

Brotomax use by crop guide

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INTRODUCTION

Brotomax® is a natural organic nutrient easily absorbed by the leaves, branches and roots. Due to its nutritive capacity, the application of Brotomax® will help overcome stress, decay situations and disease susceptibility on the plant.

Used in combination with fungicides, Brotomax helps to balance nutrition and any micronutrient deficiency, and increases the natural defense systems, specially on plants that have been infected by pathogenic agents that attack wood and plug vascular system.

Brotomax can be used in all kind of crops. It is specially effective indicated in citrus, fruit trees, cotton, strawberry, wine grape, table grapes, avocado, mango, pistachios, olives, vegetables, greenhouse crops, deciduous trees, cupressacea, turf as well as in nurseries of fruit trees, citrus or wine grape and on plants that have been grafted.

Brotomax® was developed in Spain for climatologically regions very similar to California climate, to aid in improving plant health, yield and quality through a nutritionally balanced program. **Brotomax® (8-0-0)** is a blend of urea, copper (1.75%), manganese (0.75%), zinc (0.5%) and natural plant extracts formulated to increase polyphenols within a plant. Polyphenols are involved in many plant processes. Some of their more important uses are growth regulation, photosynthesis, antioxidant production, and cell defenses (favoring the formation of phytoalexins, which have anti-microbial properties). Brotomax® also aides in a plant's ability to regenerate growth in damaged areas.

Brotomax®'s formulation aides in the following:

- 1 **Formation of proteins:** Nitrogen plays an important role in the structure of proteins, necessary for plant cell formation. Zinc activates production of enzymes used in the synthesis of proteins and stimulates floral development.
- 2 **Enzyme Activation:** Copper that plants absorb strengthens their natural defenses system. Copper activates phenol-oxidase enzymes. Enzyme activation makes more phenolic compounds available for lignification and increases levels of phytoalexins.
- 3 **Chlorophyll synthesis:** Manganese contributes to the synthesis of chlorophyll, which plants need to produce carbohydrates.

It is these properties that make Brotomax® an essential part of a balanced nutritional program.

The phenolic compounds enhance the biosynthesis of induced phytoalexins, which enable the plant to isolate and inactivate a complex of pathogenic fungi. Phenolic compounds also take part in the formation of lignin, the main component of woody tissue. The production of new woody tissue ensures stronger new cell structures and the production of new vascular tissue.

We feel that Brotomax® with its ability to translocate throughout the plant, is a powerful inducer of a plant's self defense systems increasing the phenolic compound levels and therefore increasing the natural defense systems of the plant.

Throughout the history of Brotomax® production, numerous scientific studies by Internationally recognized research centers and universities have confirmed both quantitatively and qualitatively, what Brotomax® use has shown in the field. Brotomax® works!

Brotomax® (8-0-0) liquid fertilizer is registered in California and almost all the States for use on all crops.

Brotomax® can be mixed with most fertilizers and pesticides.
Do Not mix Brotomax® with horticultural oils.

Brotomax® is a product of Agrométodos, Spain.

Remarks

Rates and timings described in this guide are based upon results achieved in over 20 years of use in Spain and more recently in USA, Australia, Brazil and other countries. Rates and timings in your particular growing region may vary. Consult your local distributor for the best rate and timing on your crop.

Brotomax® requires several applications during the growing season for best results. A post-harvest treatment is recommended since this is typically a time when a crop is stressed and needs the additional nutritional boost of Brotomax® to regulate its metabolism and allow the crop to complete a full cycle and prepare for its next cycle.

Almonds

Application Timings and Rates:

1st foliar application. Apply 28 ounces per acre at 90% petal fall.

2nd foliar application. Apply 28 ounces per acre 15 days after the first application.

3rd. foliar application. Apply after hard stone initiation.

Brotomax® can also be applied through a drip irrigation system at a rate of 28 ounces per 100 trees.

Benefits:

Production:

- Avoid flower fall and improve fruit set.
- Less nut drop.
- Increased yields.

Health:

- The first application has shown to improve the effectiveness of fungicides it is applied with.

Quality:

- Improved nut quality.
- Increase in nut size.

Post Harvest:

It is highly recommended to make another foliar application approximately 10 days after the last picking at 28 ounces per acre. For best results, make this application during periods of cooler temperature; mornings, evenings and night. This application improves the storage of necessary nutrients for the next season, bud differentiation, and an overall increased crop health with an improved ability to withstand the detrimental effects of vascular diseases.

Apricots

Application Timings and Rates:

1st foliar application. Apply foliarly at 25% open flower at 28 ounces per acre.

2nd foliar application. Apply at 90% petal fall at 28 ounces per acre.

3rd foliar application. Apply after fruit thinning or at hard stone initiation at a rate of 40 ounces per acre.

These applications can also be applied through a drip irrigation system at a rate of 34 ounces per 100 trees.

Benefits:

Production:

- Improve flower strength and fruit set.
- Less fruit drop.
- With the third application, improved fruit size, color and earlier harvest.

Health:

- The first application has shown to improve the effectiveness of fungicides it is applied with.
- Improved fruit quality.
- Less fruit stone cracking due to better lignification.

Post Harvest:

It is highly recommended to make another foliar application after harvest and prior to leaf drop at 28 ounces per acre. This application improves the storage of necessary nutrients for the next season.

Artichokes

Application Timings and Rates:

1st foliar application. Apply 28 ounces per acre at flower bud initiation and before its opening.

2nd foliar application. Apply 40 ounces per acre after first cutting.

Consecutive foliar applications. Apply consecutive foliar applications of 40 ounces per acre following each additional cutting.

Benefits:

Production:

- Greater number and size of secondary artichokes.
- Improved root structure for better nutrient utilization.
- Advancement of second shoot system cycle.

Health:

- Improved plant health.
- Increased chlorophyll content of leaves for improved photosynthesis and plant health.
- Good bud differentiation few weeks after planting.

Quality:

- Balanced vegetative and floral growth.
- More uniform size of artichokes with thicker bracts.

Scions wash:

Submerge artichokes scions for 30 minutes in a solution of:

- 25 gallons of water
- 10 ounces of Brotomax

with the normally applied fungicides and insecticides and a taking root product.

Avocado

Application Timings and Rates:

Make three foliar applications per year.

1st foliar application. At early flowering (Spring).

2nd foliar application. At summer growth flush (Summer).

3rd foliar application. At start of fruit verasion, when fruit changes from dark green to pale green (Autumn).

Rate:

40 ounces per acre in 125 gallons of spray solution.

Depending on the growth stage of the plant, a higher GPA spray solution may be required to obtain the optimum coverage.

When using 200 or more GPA apply Brotomax at the rate of 56 ounces per acre. In both scenarios apply to runoff.

Benefits:

Spring application (very important)

Health:

- Improved level of polyphenols for greater plant health and resistance to vascular diseases. The best timing to accomplish this is the spring application.

Production:

- Encourage flush. Improved balance of vegetative to flower ratio. This means more single flower, single leaf fruiting positions.

Quality:

- Prepare trees for a good fruit set.

Summer application

Production:

- Encourage flush for next year growth.
- Avoid young fruit fall.

Health:

- Improve skin strength in order to prevent physiological disorders.

Quality:

- Improved quality of fruit.

Autumn application

Health:

- Improved plant health and resistance to vascular diseases.

Production:

- Stronger peduncles resulting in less fruit drop.

- Improved balance of vegetative to flower ratio that is needed for a good yield. This means more single flower, single leaf fruiting positions. This regulation of flower to foliage is especially evident in navel varieties.

Quality:

- Enhanced maturity
- Avoid fruit creasing
- Improve fruit skin quality

Remarks:

- Regeneration of truck tissue and bark in trees with trunk damage from phytophthora and psoriasis.
- Rapid healing of pruning wounds. It is recommended to apply Brotomax® at 40 ounces in 125 gallons spray solution with a fungicide 10-15 days after pruning.
- If gummosis or other symptoms of disease are wide spread in the orchard, make an application of 72 ounces per acre to increase plant polyphenol levels and improve crop recovery from the detrimental affects of the diseases.

New plantings:

Application Timings and Rates:

Make three foliar applications of 32 ounces when using 125 gallons spray solution

1st foliar application. At white button flower (Spring)

2nd foliar application. At summer growth flush (Summer)

3rd foliar application. At start of fruit verasion, when fruit changes from dark green to pale green (Autumn)

All applications can be made via drip irrigation system at a rate of 16 ounces per 100 trees.

Benefits:

Health:

- Improve plant protection against fungi attacks

Production:

- Advance planting growth
- Improve active root growth

Quality:

- Improves graft/rootstock affinity

Cherries

Application Timings and Rates:

1st foliar application. Apply at 25% open flower at a rate of 28 ounces per acre.

2nd foliar application. Apply 28 ounces per acre at 90% petal fall.

3rd foliar application. Apply after fruit thinning or at hard stone initiation at a rate of 40 ounces per acre.

Brotomax® can also be applied through a drip irrigation system at a rate of 34 ounces per 100 trees.

Benefits:

Production:

- Avoid flower fall and improve fruit set.
- Less fruit drop.
- Increased yields.

Health:

- The first application has shown to improve the effectiveness of fungicides it is applied with. Trees become younger: more buds will break at the base of main branches.

Quality:

- Improved fruit quality.
- Increase in fruit size.
- Uniformed fruit fill. Excess in ripening is avoided even in trees with high crop load.
- Less skin cracking under adverse conditions.
- With the third application, improved overall fruit size, color and maturity were achieved.

Post Harvest:

It is highly recommended to make another foliar application approximately 10 days after the last picking at 28 ounces per acre. For best results, make this application during periods of cooler temperature; mornings, evenings and night. This application improves the storage of necessary nutrients for the next season, bud differentiation, and an overall increased crop health with an improved ability to withstand the detrimental effects of vascular diseases. This application will also minimize the production of spurs and doubles in the next season's crop.

Citrus

Application Timings and Rates:

Make three foliar applications per year:

1st foliar application. At early flowering (Spring).

2nd foliar application. At summer growth flush (Summer).

3rd foliar application. At start of fruit verasion, when fruit changes from dark green to pale green (Autumn).

Rate:

40 ounces per acre in 125 gallons of spray solution.

Depending on the growth stage of the plant, a higher GPA spray solution may be required to obtain the optimum coverage.

When using 200 or more GPA apply Brotomax at the rate of 56 ounces per acre. In both scenarios apply to runoff.

Benefits:

Due to positive effects in the secondary metabolic processes we obtain:

Spring application (very important)

Health:

- Improved level of polyphenols for greater plant health and resistance to vascular diseases. The best timing to accomplish this is the spring application.

Production:

- Encourage flush. Improved balance of vegetative to flower ratio.

Quality:

- Prepare trees for a good fruit set.

Summer application

Production:

- Encourage flush for next year growth.
- Avoid young fruit fall.

Health:

- Improved quality of fruit; less puffing, crease and drying (?)

Quality:

- Improve skin strength in order to prevent physiological disorders.

Autumn application**Health:**

- Improved plant health and resistance to vascular diseases.

Production:

- Stronger peduncles resulting in less fruit drop.
- Improved balance of vegetative to flower ratio that is needed for a good yield. This means more single flower, single leaf fruiting positions. This regulation of flower to foliage is especially evident in navel varieties.

Quality:

- Enhanced maturity avoiding dry end.
- Avoid fruit creasing specially in Valencia varieties.
- Improve fruit skin quality.

Remarks:

- Regeneration of truck tissue and bark in trees with trunk damage from phytophthora and psoriasis.
- Rapid healing of pruning wounds. It is recommended to apply Brotomax® at 40 ounces in 125 gallons spray solution with a fungicide 10-15 days after pruning.
- If gummosis or other symptoms of disease are wide spread in the orchard, make an application of 72 ounces per acre to increase plant polyphenol levels and improve crop recovery from the detrimental affects of the diseases.

New plantings:**Application Timings and Rates:**

Make three foliar applications of 32 ounces when using 125 gallons spray solution.

1st foliar application. At white button flower (Spring).

2nd foliar application. At summer growth flush (Summer).

3rd foliar application. At start of fruit verasion, when fruit changes from dark green to pale green (Autumn).

All applications can be made via drip irrigation system at a rate of 16 ounces per 100 trees.

Benefits:**Health:**

- Improve plant protection against fungi attacks

Production:

- Advance planting growth
- Improve active root growth

Quality:

- Improves graft/rootstock affinity

Cotton

Application Timings and Rates:

1st foliar application. Apply when the plant has 4 to 6 nodes at a dose of 20 to 28 ounces per acre.

2nd foliar application. Apply at the rate of 28 to 32 ounces per acre at the beginning of flowering.

Additional foliar application. In fields with a history of vascular diseases a third foliar application of 40 ounces per acre is recommended at cut out.

Benefits:

Production:

- More bolls per plant.
- Less overall boll drop and improved first position boll retention.
- Improved yield.

Quality:

- Increased boll size and weight.
- Micronaire index fiber increases 25.0%

Health:

- Improved resistance to heat stress.
- Improved plant health with less yield affect from vascular diseases.
- Improved success on growing of plants, reducing replanting costs and avoiding on field plants with different phenologic stages.

Garlic

Application Timings and Rates:

1st foliar application. Apply at the first true leaf stage at the rate of 20 ounces per acre.

Repeat foliar applications every 14 days at the rate of 20 ounces per acre.

Benefits:

Garlic plants have a high metabolic level and using Brotomax® assists in balancing this, especially in the secondary metabolic processes.

Quality:

- Increased bulb size.
- Regularize vegetative growth and bulb development.

Production:

- Increase in yields can be realized due to improved plant health and size.

Health:

- Aids the plant in overcoming any detrimental affects from pesticide applications.

Garlic Seeds

Mix Brotomax® with any fungicides at a rate of 12 ounces per 1,000 lbs of seed cloves.

Benefits:

- Improved stand. (less planted seeds are lost).
- Improved growth of the radicle.

An application of magnesium in combination with Brotomax® is recommended.

Benefits:

- Improved plant vigor, rooting, and yield.

Green Beans

Application Timings and Rates:

1st application. Apply 20 ounces per acre 10 days after sowing.

Subsequent application. Repeat every 21 days thereafter at a rate of 32 to 36 ounces per acre.

Benefits:

Production:

- Greater bean and plant development.
- Improved root structure and nodulization for better utilization of nutrients.
- Increased yield

Quality:

- More uniform fruit size and maturity.

Health:

- Improved plant health to overcome the detrimental affects of Alternaria

Melons and Watermelons

Application Timings and Rates:

1st application. Apply through the drip irrigation system at the 3-4 true leaf stage growth at 16 ounces per acre.

2nd application. Apply foliarly at flowering at 40 ounces per acre.

3rd application. Apply foliarly after the first pick at the rate of 40 ounces per acre.

Additional foliar applications. Additional applications should be made following each picking for a prolonged harvest and improved crop quality.

Benefits:

Health:

- Improved crop vigor throughout harvest.
- Recovery of injury during harvest.
- Overcome melon decline after fruit set.

Production:

- Regulation of vegetation to fruiting structures within the crop.
- Improving the fruiting duration and improving overall yields.

Olives

Application Timings and Rates:

1st foliar application. Apply at a rate of 40 ounces per acre 10 to 15 days after the starting of the vegetative activity.

2nd foliar application. Apply 28 ounces per acre at post bloom (90% petal fall).

3rd foliar application. Apply 28 ounces per acre at the beginning of the autumn sprouting.

Benefits:

First application:

Production:

- Increased bloom and fruit set.
- Increased latent buds flushed.
- Improved new vegetative growth.
- Reduce alternancy of productive and non productive years.

Health:

- Improved plant health and resistance to the detrimental affects of various vascular diseases.

Second application:

Health:

- Improved plant health for resistance to vascular pathogens.

Production:

- Minimise fruit drop.
- Improved carbon to nitrogen ratio: C/N.
- Improved bud determination for fruiting and vegetative.

Third application:

- Improve nutrient uptake and reserves for being used at the end of the winter.
- Improve plant's resistance to frost damage.
- Improved plant health for better resistance to the detrimental affects of verticillium and phytophthora.

Remarks:

Quality:

- Improved fat content of oil.

- Improved oxidating properties of oil.

New plantings:**Application Timings and Rates:**

Apply foliar sprays each 20 to 25 days throughout the growing season at a rate of 28 ounces per acre.

Benefits:

- Precocious taking roots.
- Improved rooting and nutrient uptake.
- Encourage flush of foliage.

Recommendation:

In case of verticillium, phytophthora, or other vascular disease symptoms appear apply Brotomax® at 70 ounces per acre foliarly being sure to cover all above ground tree surface including the trunk.

Onions

Application Timings and Rates:

1st foliar application. Apply at the first true leaf stage at the rate of 20 ounces per acre.

Repeat foliar application. every 14 days at the rate of 20 ounces per acre.

Benefits:

Production:

- Greater radicle development.
- Improved vegetative growth.
- Increased bulb weight.

Health:

- Increased repellency of thrips and recovery of damage from thrips.
- Improved natural plant protection against pest and diseases
- Stronger leaves, less leaf fall.

Quality:

- Improved bulb size homogeneity.
- More homogeneous layers.

Peaches, Nectarines & Plum

Application Timings:

Apply Brotomax® exclusively by drip irrigation.

1st application. Between bloom and petal fall.

2nd application. After thinning.

3rd application. At the beginning of fruit change in color or pit hardening.

Rate:

32 ounces per 100 adult trees and 16 ounces per 100 young trees.

Post Harvest application: In case of high yields it is recommended to make another application approximately 10 days after the last picking at 32 ounces per 100 adult trees.

Benefits:

1st application

Production:

- Ensures a good and uniform budding.
- Improve first flowering and fruit set.
- Encourage latent bud flush.

Health:

- The first application has shown to improve the effectiveness of fungicides it is applied with.

2nd application

Production:

- Help fruit swelling increasing fruit diameter.
- Favor a balanced growth when significant temperature changes occur during flush.

Quality:

- Improve pit hardening avoiding cracking.

Health:

- Protect chlorophyll Brotomax® antioxidant effect.

3rd application

Production:

- Swell fruit.
- Improve fruit conservation.

Quality:

- Improve fruit consistency.
- Improve color of fruits.
- Increase Brix value.

Post Harvest application

Production:

- Improve the storage of necessary nutrients for the next season.
- Regularize bud differentiation for next year. We will obtain a better rate of shoots with leaves and flowers.

Health:

- Improve an overall increased crop health with an improved ability to withstand the detrimental effects of vascular diseases.

To enhance the maturity of the crop, add to the third application a high quality potassium product.

To delay the maturity of the crop, add to the third application a high quality iron chelate.

Pears and Apples

Application Timings and Rates:

1st foliar application. Apply at 32 to 42 ounces per acre at 90% petal fall.

2nd foliar application. Apply at 32 to 42 ounces per acre 30 days before harvest.

Benefits:

Quality:

- Increased fruit size. Improved uniformity of fruit size.
- Improved skin quality and its consistency.

Health:

- Overcome affinity problems between scion and rootstock (Williams, Conference, Ercolini, Alexandrina, etc.).
- Improved plant health for better resistance to the detrimental affects of vascular pathogenic fungi.
- Aides the crop in overcoming bud drying from Pseudomonas or other physiological disorders. In the pear varieties (Conference, Alexandrina, Williams, etc.) and others susceptible to dehydration, Brotomax® help the crop to overcome this affliction and to protect the chlorophyll from oxidation. This helps to keep the leaves from drying out during the summer months.
- Regeneration of woody tissue damaged by canker.

Production:

- Improved carbon to nitrogen ratio: C/N
- Improved fruit conservation.

Specific Treatments:

Hail Damage: rapid healing of wounds produced to the tree.

New Plantings: less bud drying and mortality of branches and trees due to an improved growth of radicle system, nutrient uptake and open vascular system. For both situations apply Brotomax® at 64 ounces per 100 gallons spray solution with complete coverage of both vegetative and wood portions of the tree.

Recommendations:

In pear trees showing symptoms of phytophthora, we also recommend a post harvest application of Brotomax® at 32 to 42 ounces per acre. This will help the trees store more nutrients for the next spring.

For improved health of pear and apple trees suffering from attack of Fire Blight (*Erwinia Amylovora*)** we recommend the following applications:

1st foliar application. Apply Brotomax® alone at a rate of 1 gallon per 100 gallons. spray solution prior to first bloom.

2nd foliar application. Apply at a rate of 1 gallon per 100 gallons 90% petal fall.

3rd foliar application. Apply 30 days at a rate of 4 pints per 100 gallons.

***Visual improvement in the health of the apple trees will be noticed in the year following a season of Brotomax® applications.*

Peppers

Application Timings and Rates:

1st foliar application. Apply within one week of transplanting or when plants have four to six true leaves at 16 to 20 ounces per acre.

2nd foliar application. Apply 16 to 20 ounces per acre pre-bloom or at the first sight of bloom.

Benefits:

Production:

- Improved stand establishment.
- Balanced vegetative growth.
- Yield improvement. In Spain, average yield increases of 20% have been observed.

Health:

- Improved plant health for better resistance to the detrimental affects of vascular fungi; i.e. phytophthora, verticillium, fusarium, etc.

Additional applications of Brotomax can be made at the rate of 20 ounces per acre if the crop is suffering from additional physiological stresses; frost, heat, hail, blight, etc.

Potatoes

Application Timings and Rates:

1st foliar application. Apply at the 3-4 true leaf stage growth at 20 ounces per acre.

2nd foliar application. Apply 40 ounces per acre 20-30 days following the first application.

Benefits:

Production:

- Improved stand establishment.
- Balanced vegetative growth.
- Yield improvement. In Spain, average yield increases of 20% have been observed.
- Improved starch accumulation in the tubers.
- Improve tubers conservation.

Health:

- Improved plant health for better resistance to the detrimental affects of vascular fungi; i.e. phytophthora, verticillium, fusarium, etc.

Remarks:

DO NOT apply Brotomax® from the start of flowering as this application will inhibit maturation of the crop resulting in green tubers.

Brotomax do not control Phytophthora, but contributes to the disease control increasing plant defense, vigor, and resistance.

Raspberry:

Application Timings and Rates:

1st foliar application. Leaf emergence (leaf length: 1-1.5 inch) with any fungicide.

2nd foliar application. Early bloom.

3rd foliar application. Middle of harvest.

Rate:

10 to 14 ounces per 25 gallons spray solution.

Benefits:

Quality:

- Well formed, more uniform color and size fruit.

Health:

- Avoid plant lack of vigor.
- Improved plant health and nutritional balance.

Strawberry

Application Timings and Rates:

1st application.

Make the first application through the drip irrigation system when first irrigation occurs.

2nd application. Make the second application through the drip irrigation system 40 days following the first application.

3rd application. Make the third application foliarly after the first pick.

Subsequent foliar applications. After each fruit harvest.

Rate:

Foliar applications: 24 to 32 ounces per acre

Drip irrigation applications: 40 to 44 ounces per acre.

If the crop is under stress due to meteorological conditions (heat, frost, rain, etc.) make an additional application at the rate of 28 to 36 ounces per acre.

Benefits:

Production:

- Improved crown size and earlier flowering.
- Balanced growth of root and shoot system.
- Avoid plant lack of vigor after first fruit picking.
- Maintain balanced the plants till the last fruit harvest.

Quality:

- Improved fruit set (prevent fruit deformities), shape, size, quality and color.

Health:

- Improved plant health throughout the production period without crop residues. Security period prior harvesting is not needed.

Strawberry Nursery Plants

Application Timings and Rates:

1st application. June: Apply 42 ounces per acre through the drip irrigation system at establishment of Mother plants (approx. 4,000 plants per acre).

2nd application. July: Apply 42 ounces per acre through the drip irrigation system at the stolon / runners progressing (approx. 32,000 plants per acre).

3rd application. August: Apply 42 ounces per acre (approx. 100,000 plants per acre):

4th application. September: Apply 68 ounces per acre, Pre-harvest (approx. 320,000 plants per acre).

Benefits:

Production:

- Improved mother plant establishment and root growth.
- Improved stolon / runner development and daughter plant establishment.
- Improved carbon to nitrogen ratio: C/N.

Health:

- The September application improves nutritional reserves prior to harvest for healthier, stronger plants for transplanting.
- Elevated polyphenol levels will allow plants to resist the detrimental effects of pathogenic fungi.
- On the treated plants, Brotomax can improve the systemic action of fungicides applied to control pathogens.

Tomatoes

Application Timings and Rates:

1st foliar application. Apply within one week of transplanting or when plants have four to six true leaves at 16 to 20 ounces per acre.

2nd foliar application. Apply 16 to 20 ounces per acre pre-bloom or at the first sight of bloom.

Benefits:

Production:

- Improved stand establishment.
- Balanced vegetative growth.
- Yield improvement. In Spain, average yield increases of 20% have been observed.

Health:

- Improved plant health for better resistance to the detrimental affects of vascular fungi; i.e. phytophthora, verticillium, fusarium, etc.

Additional applications of Brotomax can be made at the rate of 20 ounces per acre if the crop is suffering from additional physiological stresses; frost, heat, hail, blight, etc.

Wine Grapes

Application Timings and Rates:

1st foliar application. When the shoots are 6 to 8 inches long apply with complete coverage of both vegetative and wood portions of the plant at a rate of 28 to 32 ounces per acre

2nd foliar application. Apply 40 to 44 ounces per acres 20-25 days following the first application just prior to bloom

3rd foliar application. Apply 48 to 56 ounces per acre by bunch closure to the beginning of fruit change in color

Post harvest foliar application. Post harvest application of 24 to 32 ounces per acre is recommended to store nutrients for next year growth.

Benefits:

Production:

- Improved fruit set specially in those varieties of poor fruit set. Avoid fecundity problems.
- Improved bud break and more uniform growth in the spring
- Improved carbon to nitrogen ratio: C/N. Better balance of vigor to fructification.

Quality:

- Improved cluster size, berry size, and maturity.

Health:

- Significant recovery on plants damaged by hail, herbicides or frost.
- Improved plant health for better resistance to the detrimental affects of vascular diseases.
- Improved efficacy of applied fungicides; healthier plants.

Table Grapes

Application Timings and Rates:

1st foliar application. When the shoots are 6 to 8 inches long apply 40 ounces.

2nd foliar application. Apply 40 ounces per acre. 20-25 days following the first application just prior to bloom.

3rd foliar application. Apply by bunch closure at 40 ounces per acre. This third application is recommended to be done by drip irrigation at 32 ounces per 100 vines.

We recommend to apply Brotomax within other pesticidal treatments

Benefits:

Production:

- Improved bud break and more uniform growth in the spring
- Improved fruit set. Avoid fecundity problems.
- Improved carbon to nitrogen ratio: C/N. Better balance of vigor to fructification.

Quality:

- Improved cluster size, berry size, and maturity.
- Improved plant health for better resistance to the detrimental affects of vascular diseases.

Health:

- Improved efficacy of applied fungicides; healthier plants.

Effects on plant health and their ability to overcome vascular diseases:

- Most wood diseases are actually a syndrome produced by complexes of fungi with one fungus weakening the crops defenses and the others causing further decline.
- These diseases manifest themselves in the crop's vascular system, primarily in the xylem interrupting the flow of nutrients and or producing toxins.
- As a defense mechanism the plant will form tyloses to seal off the advance of the fungus' mycelia further into the plant. This is an irreversible process.
- Brotomax® raises the levels of polyphenols with the plant which the plant

synthesises into phytoalexins and other antioxidants to isolate and inactivate the complex of pathogenic fungi.

- Brotomax®'s nutritional boost helps the plant to form new conductive tissue and overcome the detrimental affects from the disease.
- Brotomax® will not regenerate dead tissue, but will help the plant to produce new tissue to replace that which has died.
- Brotomax® through its boost to the plant's natural defenses has helped vines overcome the detrimental affects of diseases such as Eutypa, Pierce's Disease (xylella bacterium), Petri disease, Young Vine Decline, and others.

Brotomax® can be applied with any fertilizer or agrochemical.
DO NOT apply with horticultural oils.