



ISP technologies

environmentally clean crop production for healthier food

Pepper

Outside Field Grown

(Rates Based on per acre)

Growing a successful bell pepper crop requires careful attention to your crops nutrition from planting through the maturation of the last fruit. Abiotic disorders such as Blossom End Rot (BER), and physical damage to the fruit from sunburn often greatly reduce the harvest of #1 fruit. Proper plant nutrition including balancing potassium, calcium and magnesium in plant tissue will greatly reduce culls and improve your percentage of #1 fruit. Staking peppers using a block-style system is an easy way to reduce sunburn and increase usable fruit.

It should be noted that this program is presented as a guideline only based upon research and the experiences with a number of growers. With the wide variances possible from both soil types and environmental conditions present during any particular season, your actual recommendation can vary from what is presented. It is always advisable to discuss actual management practices with your local ISP specialist.

Bulk Fertility: Apply approximately 50% of your expected nutrient requirements as granular materials prior to planting. Knott's Handbook for Vegetable Growers estimates that an average yield of fresh market peppers will require 100 - 130 units of nitrogen, 150 units of P₂O₅, and 150 units of K₂O per acre. This is a good starting point for the application of a preplant nutrient blend. Apply 50 - 65 units N, 75 units P₂O₅, and 75 units K₂O per acre and incorporate into your soil prior to bedding or plastic laying. The recommendations in this program is based upon 1 acre, with plants spaced 18 inches apart in a double diagonal row and rows 6' apart (9,680 plants per acre). Plant population is a critical aspect of fertility recommendations, and if planting closer or further apart in the row, then adjustments to nutrient applications should be made.

Transplant Solution: Transplant solution should contain: .8 lbs of 10-45-10 + 3 fluid ounces of Phytogro Xtra + 2 fluid ounces of Metabolik SB per 10 gallons of total solution. Water all transplants in thoroughly with this mix.

NOTE, First 30 Days: Our objective is to build an aggressive frame in order to increase potential number of fruiting sites and forms at first fruiting. (If it is thought that one needs to push the frame, or if there are flower buds on the plant when transplanting, it can be beneficial to apply 28-16-7.) If plant frame shows excessive vegetative growth, apply 0-36-30. High quality transplants that have filled out their cells in the transplant tray, but are not rootbound or too old will go a long way to creating a great crop. Older plants that are already pushing fruiting buds can be very challenging to build a proper frame.



The more aggressive growers are always observing all aspects of plant development, vegetative development, numbers of fruit set, fruit color, and of course any outbreak of pests or disease. Although this provides a wealth of information, it is recommended that tissue tests be taken to monitor actual nutrient uptake and potential deficiencies. The first tissue sample should be taken four weeks after transplanting, then every two weeks until the last fruits are setting. Use the following as targets from your lab results: N - 4-6%; P - .6 - 1%; K - 4-6%; Ca - 1.5-2.5%; Mg - .6 - 1%; S - 2.8-.45%; B -25-75 ppm; Zn - 50-200 ppm; Mn - 100-250 ppm; Fe - 100-300 ppm; and Cu - 20 ppm. Although it is usually a separate test, silicon should be at 3,500 ppm. Weather and time of day that samples are collected will have an impact upon your lab results. If sunny and in the morning when you collect your first sample, then take all remaining samples in the morning on sunny days.

Water Quality and Insecticides/Fungicides: Water quality is essential for optimum chemical performance, and is the largest percentage of any spray solution, as well as nutrient solutions applied through drip lines. Water quality has a significant impact upon overall plant performance. It will be beneficial to pretreat irrigation water prior to application through the drip lines to a pH of 6.2 - 6.5. In most instances, improvement of water quality will result in better nutrient performance. (NOTE: Most chemicals with the exception of sulfonyleurea herbicides will perform better with an acidic solution pH. Use Torch to both properly condition the water as well as to buffer to desired pH. (Label rate is 1 gallon per 800 gallons of spray solution, but this can vary based upon both water hardness and/or alkalinity.))

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2017



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The following table is designed for bell peppers with a maturity of 70- 80 days. Prolonged cool, cloudy periods will add days to this schedule, and extreme heat can shorten the schedule

Week	----- ISP Soluble Plant Foods ----- Recommended	Applied	Other notes, micronutrients, Ca, Mg
1	17.5 pounds 10-20-20 & 6.0 pounds 28-16-7		
2	17.5 pounds 10-20-20 & 6.0 pounds 28-16-7		Observe frame development
3	22.0 pounds 10-20-20 & 7.5 pounds 28-16-7		Observe frame & fruit development
4	22.0 pounds 10-20-20 & 10.0 pounds 28-16-7		Tissue test 4 weeks following planting, and adjust nutrient accordingly.
5	22.0 pounds 10-20-20 & 20.0 pounds 9-14-24		Begin adding 8 oz. SiMag58, & 16 fluid ounces CalStore or MetaCal per week
6	22.0 pounds 10-20-20 & 20.0 pounds 9-14-24		Include 2 tsp. Metabolik HV-1 every 10 - 14 days with your disease management program. Time for second tissue test
7	22.0 pounds 10-20-20 & 44.0 pounds 4-18-38		Continue SiMag58 and MetaCal/CalStore.
8	22.0 pounds 10-20-20 & 44.0 pounds 4-18-38		Continue SiMag58 & MetaCal/CalStore until end of season. Third tissue test.
9	85.0 pounds 4-18-38		
10 & 11	85.0 pounds 4-18-38		Fourth tissue test.
12 - end	85.0 pounds 4-18-38		Fifth tissue test if harvest is to be maintained.
Continue to repeat weeks 10 - 12			Adjust nutrient based on tissue sample.

Apply Meta Cal, or CalStore through the fertigation system weekly when not applying any P containing nutrients. Fill irrigation lines with water, inject CalStore or Meta Cal, then flush lines with clear water. This will ensure that no clogging precipitates are formed and that your developing fruit get plenty of calcium in balance with magnesium.

Foliar Applications: Foliarly applied nutrient (K, Ca and Mg) will greatly assist growers in maintaining sufficient amounts of these nutrients when coupled with a proper fertigation program, especially at key stress points. Examples are fruit set and/or maintaining vegetative growth with a heavy fruit load. Include ISP Plant Food and SiMag58 at 1 - 2 tsp. each per gallon of foliar solution. Spray weekly with any foliar applications for pest management. Calcium supplements CalStore and MetaCal can be applied as a foliar additive with pest management materials, but not with 4-18-38 in order to avoid any reactions with phosphorous (P).



Pepper, Greenhouse/High Tunnel

2017