

PERFECT BLEND AGROBIOTICS ON CALIFORNIA THOMPSON SEEDLESS RAISINS AND MUSCAT WINEGRAPES SALWASSER FARMS, KERMAN, CALIFORNIA



Date(s): 2012 - Current, Ongoing
Location: Kerman, Ca. (20 Miles West of Fresno)
Soil Type: Sandy Loam
Trial Size: 200 + Acres Raisins, 25+ Acres Muscat Wine-grapes
Product(s): Conventional 8-5-5, 4-4-4 with Micronutrients

Perfect Blend AgroBiotics Application Summary:

- 500 lbs. of 4-4-4 in the fall, post-harvest
- 500 lbs. of 8-5-5 in the Spring, at budding
- 500 lbs. of 4-4-4 in mid-season for grape filling during the first part of June

BIOTIC CONVENTIONAL 8-5-5	
Guaranteed Analysis	
Total Nitrogen (N).....	8.00%
1.76% Ammoniacal Nitrogen	
0.04% Nitrate Nitrogen	
3.20% Water Soluble Nitrogen	
3.00% Water Insoluble Nitrogen	
Available Phosphate (P ₂ O ₅)	5.00%
Soluble Potash (K ₂ O)	5.00%
Calcium (Ca)	7.0000%
Magnesium (Mg)	0.7000%
Sulfur (S)	3.0000%
Boron (B)	0.0200%
Cobalt (Co)	0.0005%
Copper (Cu)	0.0500%
Iron (Fe)	0.1000%
Manganese (Mn)	0.0500%
Molybdenum (Mo)	0.0005%
Sodium (Na)	0.1000%
Zinc (Zn)	0.0500%
Derived From:	
Chicken Litter, Urea, Cobalt Sulfate, Copper Sulfate, Manganese Sulfate, Molybdenum Oxide, Potassium Chloride, Anhydrous Ammonia, Boric Acid & Zinc Sulfate.	
ALSO CONTAINS NONPLANT FOOD INGREDIENTS	
Mycorrhizal spore species:	
Glomus intraradices	0.86 propagules per gram
Glomus aggregatum	0.86 propagules per gram
Glomus mosseae	0.86 propagules per gram

BIOTIC CONVENTIONAL 4-4-4	
Guaranteed Analysis	
Total Nitrogen (N).....	4.00%
0.40% Ammoniacal Nitrogen	
0.03% Nitrate Nitrogen	
1.50% Water Soluble Nitrogen	
2.07% Water Insoluble Nitrogen	
Available Phosphate (P ₂ O ₅)	4.00%
Soluble Potash (K ₂ O)	4.00%
Calcium (Ca)	7.0000%
Magnesium (Mg)	0.7000%
Sulfur (S)	3.0000%
Boron (B)	0.0200%
Cobalt (Co)	0.0005%
Copper (Cu)	0.0500%
Iron (Fe)	0.1000%
Manganese (Mn)	0.0500%
Molybdenum (Mo)	0.0005%
Sodium (Na)	0.1000%
Zinc (Zn)	0.0500%
Derived From:	
Chicken Manure, Elemental Sulfur, Manganese Sulfate, Ferrous Sulfate, Copper Sulfate, Cobalt Sulfate, Molybdenum Oxide, Boric Acid & Sulfate of Potash.	

Trial Summary:

Commencing January, 2012, Salwasser Farms decided to change from their current fertilizer program of winter applied commercial dry fertilizers and Spring-Summer in season fertigation to a more simple program of three annual shots of Perfect Blend AgroBiotic Dry Fertilizers. This decision was in part due to Perfect Blend treatment success the farm manager found on the lawn at the corporate headquarters ranch house property.

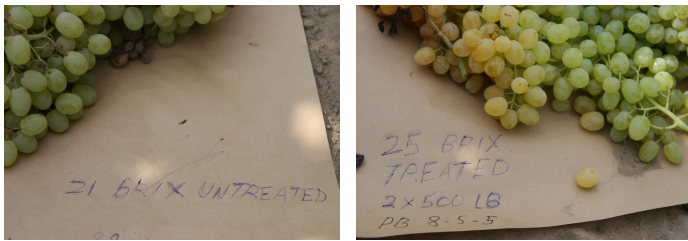
The grower utilizes a Rancho spreader with two shanks in the front and a broadcaster in the center in the back. The goal is to subsurface band material into the berm and also surface apply in the vine row. The grower also practices the flood irrigation method down two furrows.



Quality Results

Perfect Blend AgroBiotics year one results were favorable over the industry standard commercial fertilizer program utilized on the farm for nearly fifty years. At harvest, BRIX on the untreated section of the Thompson seedless raisins ranged between 19 and 21. BRIX on the treated raisins ran 24 and 25 which impressed the field-man. Dollar increases on quality are tough to quantify as the percentage increases are somewhat blurry among packout reports, but Mr. Lewis feels that over the last couple years he has seen a premium price differential on the higher BRIX packout due the new fertilizer program.





Tonnage Results

In accordance with the age and design of the vines and the trellising system at Salwasser Farms, 2012 harvest data included 2.9 ton dried tons raisin grapes per acre. In 2013, the same blocks achieved 3.2 tons/acre. Prior historical yields utilizing the industry standard fertilizers were between 2.3 to 2.5 dried tons/acre. Salwasser Farms has never utilized composts or manures or manure-based products prior. In 2013 it was reported that growers had tonnages less than that experienced at Salwasser Farms. YTD crop growth is estimated to be 17% behind historical averages for this time of year (May 2014), according to an article in the American Vineyard Magazine. The Perfect Blend treated ranches, including Salwasser Farms, all appear above average with grape size being buck shot on up."

Cost: Benefit Analysis

- 500 pounds Perfect Blend AgroBiotics 8-5-5, plus \$15/acre spreading cost: \$128.75
- 1,000 pounds Perfect Blend AgroBiotics 4-4-4, plus \$30/acre spreading cost: \$210
- Total annual cost/acre for Perfect Blend AgroBiotics stand alone program: \$338.75
- Grape Returns/acre, Untreated Average, at 2.4 tons/acre, at \$1,800/ton: \$4,320
- Grape Returns/acre, Treated Average, at 3 tons/acre, at \$1,800/ton: \$5,400

*The above analysis assumes the average conventional program might cost less than the Perfect Blend AgroBiotics stand alone program. It does not take into consideration the premium paid for higher BRIX grapes, (which according to the grower was tough to quantify) might be an additional \$60/ton.

Spray Program

Salwasser Farms has continued with their industry standard spray program every couple weeks with wettable sulfur and fungicides. In 2014 they are monitoring the mildew and mold pressures to see if these vines have a significant built up resistance warranting less future fungicide/pesticide usage.



Trial submitted by:

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Trial conducted, reviewed, and authorized by:

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