



ISP technologies

environmentally clean crop production for healthier food

Cole Crops

(Rates Based on "Per Acre", with adequate soil nutrient/fertility)

Dry or Bulk Fertilizer: Apply, and incorporate, 50% of required dry fertilizer prior to planting. In general cole crops will require from 100 - 150 units of nitrogen, with broccoli needing about 30 to 40 units more than cabbage and cauliflower. Based upon specific soils, apply 100 units of phosphate and up to 200 units of potash, and at least 10 units of sulfur. Applications of both nitrogen and potash should be split applied for optimum efficiency. (If using liquid N, apply 8 fluid ounces of PhytoGro Xtra per gallon of 28% or 32% liquid N, to aid with overall N efficiency.) All nitrogen applications should be completed prior to heading.

NOTE: This program is presented as a guideline only. 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 representative.

Preplant:

Prior to bedding, or seeding, 16 fluid ounces MetaboliK HV-1, and 32 fluid ounces PhytoGro Xtra.

Transplant Solution: If transplanting by hand, target approximately one cup of solution per plant. Objective is to help transplants get "settled" into new environment with soil contacting root ball, and to aid with new root development. It is highly recommended to irrigate lightly following transplanting to increase probability of soil/root contact.

Per 100 gallons of transplant solution – approximately 2,500 plants:

5 - 8 pounds 10-45-10, and 8 fluid ounces MetaboliK SB (Seed Boost), and 16 fluid ounces PhytoGro Extra.

Notes: The more aggressive growers are always observing all aspects of plant development, 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 again two weeks later.

Use the following as targets from your lab results:
N - 4.5 - 6%; P - .5 - 6%; K - 4 - 5%; Ca - 2.5 - 3%;
Mg - .8 - 1%; S - .2 - .3%. B - 50 ppm; Zn - 50 ppm;
Mn - 100 ppm; Fe - 100 to 300 ppm; and Cu - 20 ppm.
Boron is especially important on cole crops, so watch closely.

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.



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2017



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Fertility rates are based upon "after transplanting" for a 75 day maturity group cabbage & cauliflower with a population of 9,680 plants per acre, broccoli at 14,520 plants per acre. Following transplanting, ensure that transplants receive a minimum of 1" of water per week for the first two weeks, then increase as necessary.

Week	Per Acre	ISP Soluble Plant Foods Actually Applied	Other Notes, foliar applications, SiMag 58
1 - 2	15 pounds 15-30-15, 8 fluid ounces MetaboliK SB, 16 fluid ounces MetaCal, 8 gallons of NC237 (or 28% N)		Include SiGuard at 1 tsp. (5 ml), plus MetaboliK HV-1 at 1 tsp. either every 10 days or as possible with crop protection sprays. If growing broccoli, apply 9 gallons (N source)
3	10 pounds 15-30-15, 10 pounds 9-14-24, 8 fluid ounces MetaboliK SB, 16 fluid ounces MetaCal, 6 gallons of NC237 (or 28% N)		Tissue test, as varieties should be growing well, and nutrient adjustments can still be easily made. If growing broccoli, apply 9 gallons of N source.
4	20 pounds 9-14-24, 8 fluid ounces MetaboliK SB, 16 fluid ounces MetaCal, 8 fluid ounces MagnaBor 10, 6 gallons of NC237 (or 28% N)		Adjust nutrient applications as per tissue analysis. Pay particular attention to N, K, Calcium and boron, as all should be on the high side of sufficient. Worms can begin to be a serious issue, so scout more closely. NOTE - cabbage: Cabbage and cauliflower takes several extra weeks to begin forming a head as compared to broccoli. A repetition of week 4 may be advisable prior to going down to week 5 of this schedule.
	(See "NOTE" on cabbage/cauliflower in comments at right.		
5	10 pounds 9-14-24, 20 pounds 4-18-38, 8 fluid ounces MetaboliK SB, 16 fluid ounces MetaCal, 8 fluid ounces MagnaBor 10, 6 gallons of NC237 (or 28% N)		Cabbage should be entering precupping, take final tissue analysis for nutrient adjustment. Continue to scout closely for worm egg lays and other obvious signs. Add 2 - 4 pounds of 4-18-38 to the weekly foliar application of SiGuard and MetaboliK HV-1.
6	30 pounds 4-18-38, 10 pounds 10-20-20, 32 fluid ounces MetaCal, 16 fluid ounces PhytoGro Xtra, 16 fluid ounces MagnaBor 10,		Adjust nutrients based upon tissue analysis. Monitor soil moisture closely, as irregular soil moisture availability coupled with warmer temperatures can result in excessively rapid growth, thus splitting heads.
7 - harvest	30 pounds 4-18-38, 32 fluid ounces MetaCal, 16 fluid ounces PhytoGro Xtra, 8 fluid ounces MagnaBor 10		