

Integrated Pest Management Methods for Home Vegetable Gardens

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COOPERATORS: Master Gardeners, Wasatch Community Garden clients

SITUATION STATEMENT:

Locally and nationally, interest in non-chemical and organic farming and gardening methods are on the increase over the past several years. This coincides with fewer chemical pesticides approved for home use and increased consumer demand. During the growing season (May through September) in Salt Lake County, the USU Extension garden phone help line, weekly plant diagnostic clinics, and information booths staffed by USU Master Gardener volunteers at booths at Pioneer Park Farmers Market, county fair, state fair combined, generates approximately a thousand queries a month. Many of these queries are focused on vegetable and fruit pest management.

There is information available on IPM but it is difficult to understand and commercial products in garden centers and retail dealers add to the confusion. Since most people look at brand names and not the active ingredients on pest control products, it is confusing to understand what are considered organic or “softer” pesticides. Also, many organic or “softer” pesticides are not available easily at retail stores. Education on using pesticides is needed both for Master Gardener volunteers who field these questions as well as the homeowners. For this grant proposal, the focus will be on vegetable and fruit IPM methods and strategies.

OBJECTIVES:

1. For participants to understand the concept of Integrated Pest Management, that IPM is a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health, and environmental risks.
2. To provide those tools.
 - Cultural – Fact sheets and other literature on information such as drip irrigation, compost tea, attracting beneficial insects, & fertilization methods.
 - Physical – Floating row covers as an aid for physical barrier for certain insects.

- Chemical tools – samples of organic and softer insecticides such as iron phosphate for control of snail and slugs, kaolin clay spray,
3. For participants to be able to distinguish pests by providing identification keys and pictures for pests of interests, the ones likely to encounter with vegetables and fruits.
 4. Participants will monitor and record observations between untreated and treated plants for pests. The data collected will be analyzed and results will be presented to participants and at a professional meeting.

PROCEDURES:

Overview of half day workshop presented by Maggie Shao: Target dates for workshop will be early spring 2007 before active planting. Intention is to hold two workshops with 15 to 20 participants each for a total of 40 participants. Focus will be on more popular vegetables and pests associated. Extremely important for this workshop introducing new concepts and new materials for hands-on experiential learning so equipment, products, use, and set-up will be part of the workshop. Grant funds would be to purchase provide the tools such as kaolin clay, iron phosphate, and other materials that will be demonstrated at the workshop and then distributed for home use. Also will provide informative publications and data collection sheets for participants

Pre workshop survey of participants' knowledge of IPM and methods
 Introduction of concept of IPM
 Discuss culture methods – irrigation, fertilization
 Discuss physical, chemical tools and demonstrate how to use them
 Discuss methods for monitoring pests, set up treated and untreated (control)
 Distribute information, data collection sheets, and materials for their use.

After the workshop, would like to have a mid-season tour for participants at Wasatch Community Gardens or Master Gardener of treated and untreated plants to see any effects. At the end of the season, I will send out a survey with same questions as pre workshop survey to see if there is an increase in knowledge of IPM strategies and methods. Also, additional questions on ease of use, continued use of IPM over traditional methods.

References for informational publications will be compiled from:

- USU Integrated Pest Management publications
- University of California IPM (<http://xipm.ucdavis.edu/index.html>)
- Mississippi State University Publication P2036 – Organic Vegetable IPM Guide
- EXTONET – Pesticide information profiles (<http://extoxnet.orst.edu/>)
- National Sustainable Agriculture Information Service - ATTRA (<http://attra.ncat.org/organic.html>)
- Texas A&M University vegetable IPM (<http://vegipm.tamu.edu/imageindex.html>)

Recruitment of participants:

1. Maggie Shao – Advanced Master Gardener and beginning Master Gardener training classes. In spring 2007, the training for Advanced Master Gardener is a fruit and vegetable module. The Advanced Master Gardener training is for volunteers already certified, who wish to continue and expand their gardening education. There will also be two Master Gardener trainings where I can recruit those interested in participating.
2. Maggie Shao, Laura Judd, and Susan Finlayson – hold an informational briefing for youth and plot owners at Wasatch Community Gardens who would like to participate.

RESULTS:

Results from surveys and data collection will be presented to the participants through email or regular mail. Results will also be analyzed and summarized and presented at county agents meeting, horticulture agents meeting, and/or Extension professional development conference in 2008. If results generate interest, anticipate expanding to neighboring counties and Master Gardener programs in Davis and Utah counties.

EVALUATION:

Survey participant with questionnaire both pre workshop and post harvest. Responses will be to rank knowledge and will analyze if there is an increase in knowledge.

BUDGET:

Item	
Demonstration equipment (sprayer, soaker hoses)	\$150
IPM Materials to distribute to 40 participants (floating row covers, Surround, iron phosphate, etc.)	\$400
Photocopies for 40 participants of publications, fact sheets, data sheets	\$150
Printing and Postage for post survey	\$ 100
TOTAL	\$800