



Vermont IPM Program Overview

2003 Annual Report

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The following is an overview of major accomplishments and outcomes of the 2003 Vermont IPM Program. Please see the Federal Website for more details for each of the five areas of emphasis within the Vermont IPM Program: <http://www.pprs.info/ipm/>

Safeguarding Human Health and the Environment

In 2003, the Vermont IPM Program had five areas of emphasis: Apples, Field Corn, Greenhouse Ornamentals, School IPM, and Vegetable & Berry. In each area, a goal was to provide IPM information and education that allows clientele to make better-informed pest management decisions and thus, minimize economic, health and environmental risks.

The Vermont Apple IPM Program in 2003 consisted of newsletters, IPM Alerts (by postcards or email), workshops, websites, orchard tours, demonstrations, presentations, a regional IPM guide, etc. Through the Vermont Apple IPM Program, 92% of survey respondents said they learned how to better use IPM techniques; 81 % said they learned new IPM techniques; 70 % reduced or minimized use of pesticides; 78% were able to better determine if pesticides were needed in their orchards; and 86% were helped in effectively timing pesticides if they were needed.

An insect pest management survey specific to corn rootworm was conducted as part of the Vermont Field and Forage Crops IPM program. The survey showed that 48% of the farmers "scouted" their cornfields for either Northern and/or Western Corn Rootworm in 2003 (representing approximately 27% of the corn acreage). Only 11% of the farmers indicated that they had applied an insecticide in 2003 on some of their acreage (i.e., 5% of the corn acreage represented in the survey received an insecticide for corn rootworm in 2003). Of the farmers that applied an insecticide, 57% based their decision on past symptoms (i.e., goosenecking) in those fields and 43% also based their decision on scouting information of the previous year. Of the total acreage in the survey, about 18% is rotated each year which greatly helps to prevent buildup of this insect pest. If extrapolated to the approximately 95,000 acres grown in Vermont, there are 17,100 acres rotated each year helping to break the corn rootworm life cycle.

Implementation of IPM by Greenhouse Ornamental growers is continuing at a steady pace as growers who adopt new IPM practices evaluate their economic impacts. After 7 years of presenting workshops, growers are now feeling more confident to try techniques described. Several growers indicated they have used nematodes for the first time after being introduced to the practice at our workshops. Growers also demonstrate an increased base of knowledge about pest and disease identification. Some growers have begun to use virus test kits as an early warning system.

The Vermont School IPM program participates on the Advisory Board of the Envision Program, a statewide program created in response to Vermont's adoption of ACT 125. ACT 125, passed by the Vermont legislature in 2000, requires the Commissioners of Health and Education to address issues of indoor air quality and environmental health in schools by providing resources, information, and access to a model environmental health management plan to all Vermont schools. In the Envision program, over 100 schools have been trained in how to reduce pesticide use through IPM in 2003. Eight schools have already documented reduced pesticide use through IPM practices. In addition, the Vermont School IPM Program continues to maintain a School IPM website (<http://pss.uvm.edu/pd/schoolipm/>) for Vermont school administrators, teachers, facilities managers, families and parents. The site provides current IPM information and ways to develop and incorporate an IPM program into their school. The site is used as an educational tool for the 100 schools that are currently participating in the Envision program.

There are two main audiences for the IPM program for vegetables and berries: commercial growers and the home gardener. The commercial clientele gains IPM information through the Plant Diagnostic Clinic, workshops, lectures, newsletter information, emails, bi-weekly AgReview newspaper articles, websites and phone calls. The home gardeners get their IPM information through Master Gardener workshops, the Master Gardener website, lectures, emails, Plant Diagnostic Clinic and phone calls. In 2003, 91 commercial growers used the Plant Diagnostic Clinic to identify unknown disease, insect and weed problems. Five hundred and forty three phone calls and email consultations were conducted on disease and insect identification, lifecycle and IPM management strategies in 2003. One hundred sixty growers attended 2 annual commodity group meetings where IPM strategies were discussed. Evaluations of the growers attending one of the Vegetable and Berry Meetings in 2003 indicated 88% increased their knowledge of IPM management strategies minimizing or reducing pesticide use. For home gardeners, the Vermont Vegetable and Berry IPM program helps train Master Gardener volunteers to disseminate IPM information through the Master Gardener Helpline and website. The Helpline and website provide free access to all gardeners in the state for pest and gardening questions. In 2003, the Helpline answered 2,320 questions on pest identification and IPM strategies including reducing reliance on pesticides. There were 84 visits to the Master Gardeners' website where information on pest identification and management alternatives were requested. In 2003, trained Master Gardeners assisted other gardeners statewide with pest problems and offered IPM information including reducing the use of pesticides, for a total of 5500 hours, which was about 20% over 2002.

Benefits achieved through IPM Technologies or Strategies

Ninety-two percent of the growers who participated in the Vermont Apple IPM Program increased their knowledge and understanding of IPM which helped them to reduce pesticide use or more effectively use pesticides when they were needed.

A major benefit of the Vermont Field Corn IPM program is awareness of the corn rootworm and how to manage it. According to the Corn Rootworm Pest Management Survey, 71% and 61% of the farmers were familiar with the Northern and Western corn rootworm beetles, respectively. About 31% reported having seen the Northern beetles (representing about 13% of the total corn acreage), whereas 16% had seen the Western specie (representing about 5% of the total corn acreage).

The Greenhouse Ornamentals IPM workshops are a major benefit for growers in the state since many of the growers do not attend IPM workshops held in other states, either because of a lack of funds or time. For many growers, this is the only opportunity they have to learn about new IPM methods. In addition, because enrollment is limited in the workshops, growers receive individualized support for their pest problems.

Over 100 schools have been trained on how to incorporate IPM into their pest management strategies. They have learned to identify real pests and nuisance pests and how to manage these pests through scouting and management options other than pesticide sprays. So far, 8% of the schools have documented reduced pesticide use in their schools through IPM practices.

Of the 160 vegetable and berry growers participating in annual commodity meetings, 88% reported the program improved their IPM knowledge, reducing their pesticide use. The growers using the Plant Diagnostic Clinic have improved their ability to scout and diagnose their major pest problems in a timely manner. In 2003, the Master Gardener Helpline answered 2,320 questions on pest identification and IPM strategies including reducing reliance on pesticides for the home gardener.

Dissemination of IPM Knowledge

The Vermont Apple IPM Program reached all Vermont commercial apple growers, private IPM consultants, ag-industry representatives and service providers, and government personnel. In addition, through the Vermont IPM Focus website and the AIM website, growers were reached within the northeast region and in different parts of the U.S. Key IPM technologies promoted include: disease-resistant cultivars; arthropod monitoring by traps and/or degree-day accumulation; scouting for pests and beneficial organisms; disease monitoring; horticultural practices that impact arthropod and disease development; biological control; careful selection and use of pesticides; pesticides with least non-target impacts; and resistance management.

Within the Field Corn IPM Program, information about the life cycle, damaging stages, and management options for corn rootworm were presented at the following meetings: Vermont Commercial Applicators Annual Recertification Meeting (83

participants) and the Vermont Field Crops Integrated Pest Management Workshops (four locations, with 110 participants). An article posted on the Vermont Crops and Soils web site (<http://pss.uvm.edu/vtcrops/>) was updated. Intensive scouting was conducted on 9 farms (23 fields) in areas of the state that had not been monitored before in this project.

Greenhouse growers are the primary target audience of the Vermont Greenhouse Ornamentals IPM Program. This includes wholesale and retail growers, managers of garden centers and interiorscape businesses. Extension agents and college educators also take advantage of the information disseminated. The key IPM technologies promoted include: virus testing, biological control, scouting, safe and judicious use of chemical pesticides.

There are several groups of people reached by the Vermont School IPM program including: educators and administrators in the Department of Health, Department of Education, Vermont Department of Agriculture, the Superintendents Association, Vermont Public Interest Research Group (VPIRG), and the head of the Vermont School Board Association. Another group were the 200 custodial staff that attended a conference where IPM was discussed and where IPM information was distributed. Also, numerous parents, teachers, students and the general public have access to the Vermont School IPM website. Key information disseminated include: pest identification, monitoring and management options.

Two main groups of people the Vegetable and Berry IPM program reach are Vermont home gardeners and commercial vegetable and berry growers. For the home gardeners, the importance of identifying the pest in question is promoted through Master Gardener volunteers, a 1-800 Helpline, and a website. This key step in the IPM process is also emphasized through the Plant Diagnostic Clinic. It is this single step of proper identification and knowledge of management alternatives that serve to reduce unnecessary pesticide use by home gardeners. For commercial growers, the key IPM technologies promoted are proper pest identification and the use of cultural practices in pest management through farm visits, electronic mail, personal communications and newsletters. Proper pesticide selection, considering efficacy and potential non-target risks to humans and the environment, are also presented.

Enhanced Stakeholder Collaboration

Stakeholder input and involvement are an integral part of the development and implementation of the various aspects of the Vermont IPM Program. Many collaborations and partnerships exist between and among private and public sector stakeholders. There are strong partnerships between the specific focus areas of the Vermont IPM Program and the Vermont Vegetable and Berry Growers Association, the Vermont Tree Fruit Growers Association, the Vermont Agency of Agriculture, the National Organic Farmers Association (NOFA), Champlain Valley Crop Management Association, the Vermont Department of Health, the Vermont Department of Education, Vermont Superintendents Association, Vermont Public Interest Research Group (VPIRG), Envision Program Advisory Board, School Board Association, and extension personnel and researchers throughout New England. An example of a new partnership is an extension/research project in the greenhouse ornamentals area to determine the overwintering capacity of western flower thrips in northern New England. This work is being done in commercial greenhouses. This partnership with

growers ensures that the research findings will be truly applicable to commercial settings in this region. The grower partners, who have participated in IPM workshops, also serve as ambassadors, spreading the information generated to other growers. Another partnership that is being enhanced is with the garden retailers around the state who will have easy access through an email list serve to new IPM information appropriate for the home landscape and garden. Also, during 2003, the Vermont Apple IPM program participated in a collaboration between the Vermont apple industry and the Vermont Secretary of Agriculture to develop a strategic plan for the apple industry in the state.