

AGGRAND®

Foliar Feeding

Foliar feeding with AGGRAND is up to 20 times more efficient than applying amendments to soil. To optimize results, apply AGGRAND products when plants need the extra nutrients, use a biodegradable wetting agent to maximize adhesion to the leaf surface and adjust the pH of the fertilizer solution to maximize uptake and plant use efficiency. Apply AGGRAND products in the early morning or late evening, and do not apply before or after rainfall or irrigation, or during periods of direct sunlight.

Maximizing Foliar Feeding Effectiveness

Plants need extra nutrients during transplanting, early growth and development, pre-bloom, early bloom and fruit formation. Foliar applications are effective in situations where a soil chemistry imbalance, cold soils or low soil fertility limit the root uptake of nutrients. Most plants respond to foliar applications when they are timed to coincide with seedling emergence (3-6" in height after 2 to 4 true leaves have formed), 2-3 weeks before first bloom (legumes such as snap beans or soybeans), first bloom (tomatoes, cucumbers, melons), runnering (cucumbers, melons) cluster formation (tomatoes) and fruit fill (tomatoes, melons, cucumbers). When AGGRAND Natural Fertilizer 4-3-3 and Natural Kelp and Sulfate of Potash 0-0-8 are applied before drought, frost, insect attack or the onset of disease-susceptible stages, the effects of the stress will be reduced or eliminated.

AGGRAND Dilution Rates

Some growers apply AGGRAND fertilizers on a calendar-based approach, up to eight times per season. A 1-3% dilution rate (1.25-4 oz. AGGRAND per gallon of water) is sufficient for foliar applications. Use more concentrated fertilizer mixes on heavy feeders and low fertility soils. Because the foliage could get damaged, never exceed a 3% dilution rate. On sandy soils, reduce the rate by $\frac{1}{4}$ to $\frac{1}{3}$ and apply every 2-3 weeks (reduce by $\frac{1}{3}$ and apply every 2 weeks for heavy feeders on sandy soil). If AGGRAND products are applied every week, split the application rate in half (1% dilution rate).

AGGRAND Natural Fertilizer and Liquid Bonemeal 0-12-0 can also be applied to promote flowering, fruit and seed formation. Apply these products when the plants have reached the phase (size, age, time of year) when flowering is possible.



To increase adhesion of the spray to the leaf surface, add a wetting agent to the spray tank. A non-toxic, biodegradable vegetable oil-based product is recommended. Mix according to the directions (1.5-2% dilution rate [2-3 oz./gal.] is usually recommended).

Optimal Spray pH

To optimize uptake and plant use efficiency, adjust the pH of the fertilizer solution to the proper level for the particular growth stage. Adjust the spray mix pH to less than 6.5 to promote vegetative growth; adjust to 7-7.4 to promote flower, seed and fruit formation. Use baking soda, hydrated lime or calcium nitrate to raise the pH, or use apple cider vinegar to lower the pH. Because it produces the most balanced chemistry, calcium nitrate works best with AGGRAND Natural Fertilizer. When using baking soda, do not use more than 1 tbs./gal. of the fertilizer mixture because it will add too much sodium. Test the solution with litmus paper, which is made to test both acidic and alkaline solutions. Until comfortable with the process of adjusting spray pH,

use only a small amount of the spray solution adjusting agent at a time before retesting the pH.

Applying AGGRAND Fertilizers Through Irrigation Systems

Because the plants are fed through the leaves and roots, and the microbial activity in the soil is stimulated, optimum plant responses are achievable when AGGRAND fertilizers are injected into irrigation systems. Transplant shock can be reduced when AGGRAND Natural Fertilizer and Natural Kelp and Sulfate of Potash are applied immediately after transplanting. Early plant growth and development of seeded crops can be maximized by applying AGGRAND Natural Fertilizer, Natural Kelp and Sulfate of Potash and Liquid Bonemeal once several true leaves have developed. Injection is often the easiest and most effective way to obtain optimum results.

To apply AGGRAND fertilizers through irrigation systems, dilute the fertilizers with water in the mix tank. Depending on the volume of the mix tank, the fertilizer is diluted to different concentrations; 50% dilution

is typical. Next, the mix is filtered through a 50-100 mesh filter before it is injected into the irrigation water. Depending on how often the fertilizer is applied, how much water is applied and the concentration of the fertilizer in the mix tank, the injection ratio varies between 25 to 1 and 200 to 1. The final dilution rate is between 0.25% and 2%.

Applying AGGRAND Fertilizers Through Field Sprayers

On standard field sprayers, use Turbo Flood-Jet® nozzles that produce an extra-coarse droplet, and remove the nozzle screens to reduce clogging. In addition, self-cleaning line strainers (by-pass filters) recirculate particulates until they are broken down through agitation and pump sheering action (especially useful when applying AGGRAND Liquid Bonemeal and Liquid Lime). All line strainers (by-pass and in-line) should be placed on the output side of the pump to maximize pressure and flow in the system.

AGGRAND products and Dealership information are available from your local AGGRAND Dealer.

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