy protein hydrolysate, blood meal, compost, and manure/guano. Non-organic sources that do not compromise the soil biology are urea and ammonium sulfate which can be very effective if used in the right dose. When using AEA applications it is common to reduce nitrogen use by 30%.

## Application Rates

Application rates can be varied according to the needs of the plants up to the maximum allowed according to the label in the following ways:

- Change the concentration of the products in the mix
- Alter the timing to more or less than weekly
- Feed plants in smaller doses more often (most effective)

## USDA National Organic Program

AEA products are intended for use according to an approved organic system plan. All materials comply with the USDA National Organic Program (NOP) rules and other international bio-organic regulations for certified organic crop production. Verify with your certifier before using.

## Customized Solutions

AEA offers a complete line of liquid mineral nutrition and biological micronutrients and additional products to improve soil health and crop performance. Consulting services are available for qualified growers.

# Ready to get started?

Contact our Customer Care Team at  
**800-495-6603**

or

**hello@advancingecoag.com**



## Advancing Eco Agriculture

*Helping growers make more money with Regenerative Agriculture since 2006.*

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