CORE VALUES NORTHEAST

USDA SARE Final Report
SECTION 1

General Information

1. **Report Type: Final**

2. **Project Title: CORE Values Northeast: A Northeast IPM Apple Consumer Education and Market Development Project**

3. **Project Coordinator:**

Betsy Lydon, Program Director
Mothers & Others for a Livable Planet
40 W. 20th Street, 9th Floor
NY, NY 10011
(212) 242-0010 ext. 305
(212) 242-0545 (Fax)
corevaluesne@mothers.org

4. Collaborators (include name and affiliation): Please see Collaborator Attachment
Scientists:
Cooperative Extension
NRCS
Private, Nonprofit
Farmers (Name, address and brief description of each farm)
Other

5. SARE Grant Amount: $20,000

6. Matching Funds: $150,000

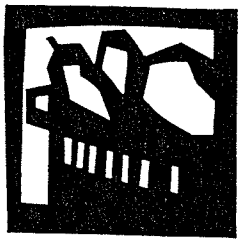
7. Duration (Provide start and end date of project): 9/1/97-8/31/98

8. Project Number: 97LNE97-88 (USDA 96-COOP-1-2700)

9. Reporting Period (from 9/1/97 to 8/31/98)

10. Statement of Expenditures:
You are required to enclose a statement of expenditures from your fiscal officer indicating cumulative expenditures over the period approved for the project.

CORE Values Northeast: A Northeast IPM Apple Consumer Education & Market Development Project



Summary

Mothers and Others is working in the northeast region to create a supportive market environment for products that are grown by local farmers striving to maintain healthy, ecologically balanced growing environments. This project centers around an eco-label and farm certification program for apples that are locally grown using biointensive Integrated Pest Management (IPM) methods. CORE Values Northeast (CVN) is generating greater consumer awareness of the benefits of local, environmentally grown foods and is improving market opportunity for local, ecologically grown apples. In this way, CVN is increasing orchard acreage under ecological management while strengthening economic and community well-being.

Objectives

- Establish a supportive market environment for ecologically grown and certified apples.
- Generate greater consumer awareness of the benefits of local, environmentally grown foods.
- Develop a model knowledge-based certification program to accredit northeastern apple growers utilizing biointensive IPM production methods on their farm.
- Identify and seek to address market barriers that could impede expansion of the CVN program and limit the supply of quality fruit grown according to environmental standards.
- Increase orchard acreage under ecological management in the Northeast.

Key Results

CVN currently has 24 growers and over 3,000 acres in production.

CVN has launched a site on the World Wide Web for farmers and consumers.

Mothers & Others will undertake a comprehensive evaluation of the CVN project in 1999. It will address the impact CVN has had upon environmental improvement in northeastern rural communities, the economic benefit received by the CVN farmers, and whether CVN is self-sustaining.

Methods and Results

The ecology and weather conditions of the northeast region make organic apple production extremely difficult. This fact inspired the creation of a biointensive IPM—rather than an organic labeling program—in order to realistically encourage pesticide reduction.

Applying a "market pull" strategy, CVN is building consumer demand for, and producer and market supply of, ecologically branded fruit. A regional eco-label that generates strong market pull is inspiring many growers to reduce pesticide use in order to meet the label's ecological standards. In so doing, this program serves the needs of the farmer, the land, the local economy, the consumer, and future generations.

This eco-label is providing an important vehicle to educate consumers about environmental improvements being applied in food production. By creating an option, CVN enables consumers to apply socially held values to purchasing decisions. In this way, eco-labeling becomes an

Coordinator

Betsy Lydon
Mothers & Others for a Livable Planet
40 W. 20th Street, 9th Floor
New York, NY 10011

Phone: 212-242-0010 X305
Fax: 212-242-0545
Email: corevaluesne@mothers.org

Collaborators

Apple growers from Massachusetts, Connecticut, New York, Vermont, and New Hampshire
Bread and Circus
D'Agostino Supermarkets
Massachusetts Department of Food and Agriculture
Mothers & Others
Northeast McIntosh Growers Association
NRCS
Tufts University
University of Massachusetts Extension System

SARE Grant

$20,000

Match

$150,000

Duration

1997 to 1998

Project number

LNE97-88

MA, CT, NY, VT, NH

Project number
LNE97-88

important part of a larger effort to strengthen alternative economies that support local producers, sustainable agriculture, and regional economies.

CVN currently has 24 growers and over 3,000 acres in production. With a pared-down mailing list of over 180 prospective farmers, we are working to significantly increase the number of farmers who join the program by encouraging them with increased market opportunities. Another attraction is the support of the growing community of CVN farmers who provide each other, formally and informally, with technical assistance on the reduction of harmful chemicals in production practices. We are currently advocating for increased research to help CVN growers experimenting with alternative pest management strategies.

CVN apples are currently distributed through farmers markets and several supermarkets including D'Agostino's (New York), Big Y (New England), Kings (New Jersey), and Bread and Circus (New England). As of this fall, the apples are also distributed in all 160 Manhattan public schools, which serve 75,000 children 600 cases per week. Through our work with a private school food service provider, CVN apples are now available in several Long Island public schools as well as 24 private schools in New York City. Continual efforts are necessary in order to ensure these markets for the future as well as expand the marketplace for CVN apples.

The certification process is made up of a knowledge-based farm plan that outlines all major aspects of orchard production, including weed, disease, and pest management. The farm plan is reviewed by the CVN certification committee, which is made up of two Cooperative Extension agents and IPM specialists, two farmers, a consumer representative, and an independent IPM consultant. The plan also includes a third-party annual inspection of all CVN farms and attendance at annual meetings to exchange knowledge among the CVN growers.

The official CORE Values Northeast web site (www.corevalues.org) launched on September 1. The web site is divided into two categories—farmers and consumers. It includes information geared toward children, parents, teachers, and growers. One CVN grower has already commented: "I've received a lot of calls this week from people asking for my apples—people who found out about them through the new CVN web site."

We expect to prove there is enough market support to sustain all aspects of the CVN program, including certification, consumer and retail education, and market development. We are working to promote the CVN program to growers and their support community within the state and the federal agricultural system in the hopes of ensuring long-term security for the program.

As a model project, we expect that CVN can be replicated and used on other commodities in other communities. Transferable CVN strategies are now being applied to a national organic cotton fiber project as well. Through the distribution of our educational materials, through lectures and speaking engagements to a wide variety of audiences, and through active networking among the larger eco-labeling and agricultural communities, CVN will ensure that its experience and information will be transferable to other communities.

In 1999, Mothers and Others will undertake a comprehensive evaluation of the CORE Values Northeast project. This will be the first critical review of an eco-label, and will analyze its goals, methodology, and results. It will include both qualitative and quantitative analyse, and provid information on the costs and benefits to farmers.

Reported December 1998

1. CORE VALUES NORTHEAST--Annual Update, December 1998

"Bring Good Farming Home"

1. Overview/Summary

In a special project that serves as a model nationally and internationally, Mothers & Others is working in the Northeast region in order to create a supportive market environment for farm products that are locally grown by farmers striving to maintain healthy, ecologically balanced growing environments. This project centers around an eco-label and farm certification for apples, locally grown by farmers utilizing biointensive Integrated Pest Management methods. Applying a "market pull" strategy, we are building consumer demand for, and producer and market supply of ecologically branded fruit. A regional eco-label that generates strong market pull inspires many growers to reduce pesticide use in order to meet its ecological standards. In so doing, it serves the needs of the farmer, the land, the local economy, the consumer and future generations.

We believe an eco-label provides an important vehicle to educate consumers about environmental improvements being applied in food production and creates an option for consumers, enabling them to apply socially held values to purchasing decisions. Eco-labeling thus becomes an important part of a larger effort to strengthen alternative economies that support local producers, sustainable agriculture and regional economies. By generating greater consumer awareness of the benefits of local, environmentally grown foods, and by improving market opportunity for local, ecologically-grown apples, CORE Values Northeast (CVN) is increasing orchard acreage under ecological management in the Northeast while strengthening economic and community well-being.

2. Objectives

* establish a supportive market environment for ecologically-grown and certified apples;
* generate greater consumer awareness of the benefits of local, environmentally grown foods;
* develop a model knowledge-based certification program to accredit Northeast apple growers utilizing biointensive IPM production methods on their farm;
* identify and seek to address market barriers that could impede expansion of the CORE Values Northeast program and limit supply of quality fruit grown according to environmental standards;
* increase orchard acreage under ecological management in the Northeast.

3. Specific Project Results

A. Findings and Accomplishments

*** Develop a model knowledge-based certification program to accredit Northeast apple growers utilizing biointensive IPM production methods on their farm--**

The certification process is made up of a knowledge-based Farm Plan, which outlines all major aspects of orchard production, including weed, disease, and pest management. The Farm Plan is reviewed by the CVN Certification Committee,

comprised of two University Extension Agents and IPM specialists, two farmers, a consumer representative, and an independent IPM consultant; a third-party annual inspection of 100% of CVN farms, and attendance at annual meetings to exchange knowledge amongst the CVN grower community. CVN currently has twenty-four growers and over 3,000 acres in production. With a paired-down mailing list of over 180 prospective farmers, we are working to significantly increase the number of farmers who join the program; by encouraging them with increased market opportunities, and the support of the growing community of CVN farmers who provide each other formally and informally with technical assistance on the reduction of harmful chemicals in production practices. We are currently advocating for greater research support for CVN growers experimenting with alternative pest management strategies.

*** Establish a supportive market environment for certified fruit--**
CVN apples are currently distributed through farmers' markets and several supermarkets including D'Agostino's (NY), Big Y, (New England) Kings (NJ), and Bread & Circus (New England). As of this Fall, the apples are also distributed in all 160 Manhattan public schools, serving 75,000 children 600 cases per week. CVN apples are now available in several Long Island public schools as well as 24 private schools in New York City, through our work with FLIK, a private school food service provider. Continual efforts are necessary in order to ensure these markets for the future as well as expand the marketplace for CVN apples. Additionally, the official CORE Values Northeast website launched on September 1. The website is divided into two categories--Farmers and Consumers--with information geared towards children, parents, teachers as well as growers, and is helping to increase market opportunities for CVN growers: A CVN Grower from Holmberg Orchards, CT, wrote "I've received a lot of calls this week from people asking for my apples -- people who found out about them through the new CVN website.". The website address is **www.corevalues.org**

*** and identify and seek to address market barriers that could impede expansion of the CVN program and limit supply of quality fruit grown according to environmental standards--**
We expect to prove there is the market support able to sustain all aspects of the CVN program--certification, consumer and retail education and market development. We are working to promote the CVN program to growers and their support community within the state and the federal agricultural system in the hopes of ensuring long term security for the program.

In 1999, Mothers & Others will undertake a comprehensive evaluation of the CORE Values Northeast project. This will be the first critical review of an ecolabel yet to be conducted, analyzing its goals, methodology and results. We will address the impact CVN has had upon environmental improvement in Northeast rural communities, the economic benefit received by the CVN farmers, and examine, ultimately, whether CVN is self-sustaining.

B. Site Information
The ecology and weather conditions of the northeast region make organic apple production (for marketable apples) extremely difficult. This fact inspired the creation of a biointensive IPM -- rather than an organic labeling program, in order to be able to realistically encourage pesticide reduction.

C. Economic Analysis
CORE Values Northeast will undergo a full, independent evaluation in 1999. It will undergo both qualitative and quantitative analyses, including information on the financial costs and benefits to farmers. Please see the enclosed draft document that outlines our evaluation questions.

4. Potential Contributions and Practical Applications
A. As a model project, we expect that CVN can be replicated and used on other commodities, in various communities. Cornell University asked Mothers & Others to speak about the CVN project as a model project in a recent Fund for Rural America conference. Transferable CVN strategies are now being applied to a national organic cotton fiber project as well. Through the distribution of our educational materials, through lectures and speaking engagements to a wide variety of audiences, and through active networking amongst the larger ecolabeling and agricultural communities, CVN will ensure that its experience and information will be transferable to other communities.

In terms of the project's specific impacts on farm production levels, the environment, and family farm profits, we will have results later in 1999, from the independent evaluation mentioned above.

B. Specifics on pesticide reduction throughout the CVN program will also be addressed in the above-mentioned evaluation.

5. Farmer Adoption and Direct Impact
A. Changes in Practice
CVN has increased grower awareness and adoption of ecologically responsible IPM production methods. CVN has twenty-four growers and over 3,000 acres in production, all of which are benefiting from a reduced pesticide program. A CVN Grower from Belltown Hill Orchards, CT wrote, "Writing the Farm Plan was the first time my brother and I really sat down and thought about each and every pest and how it is managed. We have seen it as a learning document, even though it has been our own practices we've put down on paper. We are still very early into biointensive IPM, we still have a long way to go before we reach the point of other CVN Growers, but we are willing to listen and learn."

B. Operational Recommendations
We will be prepared to make recommendations after analyzing project results from the evaluation to be conducted in 1999.

6. Producer Involvement
Relationships are at the heart of the CORE Values Northeast project. Mothers & Others has worked closely with growers to develop and improve the certification process. Farmers are also actively engaged in the market development component.

7. Areas Needing Additional Study
We will be prepared to make recommendations after analyzing project results from the evaluation to be conducted in 1999.

8. Dissemination of findings
As a model project, CVN is able to be replicated and used on other commodities, in various communities. Through the distribution of our educational materials, through lectures and speaking engagements to a wide variety of audiences, and through active networking amongst the larger ecolabeling and agricultural communities, CVN will ensure that its experience and information will be transferable to other communities.

9. Attachments
Please see attachments.

10. Farmer Evaluations
Please see attachments.

Mothers & Others for a Livable Planet
Core Values Northeast Program

Areas of Evaluation -- Draft 8/98

1. Impact on farm production

(Analysis to be based on a written questionnaire)

* How many farms have participated/currently participate in the CORE Values Northeast program? (Numbers, state) How many acres does this represent?
* How does this compare to the acreage in total apple production in the Northeast?
* How has the program grown since its inception? (Numbers of farms by state, acres, bushels)

2. Impact on farmer

(Data to be gathered by means of a phone survey, supplemented by a written questionnaire)

* How have farmers learned about the CVN program?
* Why have growers participated?
* What did growers expect/want the program to provide? How well has the program met their expectations? How has the program failed to meet expectations?
* How do they feel about the program? Consider both farmers who are CVN growers and those who are not.
* What aspects of the program have farmers found most helpful? (A list of specific elements will be provided)
* Has CVN had an impact on their farm planning? On their adoption of biointensive IPM methods? On their use of pesticides?
* Have CVN affected their market?
* What are the financial costs and benefits associated with being a CVN grower?
* Has CVN affected their association with/learning from other growers?
* How have growers' opinions of the program changed with time, knowledge, involvement in the program, etc?
* How do growers feel about the partnership with Mothers & Others?
* Have they experienced any changes in their attitude? Toward what? Toward whom?
* Some growers left the program. Why did they leave? Will they come back? Why?/Why not?
* If the CVN program was to continue without Mothers & Others, how do growers see it continuing?

3. Impact on the environment

*pesticide reduction levels: individual pesticides and overall; individual farm results and overall.
* soil quality

4. Certification process

(Analysis to be based on interviews with growers, university ag researchers, other eco-labelers, other certifiers)

* What does CVN certification entail?
* What is the premise behind CVN certification?
* How does the CVN certification process compare with organic certification? Other IPM-based certification programs? Regionally, nationally, internationally?
* How have growers found the certification process?
* How do other eco-labelers/eco-label certifiers view the CVN certification process?

5. Consumer awareness

(Analysis to be based on in-store, face-to-face survey mechanism)

* Have consumers seen CVN materials, the PSA?
* Where did they first learn of CVN?
* Does CVN material make them want to buy CVN apples?
* Does the material help them understand what integrated pest management means?
* Does the material help them understand the importance of supporting local agriculture?
* Have consumers seen CVN apples for sale? Where?
* Are consumers buying CORE Values Northeast apples? Why/Why not? Through what outlets?

6. Market development

(Data to be gathered through interviews and surveys with growers, retailers, distributors and other outlets for CVN apples)

* How many CVN apples are in the marketplace?
* Identify all the different outlets for CVN apples?
* Has the program been successful at educating supermarkets about the program?
* What's been the best outlet for CVN apples? New or pre-existing market?
* Are CVN farmers involved in promoting CVN apples? If no. Why not? If yes, in what ways?
* Are retailers interested in the CVN program? In stocking CVN apples? In promoting CVN apples?
* What obstacles prevent or slow the entry of CVN apples into retail stores?
* Are distributors interested in the CVN program? In stocking CVN apples? In promoting CVN apples?
* What obstacles prevent or slow the integration of CVN apples into the conventional distribution system?
* What schools or other institutions offering CVN apples? How did they learn about CVN apples? From whom did they purchase them? Are they making available any of the CVN materials to their customers?
* What prevents or slows institutions such as schools from offering CVN apples in their menu?

7. Research and advocacy

(Critique to be based on interviews with growers, extension, ag research)

* What is CVN's research agenda?
* In what ways has CVN program sought to increase opportunities for IPM research in the Northeast?
* Has CVN been helpful?
* Could CVN data from farm plans be the basis for research?
* Would CVN growers want to be part of IPM research?

8. Other eco-labels

(Analysis will include a review of other eco-labels and interviews with those involved)

* Are there other eco-labeling projects underway from which CVN has sought to learn?
* How do they compare to CVN?
* In what ways could CVN benefit from greater interaction or collaboration with other eco-labels?

9. The seal -- CORE Values Northeast

(Evaluation/recommendations to be based on interviews with growers, extension, ag research, and other ecolabelers and certifiers)

* Who/what entity should own the seal "CORE Values Northeast"?
* How much should farmers be charged to be certified? Product marketing?

CORE VALUES NORTHEAST

February 2, 1998

Dear grower,

Thank you for your interest in the *CORE Values Northeast* program. This packet contains the forms to apply for accreditation through the Northeast Stewardship Alliance, currently a project of Mothers & Others for a Livable Planet, a national consumer education organization and a proponent of strong local food systems. With the *CORE Values Northeast* program, the Northeast Stewardship Alliance is working to raise public awareness of the benefits agriculture provides the Northeast, raise awareness of environmentally-sound orchard management systems used in the Northeast, and allow customers to support environmentally-responsible agriculture through their purchases. Our current consumer education plans are outlined in the *CORE Values Northeast* 1997 Progress Report.

The process of creating a meaningful accreditation system for *CORE Values Northeast* began in 1996. When considering the various accreditation options, there were several factors to be taken into account. First, a farm is a living, changing system. Farm management must be dynamic as well, and the farmer aware of what's living in his fields, and how his actions affect them. Farming is a knowledge-based system, requiring a keen understanding of the continually changing relationship between pests, beneficials, wildlife, pesticides, weather and other environmental factors specific to their locale. Growers adoption of sound production practices depends on their confidence born of this knowledge. Finally, an accreditation program should encourage innovation and the use of new techniques, expanding the range of environmentally sound, effective and economical production methods available to growers.

After considerable deliberation, the *CORE Values Northeast* Grower Committee decided that the central element of the accreditation program should be a farm plan -- a dynamic document intended to reflect growers' "effective" knowledge -- that is the growers' ability to make environmentally-sound decisions, given the conditions present at any given time on a farm. The purpose of the Farm Plan is the following:

* To determine if a grower is using an IPM approach to his/her farm management.
* As a basis for information exchange, among the CVN grower community and between the CVN growers and the research community, and
* As a tool in problem identification and an innovative approach in problem solving.

Completing and submitting a *Core Values Northeast* Farm Plan is the essential first step to joining the program (for more detail, see "CVN Farm Plan -- OVERVIEW").

c/o Mothers & Others 40 West 20th Street 9th Floor New York, New York 10011 212/242 0010 Fax: 212/242 0545 email: CoreValuesNE@mothers.org

CORE Values Northeast Farm Plan

OVERVIEW

The focus in the Farm Plan is the apple acreage on your farm, so please focus your answers on the management of acres currently in apple production. We welcome and encourage members to also provide us with information on other fruit crops and other parts of their farming operation, but providing such information is voluntary.

The *CORE Values Northeast* Farm Plan is composed of three parts -

Part I: DESCRIPTIVE INFORMATION – Tell us about your farm operation, a little about its history, how you learned to manage pests, your soil and water conservation practices, and your harvest and storage methods. Please note that the answers to Part I become a part of your farm's records, and do not have to be resubmitted each year. Just let us know when there are major changes in your apple operation.

PART II: APPLE PESTS IN THE NORTHEAST -- Your answers in this matrix will help us understand your principle pest management challenges, and the diversity of challenges across CVN growers. Here, you can give us your views regarding the availability of options and research needs.

PART III: INFORMATION-BASED DECISION-MAKING -- This is the most important part of the farm plan. Solid answers here will help CVN growers, consultants and researchers work together to collectively advance the science of biointensive IPM in apple production in the region.

All parts of the CORE Values Northeast Farm Plan must be submitted by May 1st for a grower to participate in the program in 1998. It is understood that "pre-season" responses to PARTS II and III reflect previous experience and that when these sections are resubmitted after the 1998 harvest, they will be updated to reflect specific activity for the 1998 growing season. Currently certified CVN growers need not re-submit Part I unless changes are necessary.

NOTE: At the 1997 CVN winter meeting, it was decided that the inspector will ask to see pesticide use records during his inspection of farms. This is an opportunity to explain the context in which a pesticide was employed. He will incorporate this information into his inspection report. Inspection reports, as well as Farm Plans, are considered by the Certification Committee when accrediting a farm. The inspector will be accompanied by either a member of the CVN Certification Committee or a local University extension agent on most, if not all inspections.

CORE Values Northeast Farm Plan

Farm Name:

Producer/Manager:

Address:

Telephone:

Fax:

E-mail:

Preferred Mode of Communication:

_____
Signature

_____
Farm Plan Submission Date

please return your completed farm plan to:
CORE Values Northeast
c/o MOTHERS & OTHERS
40 WEST 2OTH STREET
NEW YORK, NY 10011
PHONE: 212-242-0010, EXT. 310
E-MAIL: COREValuesNE@Mothers.org

NOTE: Parts I and III of this Farm Plan are available by e-mail or on 3.5" diskette (IBM or MacIntosh compatible). Please contact the M&O office to order.

CORE Values Northeast Farm Plan

PART I: DESCRIPTIVE INFORMATION

[*Note: For your own purposes and ours, we encourage you to develop your responses to this PART in a computer file. You can receive the questions and submit your responses by e-mail or on disk. Otherwise, please provide your responses on separate paper, clearly labeling each section prior to answering. This part of the farm plan is not likely to change much from year to year. We may ask you to provide more detailed information in some areas during farm visits, or as part of your application for a second year of participation in the CVN.*]

1. Your farm

(a). For each major variety of apples on your farm, please list variety name, acres in production, rootstocks used, average tree size, and average trees per acre.
b). Please submit a farm map -- Can be hand drawn, aerial photo, NRCS map, soil map or other. Should be large enough to identify fields, buildings, surface water, well, roads, fences, woods, buffer zones. Please date the map.

2. History of your farm and farming career --

(a). Please provide a brief history of the farm. Focus on past tree-fruit production, pest problems, and pest management practices. Information provided should provide a sense of how you believe the management of the land and orchard in the past has affected current levels of pest pressure, and the diversity and populations of beneficials.
(b). How many years have you farmed? How long have you been solely or largely responsible for pest management decisions on your current farm?

3. Sources of information that have shaped your current pest management systems--

(a). Who has helped provide you "on-the-job" training? Describe any formal or continuing education you have had in a pest management discipline.
(b) What key "lessons learned" from past efforts to manage pests guide your decisions today?

4. Soil stewardship program --

(a) Briefly describe your fertility management program on your apple acreage. How do you decide to apply nutrients and determine rates of application? Do you use soil and plant tissue tests as fertility management tools? If so, how?
(b) What do you consider your most important challenges in managing soil

Steps to filling in Charts: Apple Pests in the Northeast:

Step 1. If Answer in (A) is "No" -- Leave rest of boxes in the row blank. Skip the rest of these steps and go on to the next pest/disease/weed.

Step 2. If Answer in Column (A) is "Yes" -- Place a "Yes", "No" or "?" ("Don't Know") in each box in the row.

For each pest for which you answer "Yes" in column (A), please answer the following questions. Please label each page with the applicable pest in the upper left corner, and with your name or farm name in the upper right corner. Your answers can be brief. Those willing to provide more complete explanations are welcomed to do so. Your observations will help advance our collective knowledge and appreciation of the pest management challenges faced by CVN growers.

1. If you answered "Yes" to (B), what are the conditions that seem to lead to sporadic problems with this pest on your farm? Can you predict them? Are there ways to limit pressure and damage?

2. If you answered "Yes" in column (C), what are the non-chemical methods you are using? Please provide details on procedure of application.

3. If you answered "Yes" in column (D), why are they too costly (efficacy, labor costs, material costs), and what, if anything, have you tried to improve cost-effectiveness? Is this an area you hope researchers and the private sector will focus on?

4. If "Yes" to (G), what problems can be triggered, and what are you doing, or can be done to avoid them?

5. For column (I) answers that are 1, 2 or 3: Do you see promising alternatives on the horizon? If yes, what are they? Is this an area that university researchers are working on? If yes, are they on the right track as far as you know? What essential new pieces of information, or insights about this pest would most help you develop cost-effective biointensive IPM alternatives?

6. If you answered "Yes" to (E) and ranked the need for alternatives 1, 2, or 3 in column (H), what information or application techniques might improve the cost-effectiveness of already existing "soft" chemicals?

Apple Pests in the Northeast Chart 1B

Name of Pest	Non-chemical alternatives are too costly (Yes or No) *List specific problem and refer to separate page if any further explanation D	"Soft" chemicals available and used *List below the "soft" chemicals you are using E	Controlled by chemicals sprayed for other pests *List below what other chemicals are helping to manage this pest F
INSECTS:			
Green Fruit Worm			
Spotted Tentiform Leafminer			
Green Apple Aphid			
Rosy Apple Aphid			
Redbanded Leafroller			
Tarnished Plant Bug			
European Red Mite			
Obliquebanded Leafroller			
Plum Curculio			
White Apple Leafhopper			
Codling Moth			
European Apple Sawfly			
San Jose Scale			
Two Spotted Mite			
Wooly Apple Aphid			
Apple Maggot			

**please refer to "Steps to Filling out Chart" for explanations of the questions.*

Apple Pests in the Northeast Chart 1A

Name of Pest INSECTS:	Was pest ever a problem? No/Infrequently Yes/Majority of time A	How often is this pest a problem? 1 = 4 or 5 out of 5 years 2 = 2 or 3 out of 5 years 3 = 1 out of 5 years B	Largely non-chemical alternatives are used * List method and refer to separate page if further explanation is needed C
Green Fruit Worm			
Spotted Tentiform Leafminer			
Green Apple Aphid			
Rosy Apple Aphid			
Redbanded Leafroller			
Tarnished Plant Bug			
European Red Mite			
Obliquebanded Leafroller			
Plum Curculio			
White Apple Leafhopper			
Codling Moth			
European Apple Sawfly			
San Jose Scale			
Two Spotted Mite			
Wooly Apple Aphid			
Apple Maggot			

**please refer to "Steps to Filling out Chart" for explanations of the questions.*

Apple Pests in the Northeast Chart 1C

Name of Pest INSECTS:	Chemicals used to control trigger other problems (Yes or No) *List specific problem(s) triggered G	I need better alternatives Scale: 1 = Yes 10 = No *For 1, 2, or 3, refer to separate page for further explanation H
Green Fruit Worm		
Spotted Tentiform Leafminer		
Green Apple Aphid		
Rosy Apple Aphid		
Redbanded Leafroller		
Tarnished Plant Bug		
European Red Mite		
Obliquebanded Leafroller		
Plum Curculio		
White Apple Leafhopper		
Codling Moth		
European Apple Sawfly		
San Jose Scale		
Two Spotted Mite		
Wooly Apple Aphid		
Apple Maggot		

**please refer to "Steps to Filling out Chart" for explanations of the questions.*

Apple Pests in the Northeast **Chart 2A**	Was pest ever a problem? No/Infrequently Yes/Majority of time A	How often is this disease a problem? 1 = 4 or 5 out of 5 years 2 = 2 or 3 out of 5 years 3 = 1 out of 5 years B	Largely non-chemical alternatives are used * List method and refer to separate page if further explanation is needed C
Name of Pest			
Plant Diseases:			
Apple Scab			
Bitter Rot			
Black Rot			
Calyx End Rot			
Canker & Dieback Disease			
Crown, Root, Collar Rot			
Fire Blight			
Flyspeck, Sooty Blotch			
Post Harvest Rots			
Powdery Mildew			
Rusts			
Weeds:			
Other Pests:			
Nematodes			
Voles			

**please refer to "Steps to Filling out Chart" for explanations of the questions.*

Apple Pests in the Northeast Chart 2B

Name of Pest	Non-chemical alternatives are too costly (Yes or No) **List specific problem and refer to separate page if any further explanation D	"Soft" chemicals available and used *List below the "soft" chemicals you are using E	Controlled by chemicals sprayed for other pests *List below what other chemicals are helping to manage this pest F.
Plant Diseases:			
Apple Scab			
Bitter Rot			
Black Rot			
Calyx End Rot			
Canker & Dieback Disease			
Crown, Root, Collar Rot			
Fire Blight			
Flyspeck, Sooty Blotch			
Post Harvest Rots			
Powdery Mildew			
Rusts			
Weeds:			
Other Pests:			
Nematodes			
Voles			

**please refer to "Steps to Filling out Chart" for explanations of the questions.*

Apple Pests in the Northeast Chart 2C

Name of Pest	Chemicals used to control trigger other problems (Yes or No) *List specific problem(s) triggered G	I need better alternatives Scale: 1 = Yes 10 = No *For 1, 2, or 3, refer to separate page for further explanation H
Plant Diseases:		
Apple Scab		
Bitter Rot		
Black Rot		
Calyx End Rot		
Canker & Dieback Disease		
Crown, Root, Collar Rot		
Fire Blight		
Flyspeck, Sooty Blotch		
Post Harvest Rots		
Powdery Mildew		
Rusts		
Weeds:		
Other Pests:		
Nematodes		
Voles		

*please refer to "Steps to Filling out Chart" for explanations of the questions.

PART III – INFORMATION-BASED DECISION-MAKING

Please answer the following four questions below for EACH of the most difficult to manage and/or damaging pests you are currently confronting on your farm. Please include at least one, but no more than three insects, and at least one plant disease. To facilitate review, please use a separate piece(s) of paper for EACH pest. Place the pest name in the upper left corner, and your name or the farm name in the upper right corner.

Section A.

1. Please explain your diagnostic and scouting procedures (including when field information is gathered, the frequency of scouting, and who carries out scouting and diagnostic tasks).

2. Applicable thresholds for both the target pest, beneficials and any secondary pests of concern, and the source of the thresholds or other spray decision-criteria you currently are using.

3. Do you have variable thresholds for the pest as a function of beneficial(s) levels? If so, what are the thresholds and where did it come from?

4. What did you do last year in order to manage this pest? Briefly describe –

(a) pesticide applications required, biocontrol and other cultural techniques used, effectiveness and costs of control?

(b) what you intend to do differently, if anything, this year in managing this pest, and why?

(c) steps taken to avoid resistance and/or secondary pest problems, and to avoid impacts on non-target organisms when applications are made of broad-spectrum materials?

Section B. Emerging Issues and Challenges: Lessons from Crop Season 1997

Grower fall updates reported a series of observations and experiences from the 1997 season which suggest the need for additional discussion amongst CVN growers, researchers and other field IPM experts. Please answer the questions outlined below:

1. <u>EBDC formulations</u>

Growers report different experiences with alternative formulations of EBDC fungicides with respect to impacts on *T-pyri* and other beneficial mites. Further discussion is needed to try to determine if different growers have observed comparable differences, with the goal of determining if certain formulations

The Northeast Stewardship Alliance
CORE VALUES NORTHEAST
APPLE GROWER GUIDELINES
FOR 1998 GROWING SEASON

The following sets out guiding principles, minimum standards and guidelines for integrated fruit production in the Northeast starting in the 1998 growing season as agreed to by the Northeast Stewardship Alliance. These guidelines are based in part on the Guidelines for Integrated Production of Pome Fruits in Europe, IOBC Technical Guideline III. They have been adapted to reflect the growing conditions and best farm practices of the Northeast. After each growing season, they will be reviewed and amended where appropriate.

1. Definition
Integrated fruit production is defined as a total systems approach with the goal of achieving the economical production of high quality fruit, giving priority to ecologically safer methods and minimizing the undesirable side effects and the unsafe use of agrochemicals, to enhance the safeguards to the environment and human health.

2. Trained, environmental-responsive and safety-conscious growers
Successful integrated fruit production requires up-to-date training and a positive and sympathetic attitude to its aims.

Farm managers must be professionally trained in all aspects of integrated fruit production by attending regular training courses. They should have a thorough knowledge of the aims and principles of integrated fruit production. They should have a positive and a sympathetic attitude to environmental conservation and human health and safety. Attendance at regular training, updating and review meetings is required.

3. Site, Rootstocks, Cultivar and Planting System for New Orchards
The aim of integrated fruit production is a balanced, healthy orchard. For new orchards, the site, rootstocks, cultivar and planting system must be selected and harmonized so that regular yields of quality fruit, and hence economic success, can be expected with the minimum use of agrochemicals and environmentally hazardous practices. To minimize use of agrochemicals, the planting of dwarfing root stock and tree row calibration is recommended. New orchards should be planned so that adequate pollination will be achieved.

4. Soil Management and Tree Nutrition
Leaf and soil samples must be collected and analyzed on a regular basis to determine nutrient and fertilizer requirements. For new orchards, the pH should be corrected before planting. Standard sampling and analytical procedures and rules for decision-making must be followed. Records of plant and/or soil analyses must be kept and made available for inspection. Groundwater pollution with fertilizers,

especially nitrates, must be minimized.

5. Alleyways and Weed-free Strip
The aims are to minimize the use of herbicides (avoiding residual chemicals completely), avoid soil erosion and compaction in the alleyways, and use minimum inputs of fertilizers and irrigation water without detriment to yield. Alleyways or travel lanes between tree rows should be protected by a sod cover. Weed competition in tree rows can be suppressed mechanically, with approved herbicides, or with mulches. Knockdown herbicide applications may be necessary in spring/early summer, but year-round weed-free strips are not appropriate.

6. Tree Training and Management
Trees must be trained and pruned to allow good penetration of light and spray to the tree center. Excessive growth should be controlled by cultural measures, including reducing fertilizer and irrigation supply, summer pruning and encouraging greater set of fruit.

7. Fruit Management
Any labeled chemical thinning agent may be used, so long as it does not interfere with control of pests by beneficial species.

8. Integrated Plant Production
Priority must be given to the lowest impact system(s) of pest, disease and weed control. Where the use of pesticides is necessary, selection of materials must be based on the lowest ecological disruption, taking into account:

Toxicity to humans
Toxicity to key natural enemies
Toxicity to other natural organisms
Pollution of ground and surface water
Ability to stimulate pests
Selectivity
Persistence
Incomplete information
Necessity of use
Efficacy

Before each application, the approximate level of infestation or the risk of damage must be estimated and recorded, and the decision to treat must be based on regional scientifically established thresholds.

Dosage rates should be reduced whenever possible to the minimum required to give adequate control of the pest, disease or weed problem.

9. Efficient and Safe Spray Application Methods

Sprayers must be regularly serviced and calibrated. The size and shape of the spray plume generated by the sprayer should be set to match the tree target. All efforts should be made to minimize spray drift.

10. Harvesting, Storage and Fruit Quality
Only fruit of sound internal quality may be certified and labeled as meeting integrated fruit production standards.

11. Mode of Application, Controls, Certification and Labeling
A. A grower or organization who wishes to participate in the *CORE Values Northeast* program must be certified. In 1997, the Grower Committee put forth the following requirements for certification:

1. Submission of a comprehensive farm plan pre-season, detailing major horticultural management areas (e.g. planting scheme, nutrient management, ground cover, tree training, fruit management, plant protection, materials and equipment, harvest, storage, fruit quality, etc.) including plans, trials, and on-farm research (see Farm Plan 1998).
2. Adherence to these production guidelines the purpose of which are to move growers from chemically dependent IPM to biointensive IPM.
3. Maintenance of detailed records of materials used.
4. Annual knowledge-based evaluation of at least 20% of farms by third party inspector.
5. Submission of a final farm plan post-harvest (December) to include a report on what one did if different than planned and why.
6. Attendance at *CORE Values Northeast* grower meetings to share experiences and new learning; identify goals and practices to incorporate into the next season's guidelines; and develop a priority research agenda CORE growers and their partners will support.

Certified fruit grown under these guidelines may be displayed with the *CORE Values Northeast* logo/trademark and be featured in all educational and promotional materials.

B. *CORE Values Northeast* growers will permit at least one scheduled visit by representatives of NESA for educational purposes, including better understanding of the growing practices utilized as part of this program.

C. Normally the whole fruit farm must be involved in integrated fruit production, but a transition phase of not more than three years is permitted. Where individual orchards or parts of farms are entered, they, and all the fruit produced in them, must be clearly identifiable at all times.

D. Up-to-date records must be kept, and signed by the grower at the end of the growing season. The records kept by the farm must be made available upon request to the CVN third-party inspector.

CORE VALUES NORTHEAST

Press List
1997-1998

1998

Hudson Valley Magazine, " Apples, Pests, & Poison", October 1998

Natural Living, "To Be or Not To Be Organic: Is There a Safe Way to Spray? with Jonathan Bishop of Bishop's Orchards & Farm Market", September/October 1998

Just Food News, "Mothers & Others Bring New York Apples Back to New York City Schools", June 1998

"Gempler's IPM Solutions", "IPM Success Stories: CORE Values Growers Practice IPM", Volume 3, Issue 3, April 1998

Sustainable Agriculture Research and Education, "Ten Years of SARE: A Decade of Programs, Partnerships and Progress in Sustainable Agriculture Research and Education", March 1998

Environmental Protection Agency, "Food Production and Environmental Stewardship: Examples of How Food Companies Work With Growers", January 1998

Produce News, "Northeast apple growers and consumer group create IPM certification system", January 1998

Consumer Reports, "Greener Greens? The truth about Organic Food", January 1998

1997

American Agriculturist, "Core Values", November 1997

Supermarket News, New York, NY, "Three Chains Nuture Ecological Apple CORE", October 20, 1997

Keene Sentinel, "Mothers & Others promote ecologically sound consumer choices," October 8, 1997

NESAWG NEWS, "CORE Values goes barnstorming", Fall 1997

Daily Freeman, Kingston, NY, "Groups push apples free of pesticides", September 25, 1997

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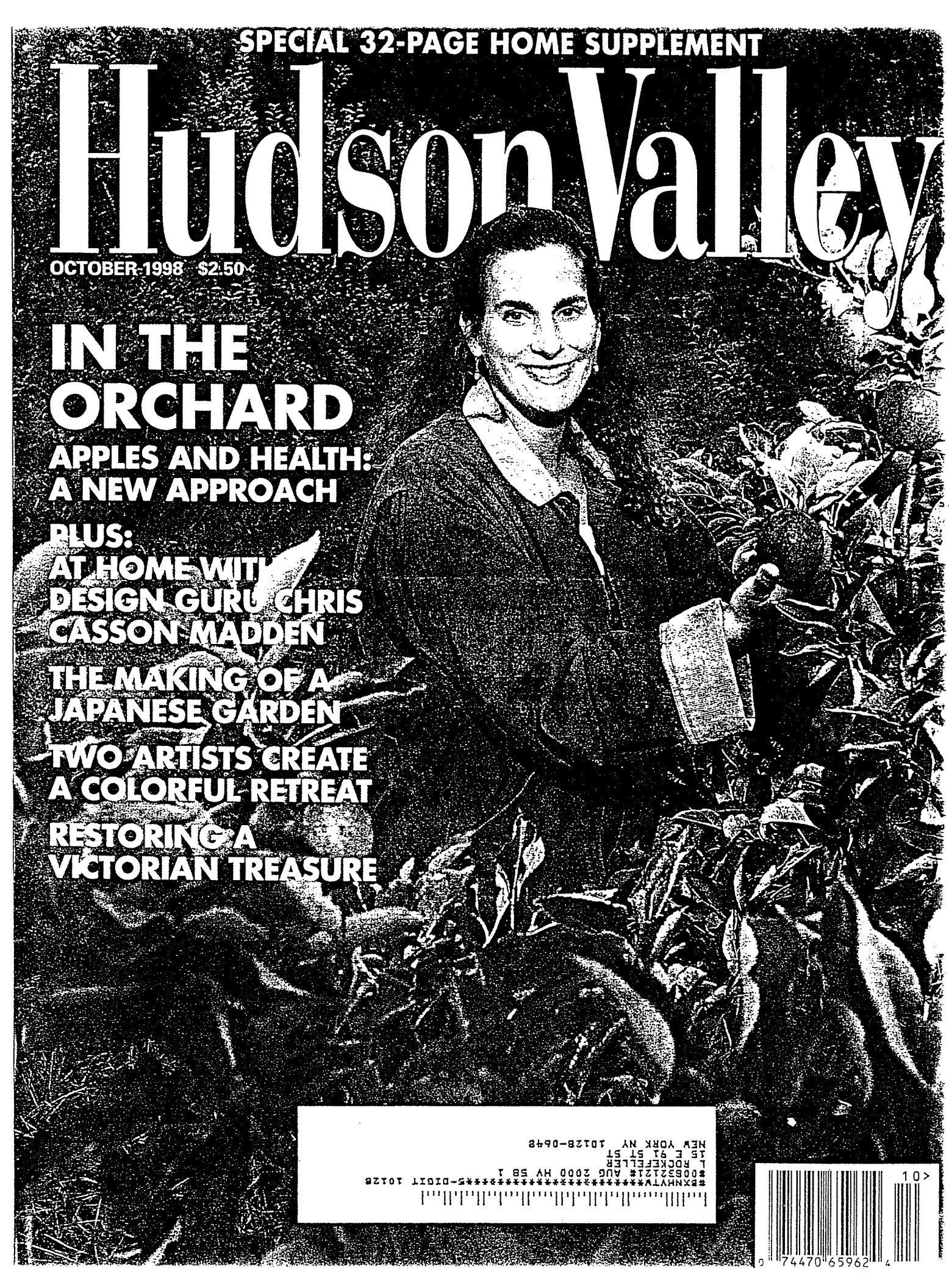


IN THE ORCHARD

APPLES AND HEALTH: A NEW APPROACH

PLUS:

AT HOME WITH DESIGN GURU CHRIS CASSON MADDEN

THE MAKING OF A JAPANESE GARDEN

TWO ARTISTS CREATE A COLORFUL RETREAT

RESTORING A VICTORIAN TREASURE

APPLES PESTS POISON

Some of the Valley's apple growers are striving to balance the demands of the public for perfect, pesticide-free fruit with the need to control insects.

BY JAN GREENBERG

As she strolls through one of her family's apple orchards in Clintondale, Ulster County, Amy Walker appears relaxed, pleased to be outside on a gorgeous afternoon. This is an old orchard, with trees that branch out with the romantic sheltering boughs most of us associate with apple trees. Just down the road, though, the Walkers' neighboring fields are planted with the rugged dwarfs that comprise today's more efficient orchards. With their thick, squat trunks and heavy gnarled branches, dwarfs produce more fruit than tree and allow growers to plant up to 800 trees per acre.

The old orchard in which Walker strolls was planted in the 1960s. Its trees, which stand up to 40 feet tall, have wide boughs that bear small green apples. A nearby irrigation pond, stocked with triploid carp that devour waterborne grasses and weeds, sparkles in the sun. Despite the scene's apparent serenity, Walker is actually at work. She's counting bugs — specifically oblique banded leafrollers.

Amy Walker is an IPM (Integrated Pest Management) scout. The IPM program is the enlightened grower's method of raising commercial-quality apples, using minimal amounts of chemical sprays for insect and disease control. "The rule of thumb with IPM," says Walker, "is that it can reduce spraying by up to 30 percent."

Born in the Hudson Valley's apple belt in Ulster County, Walker grew up in New Paltz, the daughter of teachers. In addition to teaching, her parents operated a small farm on which they grew apple trees and Christmas trees. In 1994, Amy married William "Bud" Walker, an apple farmer whose family has been in the business for four generations.

Like the majority of farmers today, Walker brings a solid educational background to what is among the most risky and unpredictable of endeavors. She has a degree in entomology and plant protection from Cornell. With her husband, Amy manages the Clintondale-based W. H. Walker apple operation. They have 200 acres in cultivation, including sites located as far away as Salt Point in Dutchess County, on the other side of the

SEN

Hudson. The Walkers are among the producers of New York's largest cash crop. Last year, this crop amounted to 26 million bushels with a value of $144 million.

As she walks through the orchard, Walker checks the traps hanging from the trees, looking for oblique banded leafrollers. The traps are small, white, open cardboard boxes with a sticky substance coating the inside. In the center of each trap is a small rubber cap on which a synthetic female pheromone has been placed.

According to Walker, the oblique banded leafroller, which is a kind of moth, is a newly emerging orchard pest that has been particularly active in the apple orchards of Milton and Marlboro. The female oblique banded leafroller lays eggs that hatch as caterpillars and feed directly on the young apples, literally taking bites out of the fruit and spoiling the surface.

During its relatively harmless moth stage, the male oblique banded leafroller is attracted by the pheromone and flies into the trap, where it gets stuck. By counting the moths in the traps, Walker can determine their flight patterns and estimate both when the female moths will lay the eggs and when hatching will occur. This allows her to gauge the extent of the probable infestation and to predict the degree of damage the insect is likely to inflict upon the orchard.

No farmer likes to spray any more than necessary. Not only is the leery about the use of pesticides than it used to be, but it's also expensive

Growers agree that the Hudson Valley is among the most difficult places in which to grow tree fruit. Hot, humid summers make trees susceptible to pests and disease, particularly the apple maggot, codling moth, plum curculio, fire blight, cedar apple rust and scab. Adding to the problem are the area's many abandoned orchards, which are uncontrolled breeding grounds for insects and pests. Hudson Valley growers are under particular pressure because most of their apples are destined for the fresh market, rather than for the processing plant like most apples grown in western New York; Valley apples must therefore not only taste good, they must look good as well. Speaking for all apple growers, Martin Zimmerman, an apple grower in Highland, says: "You can't put a marked apple into a chain store. You must have the perfect apple. It's got to be big and it's got to be red."

Fruit growers have always practiced a form of integrated pest management. But, says Clermont grower Ray Tousey, the term itself is confusing. "No two people have the same definition," he says. "Most people think it's just a question of good bugs eating up bad and that takes care of everything."

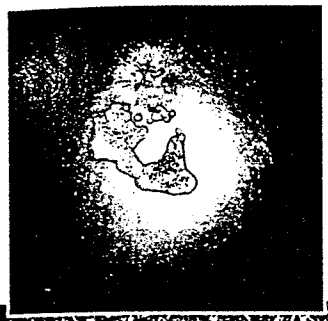
According to "Apple Fun and Facts," a pamphlet published by the national consumer educational organization Mothers & Others for a Liveable Planet, Integrated Pest Management is "a systems approach to pest management based on an understanding of pest ecology. It relies on resistant varieties and promoting plant health, crop rotation, disrupting pest reproduction, and the management of biological processes to diversify and build populations of beneficial organisms."

Judy Clarke, an apple grower whose family has farmed Milton's Prospect Hill Orchard since 1817, has her own explanation of IPM: "Traditionally, growers used to spray on a regular basis. They followed a schedule, and the goal was to prevent a situation from developing. No one walked through the orchard examining traps and counting bugs. Now that's what we do. We react to special conditions in the particular orchard. It's a more balanced approach to pest management. The bottom line is that no farmer likes to spray any more than necessary. Not only is the public much more leery about the use of pesticides than it used to be, but it's also very expensive for the grower."

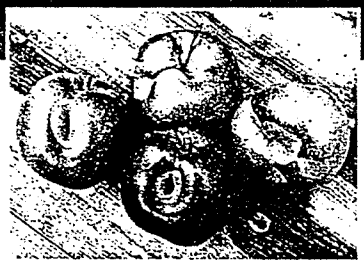
While attending Cornell, Amy Walker worked at the Hudson Valley Laboratory, the local branch of the upstate, Geneva-based, NYS Agriculture Experiment Station. There, she became interested in agricultural entomology. Upon graduating in 1988, she joined the Ulster County Cooperative Extension to work on a pilot project, coordinated through Cornell, whose aim was launching an IPM program in the apple-growing counties of the Hudson Valley.

"Since the mid-1980s," she says, "there's been a movement away from the calendar-based spray program to one that is driven by actual field observation. There are tools that make it possible to do this much more effectively than in the past. The technology that developed synthetic pheromones allows us to attract pests so that we can count and measure their impact. There are also computer programs that simulate the problem-solving behavior of experts and allow us to make projections of the likely stress on orchards."

This trend away from pesticides was also spurred by what is often referred to as the "Alar Scare" of 1989. In 1989, the National Resources Defense Council (NRDC) and the CBS News show *60 Minutes* released the findings of the NRDC report "Intolerable Risk: Pesticides in Our Children's Food." The NRDC study pointed out that the danger to children from certain pesticides had not been accurately measured, since research had failed to take into account the children's sizes and diets. The study also explored the cumbersome process involved in removing hazardous pesticides from the food supply. Alar, a chemical sprayed on apples to regulate growth and enhance color — and long suspected by the EPA to be a carcinogen in humans — was an example of a chemical used on food ingested in large amounts by infants and children. (Alar seeps through the porous skin of apples into the fruit. When the apples are heated during processing for sauce or juice, the chemical degrades to UDMH, a toxic component of rocket fuel.)



Left: Oblique banded leaf-roller and its handiwork; right, greenfruit worm and infested apples; below, codling moth larvae.



public much more for the grower.

Immediately following the broadcast, apple consumption dropped over 50 percent. Even though the Environmental Protection Agency had announced in 1985 that it was preparing to begin the lengthy process involved in banning Alar from use on food crops, and Gerber and other baby food manufacturers had stopped using Alar-treated apples in 1986, Alar's manufacturer, assisted by the chemical industry, mounted a full-scale public relations campaign to disprove the allegations about the health risks of the chemical. The campaign was a success; for many years Alar was widely viewed as a case study of public hysteria and Chicken Little behavior. In 1991, however, the use of Alar on food crops was banned following an EPA report that declared that the chemical posed an unacceptable health risk. In 1996, *The Columbia Journalism Review* published a story titled "The Alar 'Scare' Was For Real," which documented the disinformation tactics and the legitimate concerns about the chemical's residues.

According to the U.S. Apple Association, there are over 7,500 known varieties of apples in the world. The Pilgrims brought seeds and cuttings with them from England and planted America's first apple orchard in 1625 in what is now the city of Boston. By the end of the 17th century, most families had a few backyard apple trees, though the fruit of those trees wouldn't have been even minimally acceptable today. Storage ability and flavor were more important than beauty and color. The tastes of different apples were savored. Apples bore names that reflected their region and appearance — names like Black Gilliflower, a dessert apple that is nearly black when fully ripe, or Roxbury Russet, a brown, leathery-skinned apple, which keeps well through the winter, or Esopus Spitzenburg, discovered in the late 1700s on an Esopus farm just downriver from Kingston. (This variety reputedly became a favorite of Thomas Jefferson's.)

Although nearly 100 varieties are grown commercially in the United States, 15 varieties comprise 90 percent of the commercial crop: Red Delicious, Golden Delicious, Granny Smith, Rome, Fuji, McIntosh, Gala, Jonathan, Empire, York, Idared, Newtown Pippin, Cortland, Rhode Island Greening and Stayman. And most Americans sample only about six varieties during their lifetime, according to Roger Yepsen, author of the book *Apples*.

This was a particularly difficult year for apples. Ulster Cooperative Extension educator Mike Fargione, who is based at the Hudson Valley Laboratory in Highland, explains the problems faced by growers this season: "It was so wet and warm in March that the trees blossomed early and so were susceptible to the late frost in April. In addition, the pests that growers must deal with were out early and in greater numbers than we normally see. [In some areas] there was also hail damage to the developing fruit in May."

For Amy Walker and other IPM scouts, the question is always what action to take and when to take it. "You take action when the potential for pest damage reaches a certain threshold," she says. "I pushed the threshold at the Salt Point orchard last year and lost about half the Macs. Farming is all about taking risks. We are always losing sleep. Scouting is a blend of statistics and experience — an art and a science."

For growers, the margin for error is small. Supermarkets

won't buy apples that don't look perfec because consumers won't buy them According to Dave Fraleigh, who farm what might be the Hudson Valley's olde orchard, 200-year-old Rose Hill Farm i Red Hook, Dutchess County, "American buy apples based on their appearance."

New York State is second only to Wash ington in apple production. Yet most super market chains, though carrying som locally grown apples, continue to stoc their shelves with those from Washingto or abroad — even when New York apple are fresh and at the height of their taste One major Hudson Valley corporation which shall remain nameless, even ha cards on its cafeteria tables that say "W serve Washington State apples."

To anyone who took the New York City subway late last summer (at the height o the state's apple harvest), this is no sur prise: they were full of billboards pro claiming the virtues of Washington State apples. With the Washington Apple Com mission spending more than $30 million a year for promotion, compared to New York's $1.5 million, New York is David t Washington's Goliath. "They have the money and they have the nerve," says Shelley Page, promotion director of the New York State Apple Association. "We've got to get more consumer awareness about New York apples."

Among the leaders of the movement to encourage consumers to purchase local apples while supporting environmentally sound farming is Mothers & Others. In 1996, the organization launched Core Values Northeast, a program that identifies apples that are grown locally with bio-intensive IPM methods. Francine Stephens, program associate at Mothers & Others, explains her group's mission: "In the middle of our glorious apple season here in the Northeast, we were walking into supermarkets and seeing Washington apples. We wanted to create a program that would support local growers who are striving to provide apples of superior taste and quality while maintaining healthy growing environments."

Over 22 orchards in New England and the Hudson Valley, including W. H. Walker, Zimmerman and Prospect Hill, have signed up for the program this year. All the apples supplied to Manhattan public schools this coming year will bear the Core Values certification as well. In an interview with *The Produce News*, Frank Tangredi, owner of Northeast Apple Sales in Highland, describes the Core Values-certified apples as "somewhere between organic and regular." He's enthusiastic about the multiple advantages of the certification system: "Consumers benefit from

a healthy product; it helps the environment and farmers will get a boost."

Among the program's most enthusiastic supporters is Mary Moore, director of public affairs for D'Agostino Supermarkets, a chain of 25 stores in New York City and Westchester. "We want to support local produce, but what we are really after is good taste and quality. We agreed that we would try the Core Values apples

For Amy Walker and other IPM scouts, the question is always what action to take and when to take it. "You take action when the potential for pest damage reaches a certain threshold."

because we wanted to support the program. But we also said that if the apples didn't taste good and the customer didn't buy them, we wouldn't continue. The program turned out to be very successful. By the end of last season, we were selling over 3,000 pounds a week."

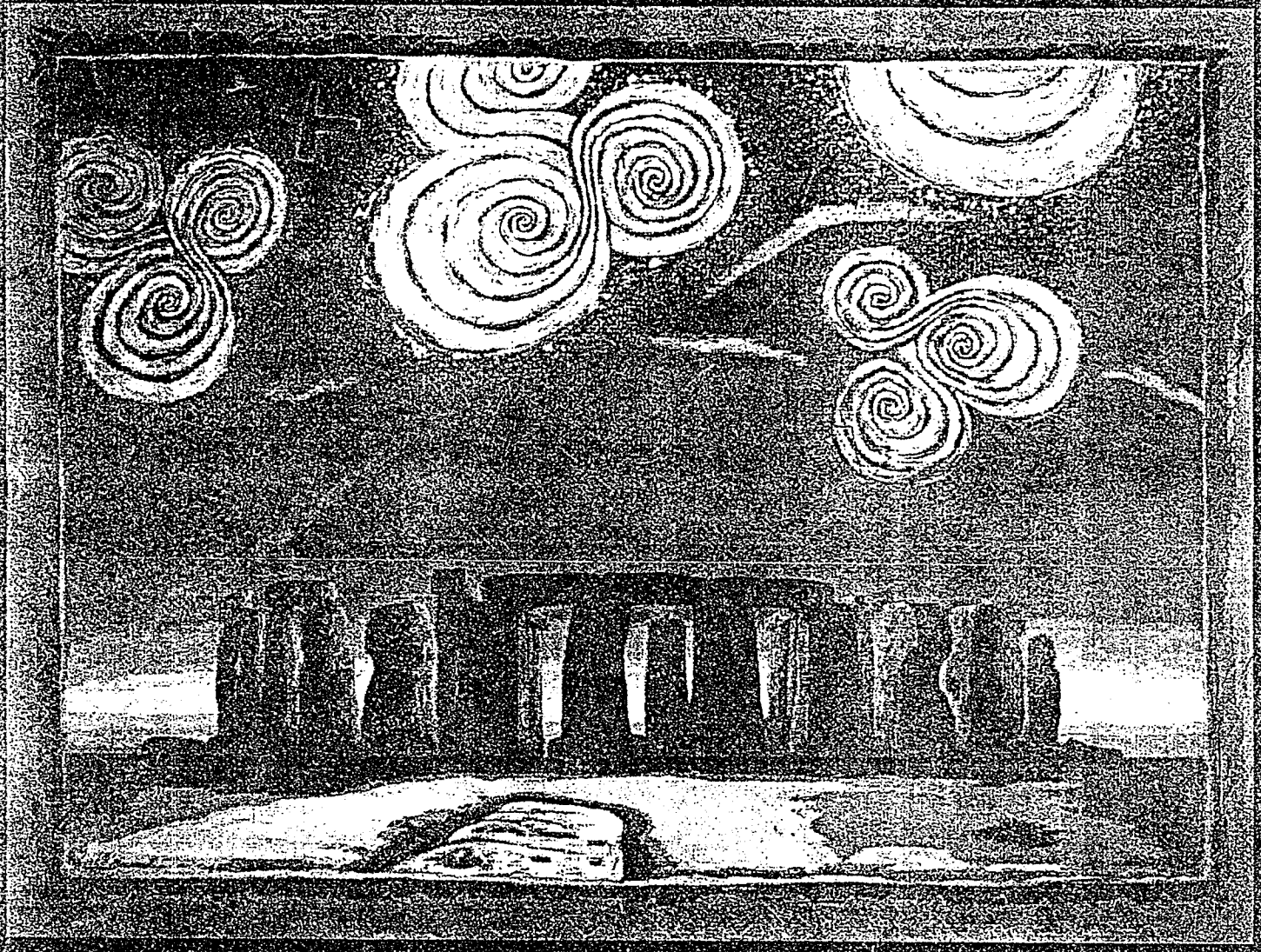
As for Amy Walker and the oblique banded leafroller, Walker made regular counts of the moth for about 10 days, at which point the counts began to exceed an acceptable threshold. Had the population stayed below a certain number, the Walkers would have tolerated the loss of a certain percentage of fruit. They used an experimental biological insecticide on one part of the orchard and a combination of two insecticides that rank low on toxicity to beneficial insects on the rest. Even so, their early apples, the Jersey Macs and Tydemans, sustained a lot of oblique banded leafroller injury. Overall, though, this year's harvest looks good.

"The goal of the Core Values program is to develop and document a body of knowledge about what works and why. We think about how we treat pests," says Amy Walker. "This is a very ambitious program that is emphasizing education and public outreach while addressing agricultural preservation and environmentally sound growing methods. I have a strong philosophical belief in this and I only hope that it continues to grow."

ISSUE No. 3 SEPTEMBER/OCTOBER 1998

Natural Livings

THE NATURAL ALTERNATIVE



TO BE OR NOT TO BE ORGANIC:

Is There a Safe Way to Spray?

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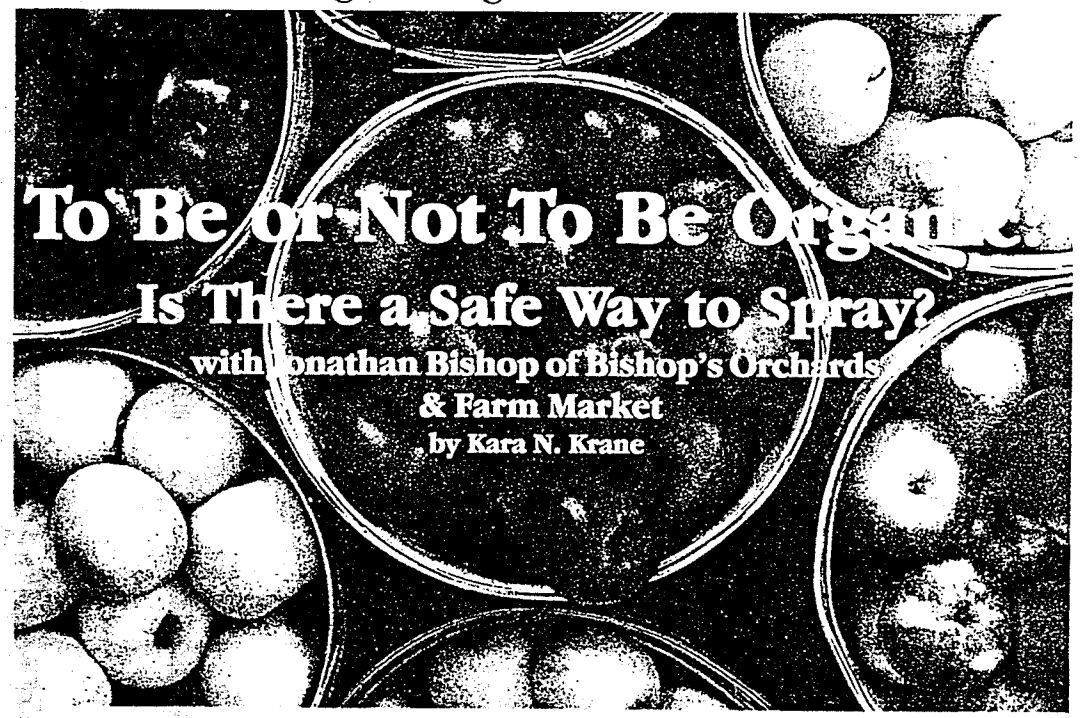
The relative health risk from the minute amount of pesticides that somebody cides in a well-structured, responsible pest management program is minus-munities of having farms go out of business and turn into housing develop-



To Be or Not To Be Organic?

Is There a Safe Way to Spray?

with Jonathan Bishop of Bishop's Orchards & Farm Market

by Kara N. Krane

Photo courtesy of Mothers & Others

I was at my sister's recently. She's a single mom with a beautiful little boy and she works hard to give him the best that she can. During this particular visit we were discussing the familiar topic of food; what to eat, what not to eat, the latest revelation on broccoli sprouts, etc.,etc. I was touting the indisputable merits of organics, as I frequently do, and my sister was nodding in rapt agreement. One week later, my sister was informed by her employer that they were closing her division. She had two weeks.

Next visit: The subject of food comes up, but now the theme has changed. How she will afford it becomes the pervading topic. She tells me with a pained expression that she can't buy organic, she's got a limit. It was difficult before, now it is impossible. Organic produce is expensive. The hidden question here is whether she is a good mom or not. Her expression asks it. The usual pro-organic argument, "Buy high, the price will lower as demand increases," is no longer relevant. The kid has got to eat.

We all hear terrible stories about produce so over-sprayed that people get sick when they eat it. Some have died. The benefit of eating fresh produce is negated by the ingestion of the poison on its skin. The sprays are carcinogenic; any is too much. So what is my sister to do? Is there a middle way? A safe, affordable alternative to organic produce?

Some time ago, a friend mentioned to me that Bishop's Orchards was practicing something called Integrated Pest Management and had been certified by Mothers & Others as a CORE Values grower. I had no idea what she was speaking about, but it sounded good. I decided to see for myself what was happening on the other side of the produce tracks. "They *spray*," my friend Emily said with distaste when she heard I was going to visit. "Yes, Emily," I responded, "but I hear they are doing something differently. I'm checking it out."

Enter Jonathan Bishop, half farmer, half scientist, owner of Bishop's Orchards and Farm Market in Guilford, Connecticut. The 320-acre farm has been in his family since 1871 and after talking to him I am convinced the man understands apples. He understands pesticides. He knows what's going to happen to your neurotransmitters if you ingest too much of either. He is also firmly committed to employing the most earth-friendly--he calls it biointensive--system of farming this side of organic. We sat outside the farm market at a picnic bench on a beautiful June day and spoke extensively about the new form of pest control they are using at Bishop's. No, it's not quite organic; but it is not conventional farming, either. Check it out:

NL: Tell me about Integrated Pest Management.

JB: IPM started out in the early 70s after recognizing that within regularly sprayed commercial orchards there weren't a lot of natural predators and beneficial insects left. Researchers set out to develop a system of monitoring and applying controls so that farmers didn't have to spray every two weeks whether it needed it or not. Instead, it was done by either visual scouting and counting insect populations, or by using behavioral traps. If you had so many plant bugs or apple maggots, it was time to go out and spray. By only spraying on your threshold, you were eliminating - hopefully - some of your pesticide applications. You were also allowing enough of a population below that threshold that might encourage beneficial insects to migrate into the orchards and provide some of the control. It was still a fairly pesticide-intensive system. The traps were used only to time pesticide sprays.

Today, there are more of the beneficial species surviving in the orchards, and they're providing part of the control. There's also a lot of research being done on using pheromone and mating disrupters and behavioral traps to monitor the pests. If enough behavioral traps are used, depending on the insect species, you can actually use the traps as a control, which is what we've started to do. There is a continuum of IPM that's gone from more pesticide-intensive systems --which there are still a lot of-- into more biointensive practices, but that takes a certain confidence level to make that leap - to stop spraying for something and trust natural systems, or trust a different method.

NL: Do you know of any local organic apple growers?

JB: I don't know of anybody, personally, growing organic apples. I know there are some people attempting it *[In this area, there is one organic apple grower, who is located in Vermont -Ed. note]* but generally they're talking about having only 20 to 30% of their crop turn out to be salable fruit.

I think people are under this misconception, that "organic" means there's nothing done, no sprays or anything like that. There are sprays applied in organic situations, but they are natural pesticides or organic compounds. There is some feeling that there might be less of an impact on the environment to use a few ounces of a commercial, man-made pesticide, rather than using pounds of something just because it's organic. For instance, in fungicides, the only organic one I know of is sulfur, and the rates for sulfur are in the tens of pounds per acre, whereas some of the materials we use that are much more effective are used at rates of tens of ounces per acre. So, when you're applying that much sulfur as an acidifying compound, it's got to have an impact on at least the pH of the soil, if nothing else. In the IPM system that we're talking about, we are trying to move towards as biointensive a system as possible.

NL: What is the standard in the industry today?

JB: From my experience, there is very little of what people would consider "conventional" agriculture, where things are sprayed on a calendar basis. If people were doing business that way, they probably couldn't afford to stay in business because the cost of the materials is just too high.

NL: Everyone is moving toward using the least amount of spray?

JB: Yeah. All of the research is aimed at trying to develop alternative methods. Nobody is trying to figure out how to spray *worse* stuff. (laughter)

NL: Is the growth of the organic industry influencing traditional farming?

JB: It's attractive when you hear of the prices you can get for organic produce. Whether you're doing it because you think it's the right thing, or in hopes of getting higher value for your crop, it's attractive. But, the reality is that some crops aren't capable of being grown organically on a commercial scale in some areas of the country. So, in those instances, you try to blend as much of the organic or biointensive practices with the conventional materials as you can, which is what we are doing.

NL: Would you say that you're ahead of the pack in that respect?

JB: I think so. We started in 1990 using the behavioral traps for apple maggot control and worked closely with both Ron Procope at UMass, who is developing the strategy, as well as our own people at UConn, who helped us do a trial for the first 3 years. At the time we started it, I believe we were the only orchard in the country doing it, and I think we're still the largest. There are several others that have started doing it, and at least a couple of them are based on having conversations with me. I've always been willing to try new stuff - and my dad before me was willing to try. You have to have the basic research to know a little bit of what's got a chance of working. We've always worked closely with the experiment station at UConn and some of the other universities.

NL: That's neat. Can you tell me about the CORE Values program?

has on their food or the minute environmental impact of using pesticule, compared to the environmental impact and the impact on comments. -- Jonathon Bishop

Currently, Bishop's is the only orchard in the state and the largest in the country employing the apple maggot trap. They have 1800 of them hanging in their orchards. These apple-like spheres need to be replenished often with insecticide and sugar water. A labor intensive task, it is done in part I am told, with a squirt gun. Needless to say, research is underway to develop a trap that will last all season long.

JB: CORE Values is a program created by Mother & Others. One aim is to recognize any IPM as valid but also to try to move growers along the continuum to more biointensive practices through interacting in a group. We have meetings during the year, so there are chances for the growers to learn from each other, not only in terms of growing, but how to inform the consumer about what CORE Values products are as well. *[To become a Core Values grower, a rigorous inspection and certification process must be passed first--Ed. note.]*

NL: Do you use CORE Values labeling?

JB: There are stickers for individual apples and packaging which identifies a CORE Values fruit, grown using ecologically friendly methods.

NL: Why did they decide to work with you specifically, the New York and New England growers?

JB: Another aim of the CORE Values group is to try and preserve the rural landscape. The economic reality is that if the grower can't make it as a farm, they'll most likely sell, and it'll become houses. The dangers of pesticides ... I'm trying to think of how to say this ... Mothers and Others still encourages people to buy organic stuff. They haven't changed. They like organic better than they like anything with chemicals, but they realize that in various parts of the country certain crops can't be grown without pesticides at this point in time. The relative health risk from the minute amount of pesticides that somebody has on their food or the minute environmental impact of using pesticides in a well-structured, responsible pest management program is minuscule, compared to the environmental impact and the impact on communities of having farms go out of business and turn into housing developments. You can stand on your high hill, wave your flag and say, "I won't accept anything less," and have your world fall apart around you, or you can try to find a middle ground and work from there, and that's basically where we're at.

NL: You effectively eliminated the problem of apple maggots, the main apple pest, through natural means, right?

JB: In about 80% of the orchards, that's true. There won't be an insecticide spray applied between now and harvest. When it is applied, it is to an apple as big as my thumbnail. It's then going to have June, July, August, and probably September, four months, with no other insecticide sprayed. These materials have EPA tolerances developed that would allow spraying up to a week or two before harvest. Also, we're not using the highest dose which would be allowed; and with four months instead of two weeks of time for the residues to degrade, the chances of there being an insecticide on a lot of our apples is pretty remote.

NL: So Jonathan, do you wash your apples before you eat them?

JB: I wipe 'em off on my shirt! (laughter)

On a final note: My sister has started a great new job. We are all happy for her. On the subject of whether to buy organic or CORE Values, with renewed motherly confidence, she states: "I'll buy both! CORE Values for apples and bulk stuff, organic for lettuce and other veggies."

What a concept!

Mothers & Others

After speaking with Jonathan Bishop, I gave a call to Mothers & Others, the Manhattan-based group who began the CORE Values program. I spoke with program associate Francine Stephens:

NL: Give me a little background on Mothers & Others.

FS: Mothers & Others was created in 1989. It grew out of a concern about pesticides in children's food. Two Connecticut mothers --Meryl Streep and Wendy Gordon-- started it with the Natural Resource Defense Council (NRDC). In 1992, we became an independent nonprofit organization and left NRDC. Our mission is to create environmental change in the marketplace and to center primarily around children's health issues.

NL: Are you pro-organic?

FS: Looking at the pesticides in children's food, one great option is organic food, and we still very much promote it; our program director sits on the National Organic Standards Board (NOSB). But over the years we've come to the conclusion that there are larger issues than just buying organic.

NL: For instance?

FS: If we don't support local farmers, we won't have local farms any more. In the Northeast we have humid air and moist soils, and because of these reasons, you really cannot, on a commercial level, grow organic apples. But, there is a great alternative, and that's Integrated Pest Management (IMP).

NL: Right. So you see farming on a continuum -- from the best being no pesticides, to responsible use of pesticides?

FS: Exactly. If you look at what IPM means, you can have chemical-dependent to organic. IPM is anywhere in between. Another part of CORE Values is encouraging growers to push the IPM envelope, weather permitting. Some seasons have more pest pressure than others, but the program every year works toward more biological control, biointensive production methods. This year, a grower may be using a chemical that is not considered the safest, but next year, he or she will find another alternative because they have gained knowledge through other growers in the program. CORE Values growers are some of the most cutting-edge farmers I have ever met.

NL: What else does CORE Values do?

FS: CORE Values is an eco-labeling program. It's two-fold. The first part of it is educational. We have a slew of educational materials for consumers about why it's important to support local ecologically responsible agriculture. The second part is marketing. We have these great growers out there using innovative and responsible techniques, but if they're not in the market, it doesn't make a difference. For instance, last week we secured the entire Manhattan school district --160 schools-- all of which will be serving exclusively CORE Values apples this year.

NL: That's excellent! Thank you for your time.

The entire Manhattan school district --160 schools-- will be serving exclusively CORE Values apples this year.

It's apple pickin' season...

Where can I find a Connecticut CORE Values Grower?

Belltown Orchards
Southt Glastonbury
860/633-2789

Bishop's Orchards
Guilford
860/453-2338

Holmberg Orchards
Gales Ferry
860/464-7107

Lyman Orchards
Middlefield,
860/349-1793

Starberry Farm & Hallock Orchard
Washington Depot
860/868-2863

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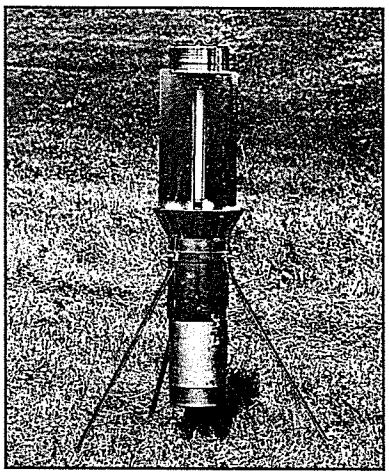
Monitor insect pests with Black Light Trap



This 15-watt Black Light Trap (Item No. RAB111) is a good tool for monitoring insect pests day or night.

Do you apply costly insecticides year after year without knowing how much is needed? Do you know if you're spraying at exactly the right time to minimize pest damage? Monitoring insect populations by trapping can help assure that you treat insect pests at precisely the right time, and only when needed.

Insect traps come in many sizes, shapes, colors and scents to attract different types of insects. Apple maggots are attracted to traps that look and smell like apples. Wing Traps attract many types of flying insects. Black Light Traps attract such insects as European corn borer, codling moth and cotton bollworm simply by the light they emit.

Now there is a new Black Light Trap you can use for pest monitoring (Item No. RAB111).

Here is how the trap works:

The 15-watt black light attracts insects toward the trap. The insects hit the stainless steel trap sides, falling into the 3-gallon catch can. Then they can be identified and recorded. If the number of insects you trap suddenly increases, this may mean you need to adjust your pest control program.

The trap is lightweight for easy transportation between sites. It can also be ordered with a 12V DC power supply and photocell switch (Item No. RAB211, battery not included).

For more information on the Black Light Trap and other insect traps, contact GEMPLER'S at Ph: 800/382-8473 or 608/424-1544; Fax: 800/551-1128 or 608/424-1661; or E-mail: gemplersipm@compuserve.com

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IPM Success Stories

CORE Values growers practice IPM

Apples bearing this CORE Values Northeast seal are grown by farmers accredited in knowledge-based, biointensive IPM production methods.

Is achieving a certain number of points on a scale of IPM practices the only way to measure IPM success?

No, says Mothers & Others for a Livable Planet, sponsor of the CORE Values Northeast program. CORE Values Northeast – whose IPM accreditation program is "knowledge" based – is currently working with 21 growers in the Northeast to supply IPM-grown apples to supermarkets and consumers.

"Our system is a knowledge-based system. We want to know the thinking process behind decisions. So if one year, a grower decides to use a certain pesticide, we want to know the reason behind that decision and whether it was IPM-based," program assistant Francine Stephens says.

The CORE Values Northeast Farm Plan, the basis for accrediting growers, asks such questions as, "What key lessons learned from past efforts to manage pests guide your decisions today?" and "What do you consider your most important challenges in managing soil fertility?"

In addition to submitting a comprehensive Farm Plan, growers receive an unscheduled visit from a third-party inspector who asks to see pesticide use records and helps "verify that what the grower said is true," Stephens says.

Stephens, who said CORE Values growers are "pushing toward biointensive IPM," noted that the growers' apples are being sold in such supermarkets as Big Y (a supermarket chain in New England) and D'Agostino (which has 25 stores in the New York City metropolitan area), as well as at farm stands and Pick-Your-Own operations.

"We are working to get into the public schools and corporate cafeterias," Stephens says. "We will do a full-scale evaluation of our program at the end of 1999. We want a quantifiable way to determine the success of our program."