

## **Goals and Objectives for 2006:**

- 2006 Great Lakes Fruit, Vegetable and Farm Market Expo
- Great Lakes Vegetable Working Group
- Phytophthora Capsici/Downy Mildew Workshop (PREF)
- Leadership Development for Vegetable Industry

## **Team Accomplishments/Impacts 2006:**

### **2006 Great Lakes Fruit, Vegetable and Farm Market Expo:**

This annual program jointly sponsored by the Michigan Vegetable Council and the Michigan State Horticultural Society was held in Grand Rapids, Michigan December 5-7, 2006. It represents the Vegetable Area of Expertise Team's major educational platform. Our team members organize and coordinate all of the vegetable education sessions and participate in planning some of the general education sessions. The sessions that our team organized or had a role in organizing during the 2006 Expo includes: Asparagus, Pickling Cucumber, Tomato, Pepper, Potato, Vine Crops, Cole Crops, Carrot, Onion, Celery, Niche Vegetable Opportunities, Sweet Corn and Organic Vegetable Production. Team member Ron Goldy, also organizes the half of the Farm Market Sessions that deal with vegetable crops. Our team members also participated in organizing and coordinating these general sessions: Food Safety Issues, Farm Labor Panel Discussion, Organic Marketing Issues and Organic Production Issues. This year's Expo set a new attendance record of 3347 paid attendees. While some out-of-state speakers are used in educational programs, more than half of the talks presented at the sessions are given by Team members, especially Campus based staff. Additionally, the Extension Booth, which is organized and staffed by Vegetable Area of Expertise Team staff, sold over \$8000 in extension bulletins, publications and education CDs. The in-depth survey designed by Dr. Murari Suvedi for the 2005 Expo demonstrated the effectiveness and impact of the Great Lakes Expos programs in educating participants. Current plans are to repeat that survey every five years.

### **Phytophthora/Downy Mildew Workshop:**

The Vegetable Area of Expertise Team organized and coordinated a PREF Workshop on January 24, 2007 at the East Lansing Marriott Hotel. The program was entitled the Phytophthora/Downy Mildew Workshop and targeted growers and agricultural consultants who work with crops affected by these diseases. Phytophthora capsici is a major long-term threat to growers of vine crops and solanaceous crops all over North America. This disease has rendered thousands of acres of cropland unusable for the growing these crops and threatens what is at least a \$40 million industry in this State. Downy Mildew is a new disease, which is a particular threat to the Michigan pickling and slicing cucumber industry. This disease killed thousands of acres of cucumbers in

Michigan during the 2005 and 2006 growing season. Since Michigan leads the nation in the growing of pickling cucumbers and is a major slicing cucumber-producing state, Downy Mildew has become the most serious threat faced by those industries. Michigan State University Extension specialists and researchers along with Extension specialists and researchers from North Carolina State University and Purdue University updated attendees on cutting-edge research into control and management of these diseases. 128 paying participants from all over the northeastern United States and Ontario attended the program. Evaluations of the workshop were very positive and our group received many positive comments.

### **Great Lakes Vegetable Working Group:**

This group of vegetable oriented specialists and field staff from Michigan, Indiana, Ohio, Illinois, Wisconsin, Minnesota, North Dakota, Pennsylvania, New York, Missouri, Kentucky and Ontario held its second annual meeting in Leamington, Ontario on February 28 and March 1, 2007. This group serves as a useful forum for bringing together specialists and field staff from the Great Lakes area to work on common problems and share resources. Integrated Pest Management Surveys developed in 2005 were finalized too late to use extensively in that programming year, so we have been utilizing them at educational programs during the winter 2006/2007 programming year. We hope that they will be useful in assessing pest management practices in the Great Lakes area and could serve as a springboard for further grants.

### **Leadership Events for the Michigan Vegetable Industry:**

To date, we have no applicants for this scholarship program during the 2006/2007 program year. The program is designed to fund attendance by Michigan Vegetable Industry leaders accompanied by Vegetable Area of Expertise Team members at national and international conferences, where cutting edge research on any topic related to the production and marketing of vegetables is to be discussed. The program is designed to help keep industry leaders and extension staff up to date on the most current research and trends so that they may more effectively guide Michigan's vegetable industry in the future.

### **Other Significant Vegetable Area of Expertise Programs:**

Vegetable Crop Alert Team (CAT) Reports – This program is supported by the Vegetable Area of Expertise Team, both financially and with their participation in the weekly conference calls that generate the reports themselves. Vegetable Extension specialists and educators collaborate with the IPM Program to provide weekly pest/crop updates during the growing season through the Vegetable CAT Alert newsletters. During 2006, over 500 growers and consultants were regularly reading the information. When crops were particularly sensitive to downy mildew,

web hits at the CAT Alert web site were as high as 992 a week. Because of the great diversity and the relative geographical isolation of Michigan vegetable growing regions, our group has made this program a priority as a means of updating growers as to crop and pest status during the very busy months of the growing season. The weekly conference calls also serve the purpose of updating field staff as to the most current recommendations from Campus specialists and allows Campus specialists to update themselves on crop and pest status in the growing regions of the State.

European Corn Borer and Corn Earworm Trapping Program – The Vegetable Area of Expertise Team also maintains and operates a statewide network of traps for these important insect pests of sweet corn, snap beans and peppers. Trap catches are reported weekly to Beth Bishop, MSU Vegetable Insect Specialist, who places them along with appropriate spray recommendations in the weekly CAT Reports. Field-based educators use the trap catches and the recommendations that they generate to help growers improve crop quality and yield and to reduce pesticide use where appropriate.

Aster Leafhopper/Aster Yellows Infectivity Testing – During the 2006 growing season, Beth Bishop and cooperating educators piloted a new technique for measuring the infectivity of aster leafhoppers by the disease aster yellows. Scouts of carrots and celery in Western Michigan collected aster leafhoppers and shipped them to the Diagnostic Service Laboratory for testing for infection by the disease Aster Yellows. This insect is the only vector of Aster Yellows to carrots, celery and onions, and a new, quick turnaround test available through Diagnostic Services allow growers to adjust their spray threshold up or down based on the infectivity of these insects. This technique once perfected will allow growers of these crops to increase quality and yield with the minimum necessary insecticide applications.

### **Regional or Area Vegetable Programs:**

Vegetable Area of Expertise field staff and also organized and taught at the following area and regional educational programs:

Southwest Michigan Hort Days, Benton Harbor, Michigan – Team member Ron Gold organized this program for growers of Solonaceous crops. Team members Walt Pett, Brian Cortright and Mathieu Ngouajio gave presentations. The session was attended by 28 Southwest area growers and consultants.

Veggie School, Hart, Michigan – organized by Jim Breinling and Norm Myers, this was an educational program for growers of snap beans, vine crops and carrots. Topics covered include weed control, water use reporting, disease control, food safety, integrated pest management practices, insect control, bio-fumigant cover crops and practical food safety guidance for manure use on vegetable crops. Teachers included Brian Cortright, MSU Department of

Horticulture; Christina Currell, Area Groundwater Education, Les Bourquin, Department of Food Science; Mark Trent, Mike Brewer and Beth Bishop, Department of Entomology; Mathieu Ngouajio, Department of Horticulture and Jim Breinling Area Vegetable ICM Educator. The program was attended by 38 area growers and consultants.

Oceana Asparagus Day, Shelby Michigan – organized by Norm Myers, this annual educational program for asparagus growers drew growers, consultants and field persons from all parts of Michigan and Ontario. Main topics included labor, disease control, insect control, weed control, marketing, new planting methods and Enviro-weather. Speakers included Brian Cortright, Department of Plant Pathology; Bernie Zandstra and Mathieu Ngoujio, Department of Horticulture and Mark Trent and Beth Bishop, Department of Entomology.

### **Active AoE Grants:**

Aster Leafhopper Infectivity Index – Beth Bishop, Vegetable Entomology Specialist received an AoE Competitive Grant to develop an area specific Aster Leafhopper/Aster Yellows Infectivity index for carrot, celery and onion growers throughout the State of Michigan. Field staff who work with these crops will facilitate sending samples of aster leafhoppers from fields across Michigan to Diagnostic Services where the new, rapid-results infectivity test will be run. Beth will use this data to adjust thresholds in the various producing areas across Michigan and the information will be disseminated via weekly CAT Reports and through field agents to interested growers and consultants.

Revision of MSU Fertilizer Program – Dr. Darryl Warncke of the Department of Crop and Soil Science received an AoE Competitive Grant to update MSU's old, DOS-based program to a modern format that will be placed on MSU web sites and portals where it can be used to adjust soil test recommendations to different crops and yields. The new program will be a valuable resource for field staff, consultants and growers.

### **Goals and Objectives for 2007:**

- 2007 Great Lakes Fruit, Vegetable and Farm Market Expo
- PREF Program
- Vegetable Crop Alert Team Reports
- ECB and CEW Trapping Program
- Aster Leafhopper Infectivity Ratings
- Vegetable Leadership Program
- Great Lakes Vegetable Working Group