

2005 Research and Extension Priorities for Vegetable Crops

Submitted by:
Michigan Vegetable Council
P.O. Box 277, Erie, MI 48133
734-848-8899 (phone and fax)
mivegcouncil@charter.net

1. Control of *Phytophthora capsici* on vegetable crops.

Comments: All vine crops are susceptible to this disease, as well as a number of other vegetable crops, including tomatoes, peppers, eggplant and snap beans. In total, the susceptible crops account for nearly 80,000 acres of production in Michigan with a “farm gate” value of \$133 million (2002 statistics). This disease has already forced some land out of production of the susceptible crops. If not controlled, this disease could be devastating to the vegetable growing industry in Michigan.

Research and extension needs:

- a. Educate growers on management practices to limit the spread of *Phytophthora*.
- b. Develop new techniques for *Phytophthora* control, including soil amendments, mulches, crop rotation, and water management.
- c. Conduct on-farm research trials and hands-on grower workshops on new control techniques.
- d. Test currently labeled fungicides, biological control agents, and new chemistries for activity against *Phytophthora*.
- e. Identify and develop *Phytophthora* resistant varieties.

2. Efficient use of overhead and drip irrigation on vegetable crops.

Comments: Access to irrigation is essential for growing many high value vegetable crops. Growers need to use irrigation efficiently, both to maximize the benefits to crop yields and quality and to be good stewards of this valuable resource. Given the new requirement of water use reporting and with other legislative initiatives possible, it will be increasingly important for growers to substantiate the use of good management practices in irrigating crops.

Research and extension needs:

- a. Evaluate the available technology and improve the understanding of growers on methods of monitoring soil moisture, irrigation scheduling, using evapotranspiration data, and other means of using irrigation efficiently.
- b. Evaluate and develop recommendations for the most efficient methods of using overhead irrigation on vegetable crops.
- c. Evaluate and develop recommendations for the most efficient methods of using drip irrigation on vegetable crops.
- d. Study the net impact of irrigation use on groundwater.

3. Improved horticultural practices for vegetable crops.

Comments: Vegetable growers are continually looking for improved horticultural practices to enhance marketable yields. Growers are also interested in using pesticides effectively and efficiently, as well as looking for alternative production methods that could reduce pesticide use.

Research and extension needs:

- a. Conduct pesticide trials and research cultural practices to improve weed control in vegetable crops.
- b. Conduct pesticide trials and research management practices for better disease control in vegetable crops, including the control of virus diseases.
- c. Study management practices to control insect pests, with emphasis on effective pesticide use, biological controls and cultural practices to reduce pesticide use.
- d. Study nutrient management on vegetable crops, including the use of manure and foliar feeding of nutrients.
- e. Study cropping systems for vegetable crops, including the use of cover crops.
- f. Conduct variety trials for vegetable crops to measure potential yields, quality and disease resistance.

4. Improved returns to vegetable growers through markets for new crops or value added products.

Comments: There is an infrastructure of growing and processing capacity in Michigan that could take advantage of markets for new crops or value added products. Growers and processors may need applied research to help develop new market opportunities.