

RECOMMENDATIONS FOR USING

Growers

MINERAL SOLUTIONS

ON

FRUIT CROPS

FRUIT, NUT AND SHADE TREES

For optimum results using Growers Mineral Solutions (GMS), the soil should be well supplied with pulverized calcitic limestone. Occasional dying of trees each year is a sure sign calcium is needed. If there is any question whether there is enough available calcium in the soil, apply 2 or more tons of high calcium limestone per acre and be sure to have it well spread under the branches and close to the trunk.

All the plant food needed by fruit trees can be supplied in foliage sprays. Foliar spray with 2 to 3 gallons of GMS per acre starting at bud swell and continuing weekly until the fruit is about $\frac{1}{2}$ the size of mature fruit.

When setting out trees, a transplanting solution should be used (see back page.)

1. 1 gallon GMS per acre applied at bud swell.
2. 2 gallons GMS applied at first sign of green tissue.
3. 2 gallons GMS applied at pink or just before blossoms open.
4. 2 gallons GMS at petal fall or first spray after blossoms.
5. 1 gallon GMS applied 14 to 21 days after # 4 or to coincide with regular cover spray with similar timing.
6. 1 gallon GMS applied 14 to 21 days after # 5.
7. 1 gallon GMS applied 14 to 21 days after # 6.

Rates in # 5, 6 and 7 may be adjusted to match fruit set and crop size. As an alternative, foliar spray 1 gallon GMS per acre at tissue swell and continue every 7 to 10 days until fruit is $\frac{1}{3}$ to $\frac{1}{2}$ of mature size. The total amount of GMS during the season to be 6 to 12 gallons per acre. Always apply a post harvest spray of GMS at 1 to 2 gallons per acre.

NOTE: To keep cherries from becoming too large, eliminate the middle sprays, but resume when cherries turn pink.

CAUTION: These recommendations are for mature trees, so when spraying smaller, newly established or young trees, cut the rates by at least 60%.

Growers

SOLUTIONS

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BLUEBERRIES

Most of the blueberry industry does not believe calcium is important for the proper growth of blueberries, in fact, some universities recommend as low as 20% calcium base saturation. Dr. Tiedjens and our customers have found it is important to achieve at least 70% to 80% calcium base saturation for better sugar content and keeping qualities and to prevent stem galls and lower insect infestations and disease symptoms.

When starting blueberries, use the GMS transplant solution - 1 gallon GMS per acre in 100 gallons of water.

Foliar spray with 2 to 3 gallons of GMS per acre at bud swell or when leaves show. Apply 2 to 3 gallons GMS per acre after petal drop or when berries form. When berries are $\frac{1}{2}$ to $\frac{3}{4}$ grown, spray with 2 to 3 gallons GMS per acre. After harvest foliar spray 3 gallons per acre GMS to prepare the plant for stress during dormancy.

CANE FRUITS, RASPBERRIES, BLACKBERRIES, GOOSEBERRIES, AND CURRENTS

When setting out brambles, a transplanting solution of 1 gallon of GMS in 100 gallons of water should be applied to the roots. Two foliar sprays, one in July and one in August should be applied using 1 gallon of GMS per acre.

If grown on proper limed soils, these crops need only small amounts of plant food each year. Foliar spray 1 gallon GMS after the foliage is well established and second 1 gallon GMS per acre two weeks later. For better quality results, apply 2 quarts GMS in each of four sprays and it is best to apply one spray after harvest

After the old fruiting wood has been removed, the plants should be sprayed with 1 gallon GMS per acre diluted with 1 to 2 gallons of water which should be repeated in about 3 weeks.

GRAPES

New grape vines are to be set with eight ounces of a transplanting solution of 1 gallon of GMS diluted in 100 gallons of water as a root dip or applied directly to the roots. At bud swell or bud break, foliar spray GMS on grape vines at the rate of 2 to 3 gallons per acre. Just before blossom, or when the shoots are 1 to 5 inches long, and also two weeks after blossom, foliar spray GMS at 2 to 3 gallons per acre. During berry formation at $\frac{1}{3}$ to $\frac{1}{2}$ size, foliar spray 2 to 3 gallons of GMS per acre. After harvest, for winter health and a head start on the next season's crop, foliar spray GMS at 2 to 3 gallons per acre.

STRAWBERRIES

Strawberries require a high calcium availability reading to be maintained in the soil. If the calcium reading is low for the soil type, use a pulverized calcitic limestone mixed in the soil. Growers Chemical Corporation will provide a soil test free of charge.

New plantings; set with a transplanting solution of 1 gallon GMS per acre diluted in the transplanting solution. In June, apply 1 gallon of GMS diluted in 1 or 2 gallons of water. In September repeat this application.

Established plants; in the spring prior to blossom, foliage spray 2 to 3 gallons GMS per acre. Starting at bloom, foliar spray 1 gallon GMS per acre every 7 to 10 until 4 to 6 gallons of GMS per acre have been applied. In the fall foliage spray 2 to 3 gallons GMS per acre to prepare the plants for winter dormancy and to help give a vigorous start in the spring. Total GMS used during the growing season should approach 8 to 10 gallons of GMS per acre.

Some producers aiming for high and extended production, better shelf life and quality may use a total of 15 gallons per acre during the season.

Transplanting Solutions: Dilute one gallon of GMS in 100 gallons of water. Eight ounces of this mixture may be applied directly to the roots of plants when they are set in the soil. Because roots need air, soil should be pulled around them without packing, especially when wet, for the best response from transplanting solution.

Foliar Feeding: Research has shown during times of stress, nutrients sprayed on leaves can be found in the smallest roots within an hour after spraying.

Early morning or late afternoon sprayings are most effective, and cloudy weather can be a good time to foliar spray. GMS sprays should be applied in a fine mist. Larger droplets may cause burning of the foliage due to magnification of the sun's rays, even though only 2 gallons of GMS in water are applied. For this reason a sprinkling can or a broad jet spray may cause burning and is not recommended for the purpose.