



environmentally clean crop production for healthier food

Cucumber Outside Field Production

(Rates Based on per acre, 7,260 plants)

Growing cucumbers outside can include fruit for both fresh slicing or pickling. In either instance, plant growth and development, as well as fruit set is important. The following information is based upon planting seeds 1 foot apart in rows spaced 6 feet apart. In our trials, direct seeding is as effective, if not more effective than transplanting young plants. Plasticulture can still be beneficial in helping to control weed pressure, as well as improving fruit quality and appearance to some degree.

In order to grow a great crop of cucumbers start with a preplant soil test, then apply granular nutrients designed to bring your field up to 50% - 60% of total seasonal requirements. By applying only a portion of the necessary nutrients before the crop gets going you are doing a lot to prevent nutrient leaching and runoff while still providing a good nutritional start to your season. Knott's Handbook for Vegetable Growers recommends: 100 - 120 units of nitrogen, 100 - 150 units of phosphate, and, 150 units of potash for the entire season. Sufficient magnesium in balance with calcium is critical in growing great cucumbers. While cucumbers will tolerate a wider pH range than many crops, they do best at 6.4 - 6.8. If your pH is above 6.8, use gypsum (CaSO₄) as your calcium source preplant. Epsom Salts (MgSO₄) at 125 - 200 pounds per acre is an excellent source of Mg prior to planting.

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.

Fertility: Apply 16 ounces Metabolik HV-1, 60 units of N, 50 - 75 units of P and 75 - 100 units of K as dry, granular fertilizer pre-plant or prior to bedding up in plasticulture production.

Transplant Solution: Transplant and/or seeding solution should contain: 8 pounds of 10-45-10 + 24 fluid ounces of Phytogro Xtra + 16 fluid ounces of Metabolik SB per 100 gallons of total solution. Begin fertigation within a week of transplanting or once the first true leaves have emerged on direct seeded plants.

The program in the table (back side) is designed for cucumber varieties with 55-60 days to harvest, and more or less average weather. Prolonged cool, cloudy periods will add days to the schedule, and extreme heat can shorten the schedule. Tissue testing at two critical points in the season will greatly improve managing the crop to a great harvest.



Cucumber research plots in Pennsylvania



Field grown cucumbers,
Variety - Lisboa

Tissue test as the vines first start to runner and there are at least 5 leaves per vine, and again just as the first fruit are setting. For pickling types, just a single tissue test at the onset of runnering is recommended due to the very short growth season. Use the levels in the table below as targets:

N: 2.5% - 5%	Ca: 3%	Zn: 50 ppm	Boron: 20-60ppm
P: .25%	Mg: .6%	Mn: 100 ppm	Fe: 40-100 ppm
K: 5%	S: .75%	Cu: 20 ppm	
Si: 2500 - 3500 ppm (generally a special test)			

Cucumber, Outside Field Production

2017



ISP technologies

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The following table is based upon a planting population of 7,260 plants per acre; spaced one foot apart in beds six feet apart. If your population varies from this population, then adjust the recommendations accordingly.

Week	ISP Soluble Plant Foods ----- Recommended -----		Applied	Other notes, micronutrients, Ca, Mg
	Per Acre	Per 1,000' Row		
1 - 2	8 pounds 10-20-20 & 3 pounds 28-16-7	1 pound 10-20-20 & .5 pound 28-16-7		Include SiGuard and MetabloiK HV-1 at 1 teaspoon (5 ml) each every 10 days with any other foliar materials.
3	8 pounds 10-20-20 & 3 pounds 28-16-7	1 pound 10-20-20 & .5 pound 28-16-7		Tissue test as plants are beginning to runner. If phosphate is low, add 5 pounds 10-45-10 per week to the fertigation.
4	8 pounds 10-20-20 & 3 pounds 28-16-7	1 pound 10-20-20 & .5 pound 28-16-7		Last chance to clean up weeds before the vines begin to runner aggressively.
5	8 pounds 10-20-20, 6 pounds 9-14-24 & 8 oz. SiMag58	1 pound 10-20-20, 2.5 pounds 9-14-24 & 1.25 oz. (35 grams) SiMag58		
6	8 pounds 10-20-20, 6 pounds 9-14-24 & 8 oz. SiMag58	1 pound 10-20-20, 2.5 pounds 9-14-24 & 1.25 oz. (35 grams) SiMag58		Tissue test as the plants begin to set fruit. Switch from SiGuard to SiMag (foliar) at 1 teaspoon (5ml) per gallon every 5 - 7 days with other foliar materials. Adjust all nutrient applications per tissue test results. Continue Metabolik HV-1 at 1teaspoon (5ml) per gallon at 7 - 10 days intervals with other foliar materials.
7	8 pounds 10-20-20, 6 pounds 9-14-24 & 8 oz. SiMag58	1 pound 10-20-20, 2.5 pounds 9-14-24 & 1.25 oz. (35 grams) SiMag58		Apply 2 - 4 pounds of 4-18-38 as a foliar.
8	14 pounds 9-14-24 & 8 oz SiMag58	2 pounds 9-14-24 & 1.25 oz. (35 grams) SiMag58		Apply 2 - 4 pounds of 4-18-38 as a foliar.
9	14 pounds 9-14-24	2 pounds 9-14-24		Discontinue fertigation as the vines will likely be at the end of their productive life.

Apply Meta Cal, or Cal Store 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 Ca in balance with Mg.