1994 NE SARE Professional Development Program

Final Report

Section I General Information

1. Project Number	ENE94-3
2. Funding Period	20 months
3. Project Coordinator	Dr. Jane Mt. Pleasant 300 Caldwell Cornell University Ithaca, NY 14853 607-255-5991, e-mail <jm21@cornell.edu>
4. Type of Report	Final
5. Date of Report	18 July, 1996
6. Reporting Period	July 1994-March 1996
7. Major Participants	R. David Smith 278 Roberts Hall Cornell University Ithaca, NY 14853

8. Cooperators--(Conference panelist, planning committee and the farm tour speakers are provided in Appendix)

Cooperative Extension	William Cox, Dept. Soil, Crop and Atmospheric Science Paul Curtis, Dept. Natural Resources Paul Eberts, Dept. of Rural Sociology William Pardee, Dept. Plant Breeding and Biometry John Peverly, Dept. Soil, Crop and Atmospheric Science Warren Stiles, Dept. of Fruit and Vegetable Science Gerald White, Dept. of Agricultural Economics Merrill Ewert, Dept. of Education David Deshler, Dept. of Education Nate Herendeen, Niagara County Charles Elrod, Dept. Animal Science Tom Weiler, Dept. Floriculture, Ornamental Horticulture Judy Green, Farming Alternatives Program Carl Bannon, Cortland County Martin Culik, Genesee County Beverly McIntyre, Soil Crop and Atmospheric Science

NRCS	Fred Gaffney, Syracuse/Onondaga
Non-Profit	Alison Clarke, NYSAWG Dick DeGraff, President NOFA, North Country Chapter
Farmers	Mike Kane, Shamrock Hill Farm, Port Crane, NY Allan Buddle, Orchardland Family Farm, Interlaken, NY Brian Caldwell, Hemlock Grove Farm, West Danby, NY Willard DeGolyer, Table Rock Farm, Castile, NY
Other	Danny Fox, Dept. Animal Science Suzanne Cady, Administrative Aid Bernadine Italiano, Administrative Aid Janet Hawks, Administrative Aid Nate Leonard, ProDairy R. David Smith, CCE Administration Eleanor Jacobs, American Agriculturist Magazine Janet Fallon, Agway Research Farm Dick Dale, Central NY Crop Management Association Janice Handy, Country Folks Newspaper

9. Project Status	End of Project--Final Report
10. Statement of Expenditures	Statement included in Appendix. (In addition, a statement was sent in May 1996 from Cornell's Sponsored Fund Accounting Office.)

Section II Final Report

1. Objectives

The original grant proposal contained five objectives. The author, Dr. Jane Mt. Pleasant, was advised by the NE SARE program office to focus only on objective two of the original proposal. That objective is listed below.

Objective Two. Train "multipliers" on the differing perspectives toward sustainable agriculture among agricultural stakeholders and how to integrate these perspectives in local extension programming and farm management recommendations.

2. Abstract

The purpose of this two-year project was to provide Extension personnel, USDA agency field staff and other local multipliers with a forum to learn more about the diversity of views surrounding sustainable agriculture. It was intended that this knowledge would then be integrated into local extension programming and farm management recommendations.

Building on two previous in-service sessions for Extension field staff in NY, a regional conference on sustainable agriculture for "multipliers" (Extension field staff, government agency staff, agricultural industry advisors and consultants, and farmers) was held in February 1995. We asked farmers, community leaders, government agency staff, consumers and environmentalists, as well as Extension field staff and faculty to act as presenters, panel participants, and facilitators for the workshop.

The conference included: 1) presentations on the varied perspectives and agendas that shape discussions on sustainable agriculture in the Northeast; 2) methods for integrating complex information and competing values in extension and public education programs on sustainable agriculture; 3) tools and techniques for implementing sustainable agriculture on the farm including management practices, software programs, marketing options, and government programs and policies; 4) participation in case study teams that will incorporate multiple perspectives and use interdisciplinary resources to examine specific farm management problems;

and 5) innovative programming ideas for introducing sustainable agriculture objectives in local extension and public education efforts.

Additionally, specific tools and processes germane to sustainable agriculture were presented to NRCS and Extension personnel, farmers and other interested parties at a satellite workshop on a cooperating NY farm. Examples included: whole farm planning, holistic resource management, cultivating farm/community relationships, rotational grazing schemes and innovative marketing.

3. Specific Project Results

A. Accomplishments

"Farming for the Future: Partners in Stewardship" Conference in Syracuse, NY (February 22-23, 1995). Building on the successful series of "Transitions" conferences sponsored by Cornell University, this conference focused on providing productive dialogue among the various groups of people concerned with the sustainability of agriculture in the Northeast. Attendees totaled 170 (including speakers) and represented a broad cross section of: the farming community; community development planners; consumer advocates; environmentalists; government; university teaching, research and extension staff; students; and agricultural consultants. Fifty-five workshop speakers, panelists and facilitators led nine workshops, a panel presentation, keynote address and summary session. Presenters represented academia, farmers, consumers, community development and government. A 1 1/2 hour resource fair was included.

Sample workshop topics included: *Holistic Resource Management: a useful tool for land use planning*; *Can landscape plants be produced and managed sustainably?* (A participatory case study approach was used.); *Does sustainable agriculture affect farm labor?*; and *Are fruits and vegetables safe to eat?* The panel topic was titled, *Understanding diverse perspectives*. The summary session was titled, *Building local partnerships* (an interactive approach, utilizing conflict management tools was used).

An evaluation form was used to assess conference effectiveness. Sixty forms were completed and summarized. Proceedings of this conference were compiled and distributed to interested parties.

Conflict resolution training workshop—Cornell University December 14, 1994. In preparation for the above Conference, and in anticipation of potential conflicts among participants/speakers, a two hour workshop in conflict resolution was organized for some of the presenters. The workshop focused on teaching specific skills to aid in discussion facilitation, how to present case studies and the basic nature of conflict.

Farm Tour—Table Rock Farm in Castile, NY (August 17, 1995). To further satisfy objective two above a farm tour was held. More than 120 agriculturists gathered at the farm of Calvin and Willard DeGolyer for a one day workshop titled "Sustaining Agriculture in New York State with Agriculture Environmental Planning." This 850 cow, 900 acre dairy farm was used to demonstrate sustainable dairy practices such as narrow row corn, manure storage and field injection and silage leachate processing through a manure handling system. Eleven speakers addressed additional topics included: Voluntary Farm Environmental Planning; New York State Responsible Environmental Agricultural Proposal (REAP) and plans for compliance; Farm Environmental Assessment; and Maintaining Favorable Farm-Neighbor Relations.

B. Publicity for the Activities and Programs

Farming for the Future: Partners in Stewardship Conference

- Cornell news service press release to agriculture and general media (Appendix)
- Conference brochure distributed to 9,200 individuals in organizations such as the Farm Bureau, NYS Soil and Water Conservation Districts, Agway stores, LEAD-NY alumni, NRCS offices, NY SARE office, etc. (Appendix)
- Pre- and post-conference articles in Farming Alternatives newsletter (Appendix)
- Articles in local newspapers
- Publication and distribution of conference proceedings (Appendix)

- News brief of Conference in the American Agriculturist Magazine
- Advertisements in various newsletters (e.g., The Green Drummer, NE SAWG, etc.)
- Announcements in a variety of Cornell forums
- Various electronic bulletins including: CCE Master Calendar, SANET, CENET,
- Letters to CCE Ag Program leaders, Association Directors and Department Extension Leaders

Table Rock Farm Tour

- Brochures printed and distributed to members on the above conference mailing list, and various other organizations, such as the Farm Bureau, NYS Soil and Water Conservation Districts, Agway stores, LEAD-NY alumni, NRCS offices, etc. (Appendix)
- Cornell news service press release to agriculture and general media
- Articles in newsletters such as NY SAWG News, NYS Vegetable Growers,
- Various electronic bulletins including: CCE Master Calendar, SANET, CENET,
- Letters to CCE Ag Program leaders, Association Directors and Department Extension Leaders

4. Potential Contributions and Practical Applications

A. Trainee Adoption and Direct Impact

Farming for the Future Conference. Evaluations were completed by conference attendees. A summary of these evaluations is provided (Appendix). The two page evaluation form asked attendees to rate each conference workshop on a three point scale; asked for an overall conference evaluation on a four point scale; and asked attendees to place themselves in one of five "groups" (i.e.: farmer, consumer advocate, etc.). Written comments to specific questions were also solicited. On the question, "Overall, how successful was this conference in meeting your needs?" respondents answered: Outstanding--17%, Good--80%, Fair--3%, Poor--0%.

Conflict Resolution Workshop. A debriefing session was conducted at the end of the workshop. Participants discussed ways in which information learned in the workshop could be incorporated

during the conference. Discussions focused primarily on how to facilitate and encourage dialog between people with diverse opinions.

B. Potential Benefits or Impacts

Farming for the Future Conference. The overriding purpose of the conference was to create a forum for discussing diverse agricultural perspectives. This was accomplished by:

1. providing presentations on the varied perspectives and agendas that shape discussions on sustainable agriculture in the Northeast;
2. discussing methods for integrating complex information and competing values in extension and public education programs on sustainable agriculture;
3. showcasing tools and techniques for implementing sustainable agriculture on the farm including management practices, software programs, marketing options and government programs and policies;
4. participation in case study teams that will incorporate multiple perspectives and use interdisciplinary resources to examine specific farm management problems, and ;
5. presenting innovative programming ideas for introducing sustainable agriculture objectives in local extension and public education efforts.

The conference was designed to involve maximum interaction between presenters and attendees. It is hoped that participation in this conference allowed farmers, Extension workers, environmentalists, community development planners and others to better understand the diverse perspectives inherent in sustainable agriculture. In addition, tools were presented and developed to help diverse stakeholders reach consensus over problematic issues. Anecdotal evidence suggests that many new communication links among diverse stakeholders were formed and continue to be maintained as a result of this conference.

Table Rock Farm Tour. The farm tour provided an opportunity to further the objectives of the conference. Many of the tools and practices presented during the conference were showcased on the DeGolyer farm. The main purpose of the farm tour was to explore some of the complexities involved in whole farm planning. Farmers, Extension personnel and others were able to see and

discuss practical solutions to the specific whole farm planning challenges faced on the DeGolyer farm. Discussions involved governmental regulations, nutrient management, maintaining good farm and community relations and a detailed accounting of how the DeGolyer's approached whole farm planning on their farm. As with the conference, the farm tour was designed to be participatory—encouraging interaction between presenters and audience and among attendees.

C. Feedback from Farmers

Members from the farming community were included in the planning for the conference and farm tour. Farmers were well represented both as attendees and presenters at the conference and farm tour. Approximately one third of the conference attendees were farmers. Some farmer comments from the conference are listed below:

- *...may use some of the processes of decision making discussed in the Holistic Resource Management (HRM) workshop.*
- *...policy information with city and state officials and other organizations was useful.*
- *All sessions had great diversity of organizations.*
- *...will try to work more cooperatively with groups concerned about food system and security.*
- *...will do more research on environmental and farm management practices before we change and improve.*

5. Individuals Involved--Number of extension and/or NRCS personnel in attendance:

Conference Planning Meetings	13
Farming for the Future: Partners in Stewardship Conference	43
Conflict Resolution Workshop	5
DeGolyer Farm Tour	32

6. Future Recommendations and Areas Needing Additional Professional Development

There remains a need to provide forums to bring people with diverse perspectives together around issues relating to sustainable agriculture. Great strides have been made in building communication links between NYS's organic producers and New York's land grand

professionals. More needs to be done to better educate each party to the needs and concerns of the other.

The efforts described within this report fit well into past Cornell "Transitions Conferences" and provided part of the impetus for current efforts such as the spring '96 NE SARE funded Farming for the Future: A Leadership Initiative for Community Agriculture Development, and the associated farm follow-ups.

7. List of Participants--See Appendix

Appendices for Farming for the Future: Partners in Stewardship

Farming for the Future : Partners in Stewardship

Proceedings

February 22-23, 1995
Sheraton University Inn and Conference Center
Syracuse, NY

Edited by: Bernadine J. Italiano
John Peverly

Conference Sponsors:

Cornell Cooperative Extension
Agway
American Agriculturist
Central New York Crop Management Association
College of Ag.riculture and Life Sciences at Cornell University
Cornell Farming Alternatives Program
Finger Lakes Organic Growers Cooperative
Natural Resources Conservation Service
New York Sustainable Agriculture Working Group
Northeast Organic Farming Association - NY. Chapter
Pro-Dairy Program at Cornell University

*Funding provided by the Sustainable Agriculture Research and Education (SARE) Program - Northeast Region.

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I. INTRODUCTION:

Welcome: Jane Mt. Pleasant, Professor, Cornell University, Soil, Crops and Atmospheric Sciences

Welcome to all. Before we get started we must acknowledge contributions that made this conference possible: SARE and a myriad of other sponsors; Suzanne Cady, Judy Green and Sarah Prout and many others worked tirelessly to make this happen.

The question might be, why have this conference? The popular opinion these days is that the government should reduce its responsibility towards agriculture, since there are so few farmers. I believe agriculture is important. Agriculture defines our environmental purpose - it sets the tone for environmental policy and interaction. Agriculture is critical to environmental quality and preservation of the resource base. We must involve all people in the discussion on the future of farming, as farming affects the future of us all. Because of its definite effect on the environment, everyone involved should have a say.

When we talk about the future, do we mean next week, next year, how many years from now? In certain Native American cultures, the future means 7 generations. Maybe when we talk about the future of agriculture we could keep in mind our families 7 generations from now. We should think about the lives of these people - about 200 years in the future - when we decide what our agriculture should look like today.

II. CONFERENCE AGENDA

Wednesday, February 22, 1995

Welcome Address: *Jane Mt. Pleasant*

Opening Panel Discussion:
"Understanding Diverse Perspectives"
Moderator: *Gerald White*
•Production Agriculture: *Keith Eckel*
•Food Systems: *Jennifer Wilkins*
•Environment: *Greg Watson*
•Rural Communities: *Jim Barney*

Concurrent Workshops:
•Can dairy farms coexist with clean water?
Workshop Leaders: Dan Fox & Merrill Ewert
•Holistic resource management: a tool for land use planning?
Workshop Leaders: Willie Gibson & Judy Green
•Are fruits and vegetables safe to eat?
Workshop Leader: Donna Scott

Keynote Address:
"Building the Bridge: Agriculture and the Environment"
Greg Watson, The Nature Conservancy

Thursday, February 23, 1995

Concurrent Workshops:
•Innovative management and marketing options for cash grain production
Workshop leaders: Bill Cox & John Myer
•What are the economical and environmental impacts of intensive rotational grazing?
Workshop Leaders: Darrell Emmick & Nate Leonard
•How does sustainable agriculture affect farm labor?
Workshop Leaders: Tom Maloney & Herb Engman
•Does nutrient management of fruit and vegetable production affect the environment?
Workshop Leaders: Warren Stiles & Brian Caldwell
•Do new developments in federal, state and local agriculture policies promote sustainable agriculture?
Workshop leaders: Nelson Bills & Elizabeth Henderson

Summary Session:
"Building Local Partnerships"
Workshop Leaders: David Deshler & Merrill Ewert

III. PANEL DISCUSSION:

"UNDERSTANDING DIVERSE PERSPECTIVES"
Moderator: Gerald White, Agricultural Economist, Cornell

Overview

Managing change is the key to the future. Production agriculture has changed in direct proportion to the availability of information. Agriculture will continue to change, but that change will accelerate to breathtaking speeds. The farmer who is best prepared to handle the forces of change will be the most successful. That farmer who is willing to embrace these changes, but more importantly shape these changes, will have immense opportunities. We must remain competitive to continue success as a farmer. That will be more difficult because we are competing on a global basis. There are political forces that could have negative impact on food production. The future of production agriculture hinges on three major considerations: (1) how we deal with changes in technology; (2) how we manage and use new knowledge, and (3) how we control our business environment, both politically and economically.

A. PRODUCTION AGRICULTURE:

Keith Eckel, President, Pennsylvania Farm Bureau

If there has been one constant in American agriculture during the 20th Century, that constant has been change. Since 1930, when one-third of the US. population was involved in food production, nearly 28 million farmers have left the farm to pursue other productive non-farm careers. High-yield agricultural technology has caused food production to dramatically increase, while cultivating fewer acres today than in 1900. U.S. agriculture functions in a global economy; even before the coming of GATT and NAFTA, $4.5 trillion in trade was occurring annually. The average U.S. consumer spends less than 11 percent of his disposable income for food. Most low income consumers from New York to Bangladesh have improved their personal nutrition because of the amazing productive capacity of U.S. Agriculture. It is easy to see why I am an advocate for U.S. agriculture and not an apologist.

The loss of farmers has been drastic. But it will continue; by year 2000, 800,000 farmers will feed 85% of the U.S population. Every world resident is a potential customer and a potential competitor. U.S. agriculture will have tremendous inside market potential in the next few decades with global export sales growing at an annual rate of 2.5 to 5 percent. U.S. producers of food and fiber will have to continue to diligently pursue more competitive production strategies, techniques and systems.

Our main challenge is to maximize competitiveness while meeting our environmental goals. Once 33 percent of us were farmers, now it is less than 2 percent. Agriculture policy is created by non-farmers. The challenge is to shape change, not resist it. We must look forward. We now feed 250 million on less land than we used in 1900. Our population will continue to increase and the availability of land decrease. We can not bring in more land. High yield agriculture has increased the world standard of living. It is fundamental to future growth and to the environment. Can we increase growth and meet environmental goals? History says, yes we can.

On my own farm, we have halved fertilizer use from 12 years ago. Sound research has allowed for more environmental farming that is still high yield. I save $17,000 a year on fertilizer costs. The point is that there are new techniques that allow us to reach both goals: production and environment.

The cost of government agricultural regulation is $550-600 billion a year. Three percent of the GDP is agricultural: 35 percent of that goes to pay regulatory costs, 20-25 percent goes back to the government in taxes, and this does not leave much for the farmer. Indeed, the greatest challenge for U.S. farmers and ranchers in the next century will be to achieve our nation's environmental goals, while enhancing our competitiveness in the production of food and fiber . I personally view the challenges facing U.S. agriculture with optimism. During the past 13 years, we have incorporated fertilizer banding techniques into our tomato, sweet corn and pumpkin production systems. We have reduced fertilizer applications by 50 percent. At the same time we have improved yields, benefited the environment and increased our profitability. We have reduced pesticide applications by one third during the past five years through implementation of integrated pest management systems and best management practices developed by applied research. Obviously, these practices provide us with significant economic and environmental benefits.

Technologies will continue to allow us to produce more while becoming more environmentally friendly. It is critically important to note, however, that the use of these practices demands increased management and technical skills. Government mandates to decrease the use of pesticides and chemical fertilizers would be an economic disaster without recognition of regional climatic and crop specific differences. Only the producer at the local level can evaluate these factors accurately on a daily basis and make the necessary production system decisions.

Agriculture's number one goal is to profitably produce safe, high quality, competitively priced foods to meet the needs of a growing population. Development of new production systems is dependent upon continued research with animal and plant genetics, nutrition and disease controls. Our limitations in addressing the challenges of the future will only be significant if we choose to resist rather than shape the changes that will affect agriculture.

Consistent with my beliefs that an environmentally sound and economically viable agriculture is dependent on farmers making their own educated production decisions, is my belief that respect for private property rights is key to environmental quality. No individual or group of individuals will make long term investments in conservation practices such as diversion ditches, land terraces, or properly engineered water ways, without the assurance that their property will not be taken from them without compensation. It is this constitutional guarantee that has encouraged the accumulation of wealth and given our citizens the ability to develop our nation's economic capability.
Indeed, farm families across America work all their lives to make certain they leave their land better than they found it.

It is for these reasons that I believe that respect for individual's private property rights is key to environmental quality rather than its antithesis. The farmland preservation program in Pennsylvania, supported by Pennsylvania Farm Bureau and pro-active environmental groups like American Farmland Trust, is an excellent example of an environmentally keyed program that recognizes private property rights. But there are new political forces out there: animal rights, food safety, pressure to balance the budget and do away with farm programs, and environmental interests. Farmers should not think the programs will continue indefinitely, they won't.

Above all, the future of U.S. agriculture is dependent upon a common sense approach to regulatory policy. This common sense approach must be scientifically based and legislatively defined. Neither industry nor our society can afford regulations geared to vague benefits without any analysis of cost. Neither can the farmers and ranchers within the industry survive the complexity of regulations that start as one page documents published in the Federal Register and then expand to a 140 page books such as the Worker Protection Standards Manual. The protected employee cannot enjoy benefits when regulations cause such confusion. Indeed, it is estimated that U.S. farmers and ranchers spent $18 to $21 billion last year to comply with regulations affecting agriculture. That figure is 35 percent of the total net profit earned by farmers and ranchers and adds to the pressure on farmers to structurally change into larger operations to carry the overhead cost of regulatory compliance. Meanwhile our national goals for a safer food supply, a cleaner environment and a more competitive, economically strong agricultural industry have been set aside. Common sense policies will create a positive political and economic agricultural climate for the 21st century. Such common sense policies must consider our food safety and environmental goals with respect for private property rights; must recognize the need to enhance the efficient productivity of food and fiber for tomorrow's consumer, and must use scientific analysis of problems rather than emotional reactions to them. The challenge, of course, is achieving our environmental goals while increasing our competitiveness. We have the resources and the

ability to meet this challenge. I urge you to join with me in looking at U.S. agriculture as I do: Looking back with pride and ahead with confidence!

Questions:

How can you say we should look back on our agriculture with pride? It was built on the backs of exploited native peoples and immigrants and it has caused tremendous environmental destruction. Look at the Everglades, at the Colorado River, now it's just a trickle when it reaches the gulf.

Response:
Our agriculture is as high yield as it is environmentally friendly. If we were to switch to less high yield methods, we would need 5 times the land. That would really mean the destruction of all kinds of nature. So, high yield agriculture is very environmentally friendly.

Where did you get the figures from, the 5 times as much land?

Response:
Dr. Borlaug, agronomist and plant breeder, and Nobel Laureate. He gave these figures to the government in testimony.

What do you think about the idea of green payments?

Response:
In the 1995 Farm Bill, is the agriculture program a social program or a production program? The difference involves food security. The new farm programs will not have subsidies tied to any particular crop. This will be more environmentally friendly.

B. FOOD SYSTEMS:

Overview

Consumers have the potential to shape the future of farming through their ever changing, often fickle preferences. Nutrition, food safety and quality, and price will likely continue to be important factors in consumer food decision-making. Environmental issues are increasingly important to consumers. Is the food supply offering choices that, when made, encourage a sustainable food and agriculture system? What are the barriers to consumer participation in developing such a system? What are the opportunities? Increasing awareness of the environmental consequences of food choices will likely improve consumers' ability to participate in shaping a sustainable food and agriculture system.

Jennifer Wilkins, Nutrition Educator, Cornell Cooperative Extension

There are diverse viewpoints on sustainability. While many look to decisions made on the farm for answers to the environmental and social problems that agriculture faces today, my area of focus is consumers and eaters, the food choices that are available to them, and the health and environmental implications of their food choices. If this were a nutrition conference it might be called "Eating for the Future".

There is an incredibly large variety of fruits and vegetables from all over the world available right now, right here in NY. The food supply teaches consumers amazingly little about the past, present or the future of farming in their regions. It is nearly void of seasonal variation in the produce section; and while giving the illusion of choice, is lacking in some very important ones for consumers interested in adding stewardship to their diets. I hope to convince you that just as nutritionists need to become reacquainted with agriculture and the rest of the food system, so can farmers benefit by collaborating with nutritionists. Consumers have the potential to shape the food and agriculture system through their food choices. But there are several barriers that they face in doing so.

Consumers have a lot of influence. Typically, nutritionists specialize in creating diets and telling you what's good for you. Nutritionists have overlooked the food supply and the long term sustainability of food resources. As consumers, most of us are oblivious to how and where our food is produced, packaged, and transported. Such considerations are relevant to nutritionists as well as farmers. All of us as consumers have an obligation to be involved in shaping the food system that produces, processes, packages and transports foods in ways that are sustainable. Few consumers today have any appreciation of non-farm decisions and most have only a vague awareness of the sources of their food and the steps involved in bringing food from the farm to the table.

In order for consumers to consider some of the broader implications of their food choices, at least two necessary but perhaps not sufficient, conditions must be met. First, consumers must be aware of the connections between their food choices in the marketplace and effects on the environment and their communities. Second, the marketplace needs to provide appropriate and competitively priced choices for consumers.

At the far left of this continuum of consumer concerns about food, we find basic survival (what is and is not food, how to collect or hunt enough food, how to acquire access to food, how to allocate limited monetary resources to buy enough food, and so on.) Next is a concern about optimizing health and avoiding disease through diet (that is prudent food selection, avoidance of fat, sodium and simple sugars, and inclusion of high fiber foods). Finally the continuum contains what might be called "full belly" considerations. When survival and health concerns are satisfied we can entertain thought about the quality of food-producing natural resources, the effects of agricultural practices on the environment, and how individual food choices and policies impact upon the natural environment, animal welfare and the welfare of other peoples in the world. The connections between what we eat and the environment seem to be better understood and more popularized at least among some consumers.

Continuum of consumer concerns:

Survival.....Health.....Environment.....Ethics

So the question then becomes, how can consumers display this concern and awareness in the supermarket? What are they being taught about food and diet that will help them make "sustainable food choices" if you will?

The 5-a-day campaign, while laudable for its promotion to increase fruit and vegetable consumption, is void of any consideration of how the potential increase in demand for these plant foods shall be met. In most parts of the world there is significant seasonal variation in available locally produced plant foods. Therefore, adoption of dietary advice to increase fruits and vegetable consumption presents challenges and opportunities for domestic production as well as global suppliers. Currently, approximately $1 billion worth of fruits and vegetables are shipped into New York state each year.

The government creates food guides and a new one comes our way every few years. Now we have the food pyramid. The emphasis in this guide is on disease prevention. But this guide and others do not talk about the environmental effects of choosing to eat these foods in any specific time or place. We need to increase the emphasis on local food production, we need new considerations of food and food science.

With the help of many in the sustainable agriculture movement and some nutritionists, many are starting to share this sentiment expressed by Gussow and Clancy, in their 1986 paper on "sustainable diets" - That in addition to health, another list of factors are becoming relevant considerations in directing dietary change.

Emerging Issues for Dietary Guidance:

- Natural resource use and environmental quality (Farmland Preservation)
- Socio-economic conditions of individuals and families
- Ethnic diversity/cultural identity of our diverse populations
- Ethical issues - human and animal rights are becoming increasingly important among consumers

Supermarkets overwhelm us with choices that do not allow us to think about these things. Consumers are legitimately confused. The rate of new product introduction is staggering: 33 new products a day. Product proliferation is not driven by any of the concerns listed above. There has also been a dramatic growth in media advertising for food, $7.6 billion last year. Are farmers better off because of product proliferation? No. The Percentage of dollars that goes to the farmer is decreasing. We debate food safety very narrowly. We focus on pesticide residues and human health. But accurate estimations are hard to find and these do not take into consideration the health of the system.

The next barrier for consumers is the limited number of cues in the supermarkets as to which food choices will accomplish health and environmental goals. And our supermarkets today are overrun with choices that are clearly not of the sustainable variety.

But perhaps a broader perspective about what food safety entails is more appropriate. As Richard P. Haynes, who wrote in Choices Magazine in 1991 stated, "the meaning of food safety should include whether the food is produced in a manner that is safe for those involved in its production, such as field laborers, whether the production of farm inputs generates toxic contaminants that victimize people who are not directly involved in farming and whether the production and related policy systems provide economic safety and protection for those affected by technologies."

Potential Benefits of Localizing Food Supplies:

- Energy conservation
- Decreased reliance on distant food supplies
- Regional self-sufficiency
- Food security
- Stability in the agricultural sector
- Rural community economic viability
- Carrying capacity - thinking regionally in terms of meeting food and fiber needs may provide a better understanding of capabilities to meet human nutrition needs in sustainable ways for the long term.

The results of a consumer survey indicated they believe that:

- Local food is better; it is fresher and tastes better.
- Consumers should have more local foods available to them.
- Buying local foods helps keep farms viable.
- Consumers would be willing to pay more to help farms survive.

Questions:

Is there information needed to encourage farmers to grow organically?

Response: They have it now, there are many organic certifying agencies and they have a lot of information for farmers. We should educate consumers. We should tell consumers that growing organically is a different way of growing food.

Where can I get more information about organic farming and these certifying organizations?

Response: See a New England Organic Farming Association representative.

There is no list of guaranteed successful methods in organic farming, not yet anyway, not until the land grants get involved in research on organic farming.

C. ENVIRONMENT:

Overview

Congress is considering drastically reducing government's role in protecting the environment via regulations. It is imperative that the sustainable agriculture community seize this opportunity to make concrete proposals as to how federal agriculture policy can be redesigned so as to benefit farmers, consumers, rural economies and the environment. We should talk about what it will take to transform current price support programs into a "Green Support Program" to provide farm income support in exchange for environmental improvements. Emphasis will shift away from paying farmers for growing program commodity crops (corn, soybeans, wheat, etc.) and towards encouraging environmentally-sound farm practices (IPM, crop rotations, manure management, etc.). The sustainable agriculture movement has got to demonstrate now more than ever, that building strong networks that include environmentalists, farmers and consumers is the best way to meet the new challenges.

Greg Watson, Eastern Regional Director, The Nature Conservancy

Wes Jackson from the Land Institute described agriculture as a very destructive process. Henry Wallace, Secretary of Agriculture in 1938, said "The earth is mother to us all... nature treats the earth kindly, man does not."

Modern agriculture is clearly productive, but has various problems which have strong historical roots. There is a high price paid for agriculture. However, high production cannot be equated with sustainability. Agriculture serves as the greatest source of non-point contamination in the country (e.g. pesticides, fertilizers). Erosion is another critical issue.

In 1862, President Lincoln established the Department of Agriculture, under the name of the People's Department. This department is charged with the continued sustainability of resources which belong to us all. This concept was easily understood by native Americans, in part due to their customary land tenure institutions. Thus, agriculture is broader than concerns about just the environment or farmers.

I grew up in Cleveland, Ohio, and became interested in the environment because it relates to people's welfare. In order to understand environmental problems, I believe that a systems approach is required. I have been associated with the New Alchemy Institute, where I developed practices and tools for environmentally friendly (and farmer friendly) agriculture.

The Hudson Institute reports that the greatest threat to biodiversity is organic agriculture, because it would require more land than is currently being used. But, at New Alchemy, 1/10 acre fed 13 people/year. They showed that it is

technically feasible. How do we create institutional structures to support sustainable technology? I believe that you cannot de-couple the environment from social/economic concerns. Marketing has proved to be key.

We need to change marketing options: Direct marketing, pick your own, roadside stands, etc. which can lead to greater variety and crop diversification.
The agriculture agenda has shifted. Farmers are not and should not be the only ones defining the agricultural agenda. We need coalitions to find common ground between environmental and production goals.

D. RURAL COMMUNITIES:

Overview

In the past, rural communities were often sustained by a dominant agricultural sector. This is no longer the case. Today, non-agricultural sectors dominate rural economies. Agriculture's sustainability is enhanced in economically healthy communities that actively support local agriculture's needs. In order to compete in the global economy, both the community and its agriculture must understand their common strategic positions. Links between the global and local economic environments will be presented. A quality systems approach borrowed from industrial management principles could apply directly to the issue of sustainable rural communities. Practical examples of how rural communities can enhance their competitiveness by strengthening local institutions will be discussed.

Jim Barney, New York Dairy Farmer

My family moved to Vermont in 1734, then to Pennsylvania and New York. Grandfather industrialized the family farm purchased by great grandfather in 1817. He taught sustainable agriculture and commitment to the community. The farm has industrialized, but the community has gotten poorer. Rural America was rapidly becoming a place where no self-respecting farmer would want to live. Rural America is not structured to take advantage of the American educational system due to its isolation.

I started dairy farming 30 years ago by investing my time and capital in the skills and assets of dairying. Those skills and assets have changed a great deal in 30 years, but it now seems that the rate of change necessary to stay competitive is increasing rapidly. Many will be unable to change quickly enough to sustain their current positions.

It seems to me there are two dimensions to sustainability. The first is external. It is our customers' needs and expectations of price and quality. In addition, our place communities have needs and expectations that will protect the environment and strengthen their institutions. The second dimension is internal. It is our individual and collective capacity to satisfy those needs and expectations. Our success will measured by our market share, profits and our resulting quality of life, however we choose to define it.

I compare the global economy to a ship. There is a global ocean, local waters, with suppliers spanning those two levels. The hull of the boat is organization. There is a 3-dimensional sail (debt, equity, human capital). A special information antenna connects boat with special interest groups (SIG). Consumers are up in the sky. We need to respect local diversity and build local capacity. If that doesn't work, non-local farmers prevail.

In my mind, the central issue of the sustainable agriculture debate is one of organization. Will farmers continue to allow the supplier and market sectors of the food and agricultural system to gain in their share of the food dollar while the farmers' share decreases? Will suppliers and/or marketers continue to vertically integrate farming into their operations? Isn't it about time farmers began to consider horizontal integration? Such a system would allow farming and rural communities to add more value through information. Farmers would collaborate with each other and other rural community based businesses and institutions for such purposes as marketing, technology development and supplier sources. Farmers would stop allowing themselves to be divided by such things as commodity groupings, cropping practices, sources of technology, the "sustainability" of different farming practices, market niches and the ideologies that support the divisions.

Instead, farmers would be the organizing force and reap the benefits of creating and controlling the organization. By using concepts like strategic planning, Total Quality Management and marketing (TQM), all common in larger organizations, farmers could begin to reverse the trend toward poorer rural communities.

Five Total Quality Management Criteria:
- Leadership
- Information and analysis
- Strategic Quality planning
- Human Resource Excellence
- Customer focus and satisfaction.

Weighted for people stuff. Process is more important than technology. Experts are employees of agricultural industrial complex and their SIG's. Seek first to understand, and then to be understood.

Such sweeping changes can only happen in rural communities that are based on a few key values. These values would form the foundation of a vision that would focus the community. An abundance mentality must dominate. People must see the opportunity to grow and the expectation that people will grow must be widely held. Next diversity must be respected. Even more, diversity must be valued as an essential element in communities' ability to develop niche markets and creative approaches to the use of technology. People must have pride in their place community.

While it is true that information, ideas and influence can exist in the cyberspace of the global community, we must all go home to some place to raise our children. Healthy place communities with strong local institutions are fundamental. It is every citizen's responsibility to support his or her place community with both word and deed.

IV. CONCURRENT WORKSHOPS:

A. "CAN DAIRY FARMS CO-EXIST WITH CLEAN WATER?"

Overview

Dairy farms in New York State are challenged with protecting water quality while still meeting the goals of the dairy farmer. Protection of drinking water through the prevention of non-point source pollution has been identified by the regulatory agencies as the highest priority. Legislation for a voluntary plan for environmental planning to reduce non-point sources of pollutants in ground water from farms is in draft stage. This proposed plan will be outlined, followed by breakout sessions for group discussion on identifying barriers to getting 75% participation by the year 2000, and ideas for overcoming these barriers.

Workshop Panelists:

Rich Lewis, NY Soil & Water Conservation Commission
John Wildeman, Soil & Water Conservation Committee, Bath, NY
David Dodge, NYS Dept. of Agriculture & Markets
Dan Fox, Animal Science, Cornell*
Merrill Ewert, Agriculture Extension & Adult Education, Cornell*

Workshop Summary, Danny Fox, Animal Science, Cornell University:

Legislation has been drafted by a working group convened by the NYS Commissioner of Agriculture and Markets and the Dean of the Cornell College of Agriculture and Life Sciences. This working group includes farmers, college faculty, agribusiness representatives, and state and federal officials. The proposed plan was outlined at this workshop, followed by the identification of barriers to getting a high degree of participation within 5 years, and incentives needed to overcome these barriers, through group discussions by the participants in this session.

Presently there is a maze of federal (Clean Water, Safe Drinking Water, Coastal Zone Management, and Food Security acts), state, and local regulations designed to protect water quality and public health, wetlands, and other natural resources from impacts of agricultural non point source pollution. Regulatory concerns are nutrients (N,P), sediments, biological oxygen demand, toxins (pesticides, petroleum, etc.), and pathogens. The program in draft stage for legislation, **Responsible Environmental Agricultural Planning (REAP)**, is designed to provide education, technical assistance, and cost sharing to enable agricultural landowners and operators to voluntarily comply with regulations related to water quality and other environmental concerns. The goal is to have a high proportion of the 19,000 farms in the state participating in the program within 5 years.

The plan contains four participatory tiers; *Farmer Affirmation, Environmental Assessment, Non point Source plan for Specific Problem and Whole Farm Environmental Management Plan.* The minimum requirements for each tier depend on which of four watershed categories the farm is in (1 = source of unfiltered public drinking water; 2 = all other public drinking water supplies; 3 = PWP waterbodies with agriculture source and waterbodies of local concern and 4 = all other waterbodies).

Program participation is defined as completion of at least tier one, which is a questionnaire based on Agricultural Stewardship Principles and Standards (e.g. pesticide, nutrient, and soil erosion management practices) that the farmer completes. Tier 2 participation is for correcting minor problems identified in tier 1, with agency/consultant assistance as necessary. Tier 3 participation is for correcting one major problem identified in Tier 1, with agency/consultant assistance as needed. Tier 4 participation is for developing a full scale integrated plan to meet all environmental regulations.

Best management plan (BMP) implementation schedules are integral components of Tiers 3 and 4 plans, and will begin within one year after a Non Point Source Environmental Management Plan is prepared by a certified planner (certified agency employee or consultant). In order to be considered fully participating, a farmer must be following the BMP implementation schedule in his or her plan. This plan must include erosion and sediment control, waste water and runoff control from confined animal facilities, pesticides and other toxins, irrigation water, nutrient (crops and manure) and grazing management.

After the above introduction to REAP, the participants identified the following barriers to participation in this program;

<u>Cost</u>

- The cost to implement practices identified in the BMP's.
- Inadequate milk prices to cover the costs to implement the practices recommended.
- Lack of fairness for those who have paid for and implemented recommended practices without reimbursement while participants in the REAP program will receive cost sharing for implementing them.
- Availability/cost of consultant (private or public) to develop plans.
- Economic risk (e.g. nutrient management plan based on some predictions that may be of questionable accuracy, such as manure nutrients available under conditions that it must be applied; economic risk with loss in farm value or ability to borrow money if it has an identified environmental problem).

Technical and Education Problems:

- Inconsistent BMP recommendations and effectiveness
- Ability to educate farmers on the plan and motivate them to participate (lack of trust, competition for time and resources, etc.)
- Willingness to learn/implement new management required or to break from traditional farming practices and ways of doing things.
- Lack of an evaluation program to determine a farm's level of performance.

Land Control and Liability:

- Lack of penalties for noncompliance.
- Potential farmer liability when problems are exposed in questionnaire. Will the questionnaire act as a legal document?
- Continuously changing ground rules.

Unwanted Intervention:

- Farmers in denial of environmental problems.
- Lack of interest and trust in government programs.
- Perceived loss of land use and farming practices control by farmer. Farmers' heritage of independence and belief that they have the right to choose how the property they own is used.

Other concerns raised were who determines BMP's, signs off, and follows up on them; how much environmental control is really necessary; how to educate the public; ability to measure the results of BMP implementation; and inadequate separation and regulation of other non point sources such as rural septic systems and others caused by non-farm population.

David Dodge, Special Assistant to the NYS Commissioner of Agriculture and Markets, summarized the incentives for participation in REAP that are being proposed. Nationally 70% of non point source pollution comes from agriculture; in NYS the proportion is 10 to 15%, with acid rain contributing 25%. For non point sources, the traditional approach to regulation is not going to work, because of the number of practices that would have to be policed and the number of "Pollution policemen" it would take to monitor. Therefore the incentives have to be great enough to make a voluntary program work. The primary incentives that have been proposed are regulatory relief and limited litigation exemption, cost sharing, interest rate reductions, and tax credits. The participants identified additional incentives that would help increase participation in the REAP program.

Funding:

- Incentive payments made after practices are implemented.
- Create "money pot" for watershed for grants/revolving loan fund.
- Reimbursement for technical consultant.
- Promote long term solution rather than short term "patches" (e.g. relocate farm or build new rather than try to fix old when potential is limited).

Community Wide Education:

- Develop whole community based strategies. Motivate total community to develop responsible environmental improvement program.
- More pressure on others in community to be environmentally responsible.
- Document benefits to communities.
- Mobilize peer pressure.

Liable Economic Protection:

- Include efforts to maintain farm viability.
- Threats of lawsuits, violence.
- Confidentiality policy.

Recognition - Demonstration, Technical Pluses:

- Recognition; e.g. awards, farm signs for "good environmental stewardship"; public notice of filing of plan.
- Demonstrate potential for improved profits if some practices, such as improved nutrient management, are implemented.
- Motivate agribusiness to take some ownership in REAP; involve them in delivering the program. Show them opportunities for new products needed in program (e.g. manure handling and incorporation equipment; tillage equipment).
- Marketing plan for program. Give program a more positive name than REAP; give high visibility in media, at farm shows, state fair, etc.
- Reward farmers for past achievements in environmental planning.
- Program for exchange of nutrients/pollution credits between farms.
- Administrate program locally as much as possible.
- Improve attitude toward environmental planning so that is an important part of belief system.
- Impact focused education and research programs.
- Research on cost effectiveness of products needed for new ways of farming that are more environmentally friendly.
- Ability to appreciate rather than depreciate practices for tax purposes.
- Provide adequate technical assistance.

B. "HOLISTIC RESOURCE MANAGEMENT: A USEFUL TOOL FOR LAND

USE PLANNING?"

Overview

This workshop was designed to give participants a sense of the unique characteristics of the Holistic Resource Management (HRM) thought-model through a mock Planning Commission meeting. HRM can be used to help any decision-making process; as a way to organize, plan, think, manage and monitor anything. Practical applications of HRM to help communities make decisions about agricultural issues was the focus of this session.

Workshop Panelists:

Willie Gibson, Sust. Agr. Reg. Specialist, Univ. of Vermont Coop. Extension*
Judy Green, Coordinator, Farming Alternatives Program, Cornell*
David Allee, Director, Local Government Program, Cornell
Karl North, Rural Enterprise Alliance Project, Marathon, New York

Workshop Summary, Judy Green, Farming Alternatives Program, Cornell University:

Our goals in offering this session were two-fold: we wanted to give participants a sense of what the practice of Holistic Resource Management is all about - what is, what it does, and how it might be useful to them; and as organizers we wanted to gain a sense of whether further training in HRM should be a priority for in service education in New York State.

HRM is a very complex, even intricate, approach to planning and decision making. It's very difficult to design an introductory, three-hour training to convey an appropriate amount and depth of information. My opinion is that our presenters did an excellent job within the time frame available. A substantial number of participants found the session "highly useful" and many positive comments were made. But inevitably many participants were less than satisfied, even frustrated, with what they were able to take away from the session. The great majority found the session only "somewhat useful." That's not good enough to justify the three precious hours these participants devoted to the session.

We actually were successful in giving participants a sense of HRM, and that their dissatisfaction was in large part due to the perception that HRM is too complicated and time consuming for many applications. In fact, that was my judgment as session organizer - I came away with the sense that HRM involves such a major commitment of time and energy that only a very small number of farmers and community groups are likely to be interested.

However, the success of HRM in other areas of the country, and its ability to energize farmers and communities to think and act creatively, still makes it a very attractive model for further exploration in the Northeast. I think the key will be to provide in depth training for a small number of committed participants, and let the success of their applications determine how the model spreads through the region.

C. ARE FRUITS AND VEGETABLES SAFE TO EAT?

Overview

Consumer concerns for food safety have implications for agricultural production. Survey results of consumer attitudes about the safety of their foods will open this session. People at different places in the food system, such as farmers, produce retailers, and consumers, view food safety issues in different ways. Consumer and producer views of the safety of pesticide chemical use in agriculture and of alternatives to agricultural chemical use in food production will be presented. Then all participants will be invited to discuss informally their thoughts about these and related issues. The implications of food safety concerns for agricultural production, particularly for pest control, will be addressed. Techniques for Integrated Pest Management (IPM), and other non-chemical pest control methods for fruit and vegetable production will be presented. IPM practices will emphasize new cultivation equipment for weed control and field applications of biological control of insect pests. Costs associated with various IPM programs in orchard management will be compared. The goal of the workshop is for everyone's opinion to be heard and for people to come away with increased understanding of the diverse issues that affect perceptions of agricultural production and food safety issues.

Workshop Panelists:

Donna Scott, Food Safety Specialist, Food Science, Cornell*
Marvin Pritts, Small Fruit Specialist, Fruit and Vegetable Science, Cornell
Wendy Gordon, Mothers & Others for a Livable Planet
Robin Bellinder, Weed Specialist, Fruit and Vegetable Science, Cornell
Mike Hoffman, Biological Pest Control, Entomology, Cornell
Chris Edmonds, Apple Farmer, Alasa Farms

Workshop Summary, Donna Scott:

The goals of this workship were to:

•briefly address the issues of pest and weed control in agricultural food production and the relation of these activities to food safety,

•allow all participants to share their thoughts and opinions on these important issues during the workshop, and

•identify areas of agreement and disagreement among participants.

The workshop was started with an "ice-breaking" exercise to encourage networking among those in attendance. Participants were asked to get

acquainted with someone whom they did not know and then to introduce that person to the whole group.

In order to provide information and differing viewpoints about pest and weed control in agricultural food production and the relation of these activities to food safety, three speakers gave brief 10 minute overview presentations.

Marvin Pritts, Department of Fruit and Vegetable Science provided information about why the great majority of scientists who study food safety related to agricultural production believe that the general food supply is safe, regardless of whether or not pesticide chemicals were used in production. Donna Scott, Department of Food Science, presented data from two different consumer surveys which showed that depending on how the survey questions were asked, varying numbers of consumers (14% or 72%) were concerned about pesticide residues in fruits and vegetables. Wendy Gordon from the organization Mothers and Others for a Livable Planet disagreed with conclusions such as Marvin Pritts' about food safety and provided her group's view of food safety and agricultural production, problems with the US food system, and the lack of consumer involvement in the food system.

Participants were then invited to ask questions, make comments on what they had heard and to discuss the issues that were raised.

After a short break three additional speakers briefly discussed advances in Integrated Pest Management (IPM) and other techniques employed to decrease use or make more efficient use of pesticides and germicides in agricultural production. Each person had 10 minutes to address IPM advances. Robin Bellinder, Department of Fruit and Vegetable Science, presented information about weed control , including ideas and first-hand observations from agricultural experiences in Europe. Michael Hooffman, Department of Entomology, discussed several different tactics and strategies to control insects and diseases. Chris Edmonds, an apple farmer who manages Alasa Farms, Alton, NY. discussed their farm operation and how they reduced chemical use. Once again participants were then invited to ask questions, make comments on what they had heard and to discuss the issues that were raised.

Since many comments and discussion topics were presented, they were recorded in abbreviated form by Tom Jacops, (graduate student from Rural Sociology) who was there to assist with possible conflict resolution; it is difficult now to determine for some of the recorded topics what the issues actually were. The summary of the posters that were presented to the whole conference group after the workshops ended is attached to this report.

What worked:

The "get acquainted" exercise worked well and created a feeling of friendliness in the room. Such exercises take a fair amount of time, but are worthwhile ice-breakers.

While it was clear from the lists comments on , the group was very appreciative of the opportunity they all had to speak for more or less as long as they wanted.

What did not work:

While I was able to gather from the comments and discussion the general agreements and disagreements among the participants, time did not permit a concerted exploration of the disagreements within the group. Next time I would plan to have fewer subject matter presentations so more time would be available to go to the next level of discussing areas of disagreement. This would be done in an attempt to clarify where people actually might have had underlying agreement about some aspects of some issues.

Again, I wondered if the people with more "conventional farming" views said what they really felt since they were seemingly outnumbered. It would have helped the general goals of the conference if more conventional farmers had attended.

In conclusion, it is good that participants all felt heard and had good reactions to the workshop in general. This conference was a good first step towards starting a dialogue and encouraging everyone to work together to understand each other and to enhance the longevity and sustainability of New York's farms.

Issues brought out by participants after talks were completed:

- Health risks and food packaging (e.g.. asthma)
- Crop residues not the main issue - structural causes - international equity issues
- Contamination of imported crops
- Problems with labeling foreign produce, and inspection
- Selection bias among scientists
- Who gets the benefit of the doubt
- Health risks (morbidity vs. morality) - testicular cancer
- What are plant tolerance levels?
- Role of statistics vs. direct observation
- Aesthetics/Pattern if organic produce
- Utility of scouting techniques
- Farmer adoption of IPM limited? - onions
- How to link consumers with producers? - education? Events on farmer
- How to protect plant/soil/human nutritional status?

- IPM is economically and environmentally more efficient
- Large scale farming can be sustainable (e.g.. California)
- Organic agriculture
  - -Requires institutional support
  - -Can contribute to other programs (e.g. IPM)
- University and industry priorities are evolving
- Remember historical dimensions
- How to acquire more funds for research/education
- Research/extension efforts often respond to demand
- Social choice has implications for food safety
- How does education shape consumer preferences?
- Is it market driven?
- Role of mass media and culture
- Should biological control be best developed by industry? university?
- How can markets be developed for new technologies? for alternative products? (e.g. soil tests)
- Connections of problems is the same for conventional and organic growers. Need to think long term.
- Cornell has been very helpful with information transfer over the years.

Areas of Agreement & Disagreement:

Agreed:

- This kind of workshop where we all talk together is very good!
- Most participants agreed that chemicals should be used only when necessary and then sparingly. Many producers have achieved less chemical use in their operations, compared to the past.

Disagreed:

- Some participants did not agree that pesticide residues in the general food supply are a minimal food safety problem.

Future Needs:

- Need to keep talking with each other.

D. INNOVATIVE MANAGEMENT AND MARKETING OPTIONS FOR CASH GRAIN PRODUCTION

Overview

This workshop focused on sustainable and organic management production practices and marketing techniques for cash grain producers. Bill Cox outlined crop rotation, pest management, and fertilizer practices that will allow cash grain producers in New York to increase corn yields by 10%, while reducing pesticide and fertilizer inputs by 50%. John Myer then discussed organic management practices that allow him to sell corn, soybeans, wheat, and oats at premium prices. The audience participated in a lively discussion on the ease of implementation on cash grain farms in New York. Marketing of grain crops was then discussed by four speakers. Todd Roberts, a large cash grain operator, described his marketing strategies to maximize profits for his farm including future contracts, options, spreads, etc. John Myer, an organic farmer, discussed his marketing strategies and opportunities for organic grains. Richard Corichi, an organic grain buyer from Community Mill & Bean, discussed organic grain standards, and what he looks for when purchasing. Klaas Martens, a 600-acre cash cropper from Penn Yan discussed the challenges and opportunities in the transition from mainstream to organic grain production.

Workshop Panelists:

Bill Cox, Field Crops Specialist, Soil, Crop, & Atmospheric Sciences, Cornell*
John Myer, Myer Bros. Farms, Organic grain production*
Todd Roberts, Roberts Bros. Farms, Medina NY
Richard Corichi, Community Mill & Bean
Klaas Martens, Cash grain producer, Penn Yann, NY

Workshop Summary, Bill Cox:

The workshop focused on production and marketing practices for both "mainstream" and organic cash grain producers in New York. For example, "mainstream" cash grain producers could greatly reduce their reliance on pesticides and nitrogen fertilization simply by devising profitable crop rotations that eliminate continuous corn production on their farms. The elimination of continuous corn on their farms could also greatly increase profitability, especially through astute marketing practices. Mainstream cash grain producers in New York could greatly increase profitability on their farms by learning to manage risk through future/options contracts.

Organic cash grain production in New York has increased dramatically in the 1990s. Most cash grain producers, however, utilize legumes either as interseedings or cover crops to provide an organic N source and maintain soil productivity. Also crop rotation, close monitoring for weeds, and appropriate pest

management practices such as the use of the rotary hoe or cultivation, control weeds adequately. The organic cash grain market has been very lucrative recently as evidenced by $18/bu organic soybeans in 1994. The organic cash grain market is expected to stabilize in the future, however, at a more moderate price.

FOCUS: Sustainable management and marketing practices for mainstream and organic cash grain production

Crops:

•Crop rotation is foundation for sustainability on cash grain operations.
•The key is crop diversity to eliminate continuous corn production which will result in 80% less insecticide use, 35% less N use; and more profit for the farmer.

Organic cash grain management:

•Legumes are in the rotation to provide N and improve soil structure
•Rotation eliminates insect pests
•Careful monitoring of weeds with timely rotary hoe and cultivations provides good weed control.
•Has successfully been practiced for 15 years in large-scale organic cash grain operations.

Marketing "main stream" cash grains:

•Communication is the key. By understanding supply and demand, history of market, and psychology of market, a farmer can grow cash grains profitably.
•Can't be too greedy - sell at the appropriate price to cover total costs and moderate profit.
•Manage risk through futures/financial contracts.

Buying organic cash grains:

•Buying a food product, so quality is paramount. International market quality requirements must be met, otherwise the product will be rejected.
•Premiums paid for appropriate varieties, etc. 1994 Soy - $18/bh;
1995 Soy - $14 /bh. Long-term - $11 - $12/bh.

Organic cash grain production:

•No longer niche market - mainstream enterprise that is growing
•Growers - must go through certification process to become qualified
•Farms must keep records for certification organizations (NOFA, OCI)

•Annual inspection of fields - all fields if newly certified. Pay base fee to certifying organizations.

E. WHAT ARE THE ECONOMICAL AND ENVIRONMENTAL IMPACTS OF INTENSIVE ROTATIONAL GRAZING?

Overview

An ecological and historical perspective of Intensive Rotational Grazing provided an overview of this management system. The environmental implications of grazing and the economics of grazing versus non-grazing systems were presented. Two New York farmers shared their experiences in grazing stocker cattle and dairy cows. Small group discussions addressed two questions: (1) What are the barriers to adoption of Management Intensive Grazing? and (2) In what ways do the changes in environmental impact and management encourage or discourage the adoption of grazing? We learned from the experience and creative problem solving of the group. Participants contributed ideas for the promotion of grazing in New York and helping remove barriers, real or perceived, to the adoption of Management Intensive Grazing systems.

Workshop Panelists:

Darrell Emmick, State Grasslands Specialist, Natural Resources Conservation Service*
Rick Swenson, Natural Resource Conservation Service
Stuart Smith, Agriculture, Resource & Managerial Economics, Cornell
Bill Tracy, Manager, Sunrise Farms, Auburn, New York
Chuck Benson, Dairy farmer with 600 cows & heifers, Lansing, New York
Nate Leonard, Pro-Dairy Program, Cornell Cooperative Extension*

Workshop Results:

<u>Economic Barriers to Grazing:</u>

- Requires some initial investment
- Lack of economic worksheets so each farm can assess costs, risks
- Lender liability - financial risk of change of change and selling equipment. Need faith of bank
- Need support people educated about grazing - how to balance ration on pasture
- No machinery, commodities to sell = less "support people"
- Want to maintain stored feed, equipment as insurance but need to continue payments = costs reluctant to change land use
- Fear of change - economic gamble
- Need to make transition 100% - can't go halfway
- Need for new flexible management ability

<u>Environmental Impacts that Encourage or Discourage Grazing:</u>

Warren Stiles:

The objective of a nutrient management program is to create conditions that optimize performance of the fruit planting. In orchards, this includes rapid development of new plantings and consistent production of high yields of fruit that have the quality characteristics required by the market for which the fruit is intended. It should be recognized that the object in fruit production is not maximum yield per acre since profitability involves both yield and fruit quality. In order to achieve this objective deficiencies and excesses of various nutrient elements must be avoided. Fertilizer applications must be based on specific nutrient needs at the individual site. Alternative timings and methods of application that influence effectiveness and efficiency of fertilizer use, as well as their potential adverse effects on the environment, must be considered. The development of appropriate fertilizer programs thus requires information about the nutrient requirements of the crop, the soil nutrient supply and availability at the site, and alternative approaches that might be used in supplying needed amounts of the various nutrients.

Elements of fertilizer management:
- Amount
- Timing
- Method

Diagnosing nutrient status:
- Visual symptoms (problems usually visually detectable only after the crop has already been damaged)
- Soil testing
- Leaf analysis
- Fruit analysis
- Combination of methods

Example: potassium deficiency found in trees and fruit although plenty is available in soils: the lesson is that water management must be considered in looking at nutrient management.

The nutrient status and needs of the crop can best be determined through a combination of analysis of plant tissue samples, soil testing, and observation of the plant for visual indications of deficiencies of excesses of nutrient. Tissue analysis indicates the amounts of various elements that the plant has been able to extract from the soil and transport to the tissue being tested. Soil tests provide information about soil pH, organic matter content, and the available supplies of various elements in the soil. Observations of visual symptoms of deficiencies, vigor of plant growth, crop load, and other characteristics of plant health provide additional information to supplement data obtained through tissue analysis and soil testing. It should be recognized that any one of these methods does not

found that soil water and organic matter content are very much impacted by the GMS, with reduced water infiltration and soil organic matter under conventional herbicide GMSs. So why do many growers use herbicides? Because mulches are much more expensive than herbicide systems, and yields are often higher under the conventional herbicide systems. There are some negative effects on fruit quality in residual herbicide systems—where there is more nitrogen because of more complete weed control, the fruit is larger but not colored as well, won't store as well, and is less sweet.

Recently we began to use food dyes that act like pesticides in the soil, tracing their paths of leaching through the soil profile. In residual herbicide plots with bare, weathered soil, the infiltration of dye and water was extremely slow, so runoff was very high. Why should groundcover management affect the way substances move in the soils? Because it influences organic matter, water infiltration, soil temperature, microbes, etc. Tracing the dye movement deep into soils, we saw strong retention under sodgrass cover, but with an herbicide system (less organic matter or thatch), less dye was retained in the upper soil. In both systems the tracers broke through the soil layer in high concentrations and and leached quickly out. The computer models used to simulate and predict pesticide movement assume that substances move quite uniformly throughout the soil, but in fact their movement is very uneven and can be dominated by preferential soil paths (channels) with little interaction or retention on the soil matrix. This challenges the validity of some assumptions we've made about the movement of fertilizers or pesticides in the soil.

In another experiment we have monitored pesticide (benomyl fungicide) and nitrate-N movement in a Lansing NY orchard. We installed a subsurface drainage system and set up surface barriers in the orchard to trap and sample chemicals. Specifically, we examined the relative concentrations of pesticide and nitrates under four different GMSs—a mowed sod, a wood-chip mulch, postemergence glyphosate applications, and residual preemergence herbicides. The first several thunderstorms illustrated fairly major differences in the runoff from the various GMSs. A lot of eroded sediment was observed in the residual herbicides, which contained the highest pesticide concentrations. There were relatively few dates when there was any runoff in areas with mulch or grass ground cover. Nitrates were below EPA drinking water standards (10 ppm) most of the time in all treatments, but generally higher under the herbicides, and after each mowing of the grass plots.

Looking at the subsurface leaching, we observed high peaks of nitrates coming out of all the systems in the spring, and relatively higher leaching of nitrates and the fungicide in the residual herbicide GMSs on many occasions. However, the data were highly variable, and trends of nutrient retention and runoff seem to be changing as the system matures (more ground cover, larger tree roots, etc.). Under the wood-chip mulch, the breakdown of the mulch seems to be releasing substantial amounts of nitrates after four years. We saw a "spike" in nitrates

leaching with herbicide treatments in the second year, but thereafter it has declined, whereas other ground cover treatments there was no peak but also less drop-off.

To summarize—ground cover systems influence the retention and loss of nutrients and other agrichemicals in orchards, but we still don't understand and can't predict how certain chemicals move in the soil, because the preferential pathways are random. Our work suggests that herbicide GMSs, although popular and economically beneficial in the short term, may not be not the most positive for longterm nutrient availability and retention in agroecosystems, because these systems are more prone to runoff and soil loss.

Future Plans & Needs:

- Better understanding of nutrient cycling in perennial crops
- Need for long-term funding for research

Agreements:

- Need to monitor nutrient losses
- Costs/ benefits of alternative soil management systems
- Long term research needed (see "Concerns")
- Limitations imposed by weather

Disagreements:

- Natural vs. synthetic production
- Unresolved questions/issues

Major Concerns:

- Soil testing for organic production
- Difficulty of supplying micro nutrients to crops
- Adding nutrients without cultivation (fruit crops)
- Need to account for nitrogen movement out of fields
- (Deleterious?) effects of tillage
- Need to control erosion
- Rodent control in mulch systems
- Non-farm sources of pollution
- Need to maintain soil structure and fertility and "biological health"

Bob Pool:

Our work which is related to this workshop session is focused not so much on nutrient movement, but the impact of ground cover on plant performance; our motivations include looking for productivity and environmental impacts. This work grew out of a conference with environmental groups: our new challenges are nutrient management and runoff (having begun to work on pesticides already). Our traditional approach was to control in row middles and between rows (post emergence Round-Up no-till system). We tested the Round-Up system because it is on a lot of "hit lists" as an environmental problem, although it seemed to be working very well. The results seem typical of most organic management systems; as in many cases, our major problem was weed control (costs were very high, economic impact was very great). In looking at alternatives, some cultivation systems that are acceptable organically are not acceptable in terms of labor/economics.

Research questions: 1) Are there less competitive systems than orchard grass (between the rows sod)? This is often too competitive. 2) How do legumes fit into our floor management schemes? 3) Can we utilize allelopathy to replace or supplement our use of herbicides?

In our experiment we used 10 floor management schemes; mulch, herbicide, weeding out competing weed grass, unmowed and mowed orchard grass, and "competitive" and "less competitive" ground covers. Also, killed rye grass to look for allelopathic results. (Can time Round-Up to avoid killing ground cover so that it comes up itself the next year.) Experimented to differentiate what vine and tree soils would be getting. Looked at ground covers seasonally under different ground cover regimes; under mulch, essentially no weed growth; with herbicides, there is a window of several weeks after crop emergence with little weed competition. There was some difficulty with weed growth with rye soils: was there some allelopathic impact on the weeds? A new option for rye grass treatment: mow it after blossom rather than using Round-Up. Used pruning weights to examine different productivity, etc. Killed rye had highest pruning weights and fruit yields. Sugar content versus yield usually inversely correlated, except that with orchard grass fruit is less sweet than expected. Water use: fairly parallel trends, but higher runoff with.... Relationship between amount of soil moisture on yield. Round-Up and standard conditions are fairly conservative for June and July water use. Things we'd like to do with future research: nutrient movements, in-row problem (found nothing that's a viable permanent cover, can grow in that environment, and yet doesn't compete with crop plants; properly timed herbicide treatments seem quite effective.) Legumes: do seem to maintain a higher late-season nitrogen availability for the vines which is of real benefit (higher sugar content in fruit, does seem to maintain better leaf function late in season).

- Political environment
- Can encourage people who want to continue old practices
- Soil erosion decreased - encouraged
- Building soil - encouraged
- Less pesticides - encouraged
- Less manure handling - encouraged
- Lower energy and electricity usage - encouraged
- Public interest to maintain open land
- Animal health - encourage
- Wintering animals outside - public discourage
- Sustainable
- Better quality of life - management lifestyle
- Wildlife

F. HOW DOES SUSTAINABLE AGRICULTURE AFFECT FARM LABOR?

Overview

This workshop explored ways to develop a sustainable workforce for New York farms. An overview of national and state demographics of farm workers, emphasizing migrant and seasonal farm workers, was presented by Herb Engman. Tom Maloney discussed how to attract and retain a qualified work force, emphasizing compensation, working conditions and "people skills." Amy Machamer presented the practical challenges of establishing and maintaining a sustainable work force on the farm from the viewpoint of an experienced owner. Aspacio Alcantara presented the viewpoint of the farm worker, describing workers' needs and expectations. The public policy implications of a sustainable agricultural work force was addressed by Velma Smith and David Fellows. All presentations were short, leaving ample time for questions, discussion within the group, and debate on the issues.

Workshop Panelists:

Tom Maloney, Agriculture, Resource, & Managerial Economics, Cornell*
Herb Engman, Director, Migrant Labor Program, Cornell*
Amy Machamer, Owner, Hurd Orchards, Holley, NY
David Fellows, Governmental Relations Dept., New York Farm Bureau
Aspacio Alcantara, Farmworker, La Cooperative (farmworkers' cooperative)
Velma Smith, Deputy Regional Supervisor, Rural Opportunities Inc.
Carolyn Mao, Translator

Herbert J. Engman, Director, Migrant Labor Program, Cornell

No one really knows how many farm workers there are in the United States or in New York State. At the national level the Commission on Agricultural Labor estimates that there are 2.5 million farm workers, with 1.6 million of these seasonal, and of the seasonal workers 670,000 are migrant farm workers. However, Larson and Colleagues, on behalf of Migrant Legal Services, estimates 3,038,644 migrants and dependents (one per worker).

As farms have decreased in number over the past two decades, the numbers of hired farm workers have stabilized and even increased as the remaining farms have grown in size. Of special note is the increasing percentage of migrant farm workers. The U.S. Department of Labor estimates that migrants now compose 59% of the farm workers in the Northeast states. DOL further states that 88% of migrant farm workers are now foreign-born (the overwhelming majority in Mexico), 10% are U.S.-born Hispanic, and only 2% are U.S.-born non-Hispanic.

It is even more difficult to determine accurate numbers for farm workers in New York State. The Governor's Task Force on Agricultural Employment, Education

and Labor in 1990 estimated that there are 106,884 farm workers in the state, with only 29,884 of these year-round, 77,000 seasonal and 45,430 of the seasonal workers considered migrant. However, a 1991 Cornell study estimated 40,000 farm workers in NYS, with 25,000 of these migrant and seasonal farm workers. The Larson and Colleagues study estimates 73,423 migrants and dependents alone.

While many of the farm workers in NYS remain white, non-Hispanic, primarily on dairy farms and those employed year-round on other farms, NY is rapidly adopting the national trend toward Latino workers. The Immigration Reform and Control Act of 1986 greatly accelerated the movement toward more Hispanic labor. As legalized workers made their way to NYS, they displaced many of the southern African-Americans who had been the primary source of migrant labor since W.W.II. The legal workers then told their first families and friends about work in NYS and thus began the first substantial illegal farm work force in the state, Today a significant portion of the work force is illegal immigrants. Latino workers have even begun to be hired on dairy farms and the trend is likely to continue. Still, the farm labor force remains diverse, including African-Americans, Jamaicans, Haitians, St. Lucians, Caucasians, and Latinos such as Mexicans, Mexican-Americans, Puerto Ricans, and Central and South Americans. The growth of the Hispanic population is also evident among non-farm workers, as illustrated in Socioeconomic Trends in New York State: 1950-1990. In four rural county types, non-white and Hispanics increased 55% during the 1980's, although the total is still only about 4% of the population.

Another important trend among the migrant work force is the hiring of single males. However, that is likely to change as patterns of return develop among the workers and as families are brought to NYS.

Farm workers are often described as the poorest of the working poor, with many living below the federal poverty level despite being ready and able to work. Many experience huge fluctuations in earnings throughout the year. Migrant farm workers often earn reasonable rates of pay when the harvest season is intense, but estimates of average yearly income range from $5,000 to $8,000. Wages for field and livestock workers averaged $6.42 per hour in NYS as of October, 1994, but workers earned $5.64 in July as of 1994 (U.S.D.A. National Agricultural Statistics Service). While fringe benefits such as housing are sometimes provided for farm workers, most do not receive the same level of fringe benefits most other American workers take for granted, such as paid vacation, holidays and sick leave. Farm workers often do not share the same protection under laws and regulations as other workers. For example, exclusions apply to NYS farm workers in the following areas: collective bargaining, minimum wage, child labor, overtime pay, unemployment insurance, disability insurance, day of rest, drinking water, sanitation, health and safety, and housing.

All of the factors listed above provide a severe challenge to the ideal of creating a sustainable agricultural work force in New York State.

Workshop Summary,Thomas R. Maloney:

Developing a sustainable workforce in the future will require:

- Attracting a Qualified Workforce
  - -As farms utilize more technology there will be a greater demand for increased worker knowledge and skills.
  - -Worker availability will be a continuing challenge. Farm employers particularly fruit and vegetable growers are likely to employ both local and immigrant workers.
  - -As the multicultural workforce evolves, cultural diversity issues in the workplace will become more important. Owners and managers must understand cultural diversity issues to develop a cohesive, committed team of employees.
  - -Is sustainable agriculture more hand labor or traditional methods such as cultivation? May be resulting in a different set of labor requirements.
- Retaining a Qualified Workforce
  - -Farm employers will be under greater pressure to provide wages and benefits that are competitive with both farm and non-farm employers.
  - -Employee retention will continue to depend on providing safe, comfortable, working conditions.
  - -Increasingly, employees want to be treated with respect, want to be involved in decision making and want to be recognized for their contribution to the business. Farm employers who utilize modern Human Resource Management practices will be in the best position to retain the most productive workers.
  - -Since some agricultural enterprises are seasonal in nature employers will be challenged to retain many of the same workers year after year.
- Quality of Life
  - -Farmers
  - -Farm workers
- Workers can't be an object of production
- Farm work as a career
- More food dollars to the farmer and farm worker
- Better understanding of the consumer of the food system (including farm workers)
- Opportunities for open discussions
- More and better data collection (quantity and quality)
- We can't agree on standards (like housing)
- Larger framework and local flexibility
- Training opportunities need to also reach farm workers
- Agricultural health centers should be open to farm workers
- Pesticide regulations/education for farm workers

G. DOES NUTRIENT MANAGEMENT OF FRUIT AND VEGETABLE PRODUCTION EFFECT THE ENVIRONMENT?

Overview

How can crop nutrient needs be safely met without undue economic costs or environmental impact? What are the environmental consequences of excess fertilization? Learn techniques farmers use to determine fruit and vegetable crop fertility needs. Ian Merwin will discuss nutrient retention and loss from the orchard environment, highlighting results from root zone monitoring. Bob Poole will present options for vineyard floor management and nutrition. Methods to determine nutrient status and fertilizer requirements will be described by Warren Stiles. Tissue testing and other ways to maintain recommended fertility levels in vegetable crops will be discussed by Pete Minotti. Jim Barber will explain how vegetable crop nutrition is managed on a mixed vegetable and dairy farm. Dick DeGraff will discuss nutrient management in organic vegetable production. Panel presentations will be followed by general discussions.

Workshop Panelists:

Ian Merwin, Orchard Specialist, Fruit and Vegetable Science, Cornell
Bob Pool, Viticulturalist, Geneva Experiment Station, Cornell
Warren Stiles, Orchard Nutrition, Fruit and Vegetable Science, Cornell*
Pete Minotti, Vegetable Fertility, Fruit and Vegetable Science, Cornell
Jim Barber, Dairy and Vegetable Farmer
Dick DeGraff, Organic Vegetable Farmer, Northeast Organic Farming Assoc.
Brian Caldwell, Organic Fruit and Vegetable Farmer*

Ian Merwin:

Everything we do affects the environment; a large animal species numbering 5.5 billion cannot avoid altering the natural environment. The question is, how can maximize the positive impacts of perennial crops and minimize their negative ones. More specifically, I want to consider how orchard groundcovers affect the retention of nutrients. Why do we need to consider this in relation to New York apple orchards? Because production of these crops involves high inputs of pesticides and fertilizers, they are often situated on slopes with runoff onto waterways, or on coarse-textured soils over major aquifers, and are often now surrounded by suburbs. Also, in many orchards during the dormant season, water tables are quite close to the surface so it is easy for nutrients to leach into these water reservoirs.

We have conducted several long term experiments comparing different groundcover management systems (GMSs) in apple orchards—killed sod strips, living mulches of grass or legumes, standard cultivation, biomass mulches, and the conventional residual herbicide system of bare soil beneath trees. We

provide sufficient information on which to develop the most appropriate fertilizer program.

Problems of below- and above- recommended concentrations of key minerals in apple leaf samples: nitrogen and phosphorus, (two nutrients of concern because of their environmental impacts). Factors affecting N fertilizer requirements: type, variety, and strain of fruit; tree size factor (related to use of different rootstocks), soil N supply, N use efficiency, soil management practices (reference to Bob Pool's findings: legumes are worst ground cover in terms of water demand); affect of soil type on nitrogen supply.

How do we calculate a crop requirement of nitrogen? It depends on tree size; assuming that total amount of fruit and leaves in a given acre is about the same under different tree sizes, but the amount of nitrogen used in wood production is lower with smaller trees. Nitrogen removal is related primarily to what is in the fruit. So how much nitrogen fertilizer do we need to add? This depends partly on the nitrogen supplyig abilityu ot the soil. In a high nitrogen soil, no nitrogen fertilizer may be required with dwarf trees, and some (but less than in higher nitrogen soils) larger trees. We have run orchards year after year with little or no N application.

Soil management practices have a significant impact on nitrogen fertilizer requirements, principally through their effectiveness or lack of effectiveness in limiting consumption of water by ground covers within the root zone of the soil occupied by tree roots. Complete elimination of ground covers from the area near the trees results in a reduction of appproximately 60 percent in the amount of nitrogen fertilizer required in contrast to that required by trees growing in sod covers. Tissue analysis plus observations of plant vigor and productivity provide the best means of monitoring nitrogen status of the crop and making adjustments in nitrogen application rates.

Phosphorus is the other nutrient people are concerned about in terms of environmental impacts, but in fact this is not much of a problem in orchards. Phosphorous applications seem to have little direct positive impacts (unless there are inadequate mycorrhizal associations with tree roots); responses to P carriers are frequently related to the presence of other minerals in application (Ca, S, Zn), or to their effects on soil pH that may influence other nutrients. For these reasons, it is recommended that phosphate fertilizers be applied and incorporated into the soil during pre-plant site preparation. Applications of phosphates to the soil surface after the trees have been planted are not recommended except in very specific situations. There is increasing concern about potential leaching of organic phophorus compounds in animal manures in various areas of the country. Conclusions: time of application is key, soil pH should be managed, and soil erosion minimized. Other elements of managing phosphorous: organic forms of phosphorus exist in animal manure, although it may be more prone to leaching than inorganic phosphorus in fertilizers.

The need for increased use of lime, not only to modify soil pH, but as a source of calcium and magnesium is evident in both soil test and tissue analysis results.

Potassium does not leach into the soil as quickly as many people assume, and it may take a long time to get potassium through the soil. Any ground cover treatments to improve moisture retention and control weeds will help availability of key nutrients to the crop plants. Possibilities of foliar fertilization: effective for zinc and manganese (effectiveness, cost considerations). Relationship between boron supply and root growth: increasing supplies of boron in soil is important to crop productivity because it affects root growth and the plant's ability to take up other nutrients. Zinc impacts shoot growth and foliage developments, and thus fruit quality, size, and yield. Copper, like zinc, may complex with organic matter and or phosphorus, which reduces availability of these elements. In the case of zinc, timing of application is extremely important.

Group Discussion

Question about applications of this research not too conventional, but to organic and semi-organic farming. Disking in of materials under the tree is a poor idea because it destroys roots near the soil surface, and if moved further away from tree, wastes the materials. Possibilities include hay mulching to keep down weeds, but that may introduce mice and rats. We experimented with poultry manure and in some cases compost as alternatives; but by themselves they are not adequate to provide other nutrients. The other elements may need something closer to what I described above for conventional systems. The problem with trying to get enough potassium through manure is that by the time you have enough potassium, the amounts of P and N applied are excessive.

If you don't use herbicides, you should look for some sort of a mulching system, because the alternative of cultivation is really not very beneficial to soil (e.g., soil compaction problems). In orchards, there are many other possibilities. In an organic orchard, I get a good fruit color and the fruit size is okay, but I'm having some trouble with rodents and borers. The fertility system that I use is to use heavy compost when I plant the trees and then use essentially no fertilizer (now 10 years old, no perceptible problems so far) except for mowing. Other organic orchardists try to use heavy compost applications after the fall leaf drop. In general, yields are quite a bit lower, but there are other measures of efficiency besides yields per acre.

Bob Pool:

We've been able to manage grapes using organic methods, but we've run into some potassium problems. Most of all, we've begun to understand the complexity of organic nutrient management. The big message is that you need to work with soils for a long time before you get to a steady state (may work for 5-7

years with a system that seems not to be performing well, but then after that the yields are comparable). Putting down mulch increases availability of potassium in the soils and also improves moisture. Under most systems, the minor elements were hard to manage. The problems with mulches are controlling the vole populations. You get the biggest population buildup under a living or hay mulch, with not so much problem with wood chips. Another advantage of wood mulches is that they don't have to be reapplied every year (especially bark mulches with high lignin content); sometimes you can get this very cheaply and let it compost for several years. There is a problem of soil compacting with residual herbicide treatments. Regarding the question of mowing rye: by June it would have grown so much that it would really have competed for nutrients; what about mowing often as it's starting to grow. Some people from the Geneva research station believe it's the roots, others the leaves. For 2-3 weeks after killing the row, there is an allelopathic suppression of the vine root growth, but the impact has not been excessive. Another comparison of herbicides and rye with strawberries: less weed growth with rye. Returning to the mowing question: We've had little evidence that mowing is affecting water supplies; it doesn't seem to be conserving water use. WS: in some cases, mowing seems no better than letting the grass grow in terms of water supplies. Mowing non-legumes can be beneficial if you wait a while because the heavy cover physically inhibits regrowth; legumes just keep on growing if mowed. Mowing can help keep bees out of the orchard at times that you must apply insecticides.

Pete Minotti:

Of course nutrient management affects the environment, but I'd like to look at it in a larger context. When we had full forest cover and no chemical inputs, the water was pure and clean. Now people find contaminants in the water, start looking for the source, and want to get rid of it from agriculture. In fact, any time you begin to cut down forest or clear it, nutrients will be displaced. So even if our society stopped applying any N or P, we would still have contamination. Even if we stopped using fertilizers, it doesn't mean that New York City would have a totally clean water supply. So what do we do?

As far as vegetables go, N is more problematic. Two systems: a) some sandy soil without much nitrogen, so you know you have to get nitrogen to the soil. b) organic farming system, where organic fertilizers or cover crops contribute nutrients - this is complicated because they may contribute nitrogen, but their contributions are dependent upon weather conditions we can't control. One possibility: for convenience, much fertilizer application occurs before the plants are in place, with lots of nutrients lost because they are applied too early. The objective of pre-nutrient testing, etc., is to assess the situation before they begin planting and have some documented baseline information about the nutrients. A lot of fertilizer efficiency could be gained from fertilizer timing and placement. For example: the problem of nitrogen contamination of wells by fertilizer application to spinach in NY. Fertilizers are necessary in those soils to grow

spinach, but timing and location could resolve the well contamination problem. To use manure, soil must be warm and moist: this is also a timing question.

You cannot come up with a recipe for nitrogen levels, only the amount of nitrogen the crops remove from the soil. The whole thing depends upon a lot of common sense. No question that we can minimize the load on the environment. Years of application of P and K have built up their levels in the soil, so the recipe has to changed. But soil tests have a good chance of helping to fine-tune needs. If there is no build up from prior farming, it will take a while to get those soils up to the necessary levels. In some cases, pH is out of whack, and needs to be addressed, and you can save money on unnecessary applications by testing a bit first.

Brian Caldwell:

Objectives of my vegetable operation involve a rotational scheme for organic vegetable production with major ramifications for pest and weed control, but also for nutrients. A year's rotation: 2 years of alfalfa, 2 years cover crops, 2 years vegetables: this doesn't look too good from a production per acre perspective, but I also have sheep who eat my alfalfa, and sheep manure is what I use as fertilizer. I feed our sheep minerals, which may help us get minor elements into the soils through the sheep manure as well. We also buy hay and a little bit of grain for the sheep; this is our primary source of off-farm nutrients.

I have done some soil testing on my fields; I was starting on some very old farm soils and I tested to see whether they were yet up to snuff for P and K. I use side-dressing of 3:4:3 composted chicken manure product through the hopper. For heavy feeding crops, I'll use 5-10 tons of sheep manure per acre; pretty dry manure with lots of bedding in it; difficult to translate that into nutrient content! N content depends a lot on how much alfalfa I give the sheep versus grass hay. I figure about 60 LB of N; I side dress with N (never exceeding about 100 lbs total), but also carry over from previous years of using manure and other nutrients in these fields. For low-feeding crops, I don't fertilize at all because they're getting pretty decent fertility from the previous year. I try to gauge this by keeping nutrient levels at a point where some crops are a little less vigorous than I would like, because that suggests that I'm giving them about what they need and not over fertilizing.

It could be better to alternate cover crops and vegetable crops, rather than 2 years of cover crops, 2 years of vegetables. Using a buckwheat cover crop is a good system, especially since it controls quack grass and allows some of the pathogens to be drawn out. The downside is that this uses three times the land of continuous vegetable production. One need for organic farmers is soil tests that would be easier for farmers to interpret.

Jim Barber:

I have a similar situation but on a larger scale; farming some of the same land for 117 years. 100 dairy cows, fitting quite closely into the whole cropping systems. 150 acres of crops, including 100 acres of vegetable crops sold retail. The dairy operation allows us to use alfalfa as our rotation crop and still get benefit from it. The benefit of the rotation is keeping down weeds and pests, but we also get economic returns from the alfalfa itself; it improves the soil with N fixing and the additional biomass you add to the soil; breaks up the soil; retrieves the deep nutrients and bring them back to the surface. We don't really know how to gauge the fertilizer needs of the soil. We've been backing down from commercial fertilizer bit by bit, until it seems like we've gone too far. We've been cutting down on our use of fertilizers and other applications for about 15 years; some things are fairly low risk because you can adjust with each application over the season, but fertilizers are risky because you need to get it right before you can get any feedback. On a non-contiguous farming area, we don't use manure. There we do soil tests on every field where we're planning to put in vegetable crops to adjust to what we need. We do use plastic in some artificial environments, which retards nutrient leaching and which lets us control moisture more easily.

Important part of crop rotation is rotating from one family to another to keep the pests down. Need to keep switching families around the field regularly each year. In the spring, the weather is never correct so you throw these out in the middle of May and make some adjustments! I don't have technical records on yields or feedback, but I do have some observations: a) vegetable production is as good as it ever was, maybe even better. Hitting the weather right is really most of the equation. Last year we got 2300 bushels of melons from 3 acres; a good yield. So if you can maintain good yield when the moment is right, your nutrient management seems to be working okay. I was amazed to hear the speaker from Pennsylvania yesterday tell us that he got away with using only 40 lbs of nitrogen over the season per acre of tomatoes; that's very low. Field corn is difficult to assess because most of it's chopped up for silage. Grain yields: 126 bushels/acre, with 60 lbs of N and no side-dressing; about average for our area. Other farm fields where we've been using conventional nutrients have only low or medium yields; we may have too much phosphorous in the soils to begin with. The other benefits of the alfalfa are the increased biomass, more microbial activities, and soil break-up; you can tell by looking at corn that's been continuously cropped for 20 years that the soil structure is not in good shape. Sterilizing soil has a short-term, local influence on microbes and thus on productivity.

Comments:
Anhydrous cultivation: pH affect, Is this why our pH levels are staying very high in that area? Ammonium-based fertilizers also contribute acidity as they nitrify. We have not really been able to increase our organic matter, but we've been able to maintain it. Using small amounts of lime may also not drop pH too low. How does the type of soil that you have affect the amount of fertilizer available? We call our farm "brickyard farm" because we have soil so clayey that people used to make bricks out of it. Barber's soils are among the most fertile in the state.

Do you have a roadside stand? Is that as important as having the cows for the farm in affecting your system? We expand in response to the demands at our road stand. We plant according to their tastes, but we've been doing that for 50 years. Our loan officer keeps asking why we have the cows; it's not a high-tech dairy. It carries itself but is not profitable. In the summer time, I don't even see the cows because I'm so busy with other stuff, so we hire two people to look after it. It carries itself, which is all I ever really ask of it The cows aren't for making money, but they help with the alfalfa rotations.

Reference:
The Nutrient Handbook: tells you the nutrient content of manure, etc. But doesn't that depend on how you apply your fertilizer (spring run-off, cover crop to maintain it). Reference to other Cornell publications, and a handbook, *Nitrogen and the Environment*. The manure can be tested so that you know what the N and P concentrations are; can calculate PSNT test (a nitrogen test, but used to give people credit for manure so that you don't have to sidedress so much). Those tests can help you tell, if you do it later in the season before planting, whether you need to side-dress.

Nitrogen management: Both Brian and Jim are using manure and are trying to manage it so that it doesn't sit where it can quickly wash away in the spring. But what about at the end of the season?

We've been experimenting with overseeing when the last crop has been cultivated, so that we get a nice cover by the next fall, to slow runoff.
Black plastic mulching: helpful, but hard to do overseeing at the end of the season because you need to get up the plastic again. We take up the plastic at the end of the year and send it to the land-fill; it takes about 4 days to take it up from about 50 acres with 4-6 people working. Others have used woven plastic (landscape fabric) and used them for four-five years at a time; white, uv stabilized. Possibility of using greenhouse plastics, but impossible to get dirt (from air as well as soil) off of them. Planters' paper option seems very poor because it tears up and begins to blow away within several weeks (but this is also unacceptable for organic certification because it has fungicides in it); there are other options that you can plow right under. These are hard to lay with a machine, though. Photosensitive plastics are not breaking down fast enough.

We use a lot of practices that are common in organic markets, but I can't sacrifice a crop by going all the way with that so that I could market in the organic market. When people do understand what we're trying to do, they'll more likely to accept some minor imperfections.

Problems with farmers' market: it helps the customer by bringing us right to them, but it doesn't really help us expand our market.

Summary:

Major concerns:

- need information about soil testing methods for organic production
- difficulty of incorporating trace nutrients into the crop
- in fruit systems, adding nutrients without cultivation
- need to account for nitrate movement from fertilizers and other sources (ex. decomposing mulch)
- deleterious effects of tillage
- decreasing erosion: nutrients and pesticides often adhere to soil, not run off in water
- rodent control in mulch system
- non-farm sources of pollutants
- need to maintain soil structure and fertility and biological health
- pressure on farmer to over fertilize for security (always want to err on side of too much); but there are risks we have been ignoring (NYS farmer being sued for contamination of ground water)
- nature of farming: need to make changes on the spur of the moment to respond to the weather; not always able to choose the low-impact method
- Length of time it takes to see how a nutrient management approach is working; alternative methods are very long-term processes
- Incentives for environmental management rather than regulation: tax breaks for greener methods (since responsible environmental management is a public good)

Areas of Agreement

- agree on need to monitor leakage of nutrients
- see "major concerns", above
- looking for the "middle road" (experiments in scaling down use of nutrients and inputs)

Areas of Disagreement

- cost and benefits: environmental costs versus fair return on investment to farmers

- natural versus synthetic methods

Future Needs/Plans

- unresolved questions raised in discussion (e.g., whether mowing works, allelopathic qualities of rye grass, etc.)
- better understanding of nutrient management systems and their environmental and economic impacts

H. DO NEW DEVELOPMENTS IN FEDERAL , STATE AND LOCAL AGRICULTURE POLICIES PROMOTE SUSTAINABLE AGRICULTURE?

Overview

Are there any programs which will arrest the long term decline of farming in New York State? What existing programs help farmers or communities make changes? How can these programs more effectively strengthen the rural economy? What are the obstacles? What new proposals are on the drawing boards? Nelson Bills will provide a close look at the structure of agriculture in the United States today and highlight major trends for the future. Amy Little, Greg Watson and Rick Zimmerman will present their perspectives on federal activity. Will there be a 1995 Farm Bill? What does the Campaign for Sustainable Agriculture propose? Can budget cuts be advantageous for family farms, rural communities and food security? Senator John R. Kuhl, Dave Dodge, and Rick Zimmerman will share their views of New York State policies. What policies or proposals enhance the economic viability and environmental soundness of farms and strengthen the rural economy? A panel of representatives from the Agriculture and Farmland Protection Boards (AFPB) in Monroe, Wayne and Dutchess Counties will share their ideas about what these boards can do to encourage farming and protect farmland.

Workshop Panelists:

Nelson Bills, Agricultural Economist, ARME, Cornell*
Greg Watson, Eastern Regional Director, The Nature Conservancy
Amy Little, Director, Campaign for Sustainable Agriculture
Rick Zimmerman, New York Farm Bureau
Senator J. Randy Kuhl, State Senate Agriculture Committee
David Dodge, New York State Dept. of Agriculture and Markets
Tom Sanford, Advisory Council for Agriculture & Farmland Protection Boards
Rod Stetner, Farmer and AFPB-Monroe County
Elizabeth Henderson, Farmer and AFPB-Wayne County*

<u>Agriculture and Farmland Protection Boards</u>

- Farmland Protection Boards have "no office, no budget, no power"
- Despite the absence of resources, agricultural districts and the Board provide an avenue for addressing local concerns with agriculture.
- Farming is an industry, and more than land use planning is needed to secure its future; farmers must earn sufficient income to warrant the continuation of the farm business.
- Boards have some leverage over urban encroachment with the Law's provisions for notices of intent, which provide for review of proposals to extend development into an agricultural district; Boards can say: "we don't like the idea".

- Boards can represent a "bully pulpit" for agriculture in urbanizing rural communities
- "Farming"/"Farmland"/"Open Space" are not only different words but mark out the boundaries of the ongoing debate about rural land management; efforts to protect farmland and open space need to be complimented by efforts to nurture the farming industry as an economic enterprise.
- The "ag equation" for non-farmers is complex, and the farm community needs to move on several fronts. Land protection efforts can be supplemented, for example, by rural development programs which encourage consumption of locally produced food; agricultural awareness needs to be taught in the local schools.

Agriculture and Environmental Planning Program

- Comprehensive
- Integrated
- Redirected Funding?

NYS FB

- State Budget?
- Property tax reform

Trends

- New York farmers compete in national and global markets; the U.S. land base for agricultural pursuits has been essentially stable since the turn of the century.
- The U.S. farm economy is plagued by chronic excess capacity; presently about one-half of the cropland baase is used to meet domestic food needs. Substantial acreages are set aside each year or retired under federal farm programs.
- U.S. farmers have realized very large and very rapid land productivity increases.
- Productivity improvements are evident in the Northeast, but the land base for farming in this region has been decreasing for several decades; some of the farmland losses are due to conversion to built-up uses, but much larger acreages have been idled by farmers because of unfavorable economic conditions.
- Idled farmland, in turn, eventually reverts to forest land; for several decades forest land has been New York's fastest growing land use.
- Numerous economic factors have encouraged the consolidation of food and fiber production on fewer but larger farms; farm numbers in the U.S. are down to 1.9 million, according to the 1992 Census of Agriculture.

- Decreases in farm numbers since the late 1980s have been led by a drop-off in the number of younger farm entrants; average age of farmers was 53.3 years in 1992, up from 52 years in 1987.
- There is much to be learned about how we use land in local communities; ironically, despite intense concern about the management of rural and open space lands, we have no single, comprehensive data source that allows an accounting of land use trends at the local level.
- The Northeast's comparative advantage in markets for food and fiber products may be shifting; demographics suggest more promise for value added products tailored to the demands of local and regional markets.
- Regardless of products produced, farmers need quick and ready access to the best farmland if they are to remain competitive with producers in other areas.

Campaign for Sustainable Ag

- Political winds are shifting
- Campaign is the most diverse coalition to work on the Farm Bill
- Concerned about down sizing federal programs
- New focus: stewardship incentive programs: ag based rural development
- Defend 1990 Farm Bill initiatives, EG, "SARE" and CCE
- Community Food Security Empowerment Act

NYS Farm Bureau

- Deregulation/ Less supply
  -Management will be the likely focus of new federal farm initiatives
- Farmers are good stewards
- Goals shared with the campaign
  -Soil and water management
  -Economic opportunities

VI. KEYNOTE ADDRESS

Greg Watson: "Bridging Partnerships"

Overview

It's difficult to describe two communities of environmentalists and farmers as separate entities, because I see farmers in many cases as being the true stewards of the land.... I see with my experience with farmers in the northeast that we are doing many things right, many thing that could be models for the rest of the country... I'd like to talk about some of the optimism side.. the gap between the environmentalists and the farmers may be closing, as I've seen through my work with the Campaign for Sustainable Agriculture and the Nature Conservancy.

Allusion to quote from Wallace, FDR's Minister of Agriculture (Watson's comments this morning).... Actually, many of the farm programs in place today were put together by Wallace under FDR in an attempt to save small farms from the depression:

> *The earth is the mother of us all --- plants, animals, and men.. Everything our body needs comes from the earth. Nature treats the earth kindly... man treats her harshly... No man has the right to destroy soil, even if it is on their property.... (1938)*

This is at least as relevant for us today, as 58 years ago. The *New York Times* just recently described Wallace's ideas as being heavily influenced by the Soviet communist models. This sort of reactionary response is typical. The agricultural yearbooks these days are rather glossy, but at that time they were thick, serious reports with proposals for change. They included proposals for watershed management, even then. We may spend a lot of time trying to reinvent the wheel, when many things may be right underneath our noses.

As I read that, I asked myself why we're in the plight we're in tonight. It seems to me, a novice and an amateur historian, that agriculture has never evolved or developed in ways that we would have planned. If we had sat down to plan, I don't think agriculture would have evolved as it did. There really was no land policy; the objective was to make land available for development. People had to settle the land and get involved in some sort of enterprise to pay back loans. Farming is what they did; many of them defaulted because there were no markets for their products. As you look back, you realize we've had a fairly random agricultural development path in this country.

I'll return to my experiences with the Sustainable Agriculture movement and the Nature Conservancy and look at the clashes that have arisen between the two groups. Again, some have made claims that organic farming might be the

greatest threat to sustainable agriculture because it would occupy more land, and that would eat into our wilderness.

The reality is that there's not a lot of wilderness left in the US. The awareness by the environmental movement of what is actually happening on the ground is astounding. There's not a lot of wilderness left. A century after our Constitution.... most of the land had been given away by the government, most of it was settled. We at the Nature Conservancy realized that there are very few intact ecosystems in the United States.... so there is a serious problem with respect to the vitality and health of these ecosystems. How does the largest conservation organization in the US and the world deal with this? Our premise was that we were going to protect species by protecting habitat, and we were going to do that by buying land. So we set out with a strategy to raise money, and we were very successful in raising millions of dollars. Since its inception, we've preserved some 7.5 million acres of land. Today, when many environmental organizations are suffering from backlash against environmentalists and the economy, The Nature Conservancy is still doing okay. People understood what they were getting from us -- bucks and land.

Some ecologists pointed out that we're doing very well at buying and protecting land, but how are we doing with protecting biodiversity, our main goal? We're not doing very well. We helped a little, but basically every ecosystem in the U.S. was deteriorating. We had not kept up with science. We were still using the habitat by habitat, species by species approach, and that wasn't working. Our strategy was to buy land, put up "No Trespassing" signs, and a fence, and keep people out... so perhaps the species would flourish. That didn't work, because we've understood that nature never leaves anything undisturbed... disturbed habitats flourish. (The US Forest Service has begun to ask whether its a good idea to prevent forest fires...) Suddenly The Nature Conservancy found itself going out and setting forest fires. There is nothing new under the sun, but sometimes it takes us once, twice, three times to hear it before it sinks in. We understood that looking at a habitat wasn't going to do anything. Also, you cannot protect any particular species. You can protect habitat. Norman Meyers has also pointed out that 90-95% of all of the species ever on the planet in the past are already extinct. Ecological niches expand, change, and disappear. You cannot protect the species.

Can The Nature Conservancy begin to protect ecosystems? We finally figured this out, and began to move to protect ecosystems. And we finally began to understand that we need to keep people in our planning. We recognize now that we have to work with private landholders, because we can't buy all the land and ecosystems are where people live. We realized that the major players in all our efforts to protect biodiversity were farmers -- the major parties who understood our concerns, and frankly also our greatest threats -- from runoff from pesticides, manure, etc. Our first reaction was almost automatically that the farmers are the enemy. As we began to work more and more on the ground, we began to

understand that the best strategy was to work with farmers and help them to adopt sustainable strategies.

As opposed to the strategy that says that agriculture is the greatest threat to the environment, The Nature Conservancy is saying that the only way to protect domestic resources is to work with farmers. This may seem insignificant, but I would tell you that it's a major change and improvement in the environmental movement. I hope that environmentalists will recognize that farmers are a very unique and valuable ally across the country. When someone asks me what sustainable agriculture means, I tell them that The Nature Conservancy understands that it includes ecological viability, but also the economic viability of farmers.

What I fear, more than farming, is the disappearance of farmers from that land. When I was Secretary of Agriculture in Massachusetts, it was always an uneasy relationship between the farmers and environmentalists, an unholy alliance of people who understood they needed to work together but didn't entirely trust each other. We introduced programs to ensure that some agricultural land would be permanently preserved as farm land. I firmly believe that the best approach is no longer to buy land, but to make sure that farming remains profitable for local farmers. It's a new consciousness that's developed. I hope that land grant colleges will help us understand what practices are out there, available for us to introduce to the farmers we work with. I think you're going to find more and more farmers and environmentalists concerned with sustainability.

At the National Alchemy Institute, we found that we could be very productive with non-input agriculture, but still - we have all of these tools, but not necessarily a viable context for them. We can relay technologies to farmers when they ask for it, but what is more important is that we cannot control the animal of federal foreign policy. You can go so far with changing rules and the like, but eventually you come face to face with the policy. It's staring us in the face that the system is out of whack. This is not counterculture. This is a plea for "reality", because federal foreign policy no longer belongs to the people. I am talking particularly about farmers, but it really has to involve farmers. People don't understand, and they really must understand. I first really began to see this when I participated in the [Dial ????] for Sustainable Agriculture, which was the first time I really saw a cross section of the farming community gathered together. We had the people from this morning's panels, plus laborers, minority farmers,... We need to get our vision across. There is a vision out there for sustainable agriculture, small and large farmers alike, that we need to get across. Sustainable agriculture can be a process that is all inclusive.

The government is now considering some agricultural policies that could be very nurturing, very exciting for the country. It is a broad-based, grassroots effort. If people feel that the policies are out of their reach, what I'm here to say is that is your fault. Purchasing power is very influential. Individuals can decide to support

local farmers through local farmers' markets... it's perfectly possible. I am asking that cooperative agents look at this grassroots effort again to consider renewing it and reviewing it to see the change coming from the farmers. As I traveled around, I found that farmers were very responsive to these ideas. When I became commissioner of agriculture in Massachusetts, farmers knew exactly what National Alchemy Society was; farmers I contacted said "I think we could support it if it's not necessarily organic." They could accept that. The land base is constrained, and the pressure from environmental groups was very tight. Farmers saw the writing on the wall.... they said, "We want to anticipate the change." Educators were helpful in educating farmers on what we wanted to do. We worked hard on distribution centers and on farm income. We were equally concerned with farm income and environmentally sound regulations... we were serious about the regulations as well..... Eventually, the agreement was unanimously agreed to by big business, the government, farmers....

We said, "Let's talk with farmers about what the alternatives are and how they can try them." Many people thought it was crazy for us to open a public dialogue between the farmers and our constituents, but we felt it was important to be straightforward about this.

We've found in surveys that even after repeated farming with certain methods, there was little contamination of the soil or water. Its important to remember that there are a lot of good farmers. Many of these farmers followed generations of farmers, but readjusted their techniques recently. We need to go to them to ask them how to do sustainable agriculture, how to define it and make it work.

We raised and released bison on the prairies as a biodiversity strategy... joined the organization and helped us to release bison on the prairies. People asked him why he joined The Nature Conservancy, and he said it was because its effective and non-confrontational... We understood the importance of large-hoofed animals in circulating soils and stimulating the growth of natural vegetation. Ranchers asked whether cattle might be used to do this. We said yes, if they acted as the predators ...

In sum, Taoists and physicists, environmentalists and farmers are not so far apart. You folks have the stories to tell. We don't know what you know. We're going to be calling on you , and I hope that you will be calling on us, to get to your representatives and communicate to them about how you would restructure the agriculture bill to make it more sustainable and workable.

I thank you very much for the opportunity to speak with you this evening, and look forward to working together to turn the agricultural policy in this country around to something that is truly sustainable.

Questions and Comments:

What is the status of the farm bill now?

Response:
We began hearings, and it has gone through the House, and will go to the Senate. It's raising some fundamental questions not about the farm bill, but about agriculture in general..... questions about whether we could survive without the subsidy programs, what would happen if support for sugar or peanuts for export were removed. There's not an awful lot of time... there's time for you to be contacting your representatives. It's been a somewhat excruciating process to look into this, but we did that on your behalf, to help us identify the key issues, not just a laundry list of desired changes, so that we could in fact have some impact. This has resulted in an extraordinary coalition of individuals, that five years ago would never have thought they'd have any interest in agriculture.

What has been the reaction in Kansas?

Response:
There's been mixed reaction in administration, legislature, and agencies about policies, so it's hard to tell. I think if we do nothing but criticize and bash their policies, they have a right not to pay much attention. It's better for us to introduce some options that really do make sense. What I think is being considered is a bi-partisan approach to really look at our agricultural policy, bring together people from lots of regions of the country, to rethink the criteria for agriculture. If you begin to evolve away from just looking at farmers and introduce environmental aspects and specific concerns from small and medium farmers, I think you may find that even in Kansas there will be significant support from farmers for removal of the subsidies. Farmers now say that they would be very upset if they lost their subsidies, but so long as they are eligible they can take discounts for competitive regions. Remember I'm talking about sustainability in terms of agricultural yields and agricultural development.

Thinking back on biodiversity and connecting to the Biodiversity Treaty, do you think Clinton's reaction would have been the same if we had approached him in the way you're suggesting for agriculture?

Response:
I would suspect we'd really still have a way to go to assume that sustainable agriculture is on the radar of Clinton, although that's not impossible.

Have we influenced Congress at all? Is there any feeling that we've gained anything?

Response:
We were very surprised; we had in no way anticipated the shakeup in congress on 8 November. Certainly we cultivated empathy from many candidates who are no longer in office. With the change you went from an 80% voting record on environmental issues to an 8% vote.

We're going to need to go back to them about the small farms. There is the impression that small farms are not making it and cannot without the assistance of government... We need to get the message across to them that is not true.

If we ever needed to reactivate, the time is now -- grassroots organizing, getting the word out, considering this yourselves and bringing together others. You could see much of the last 60 years of sustainable agriculture legislation unraveling in the next few years. The only way that won't happen is if we get our position out there.

Getting to state legislatures is also vital. There are several tactics. What we want to do is not only present an agenda, but tell our stories. We want to get across the message that this is still viable, by talking about sustainable agriculture's impact and the diversity of our experience -- about what it is that has worked. We need to give positive examples of how we can craft and model a workable agricultural system. The agricultural subsidy programs are one of the sacred cows that people will look to cut first. We need to prepare not only other stories, but specific responses to the inevitable criticisms about the poor use of those funds.

V. SUMMARY SESSION

"Building Local Partnerships"

Overview

Participants identified points of difference and opportunities for agreement within sustainable agriculture practice. Posters summarized major themes, ideas, and technologies discussed in each of the earlier workshops. Learned about a conflict management approach to building consensus among organized groups with divergent interests. Specific actions were designed to promote partnerships between individuals and groups that are concerned with the problems of rural communities, agriculture, the environment, and our food system. Decided what outcomes from the conference are essential to share with constituent groups.

Workshop Panelists:

David Deshler, Agriculture Extension and Adult Education, Cornell
Merrill Ewert, Agriculture Extension and Adult Education, Cornell

Workshop Summary, David Deshler
This closing session of the conference began with participants visiting poster displays set up around the outside walls of the assembly room. These poster displays provided summaries of major themes, ideas, and technologies discussed in each of the workshops held during the conference. At each poster display there were workshop recorders who further explained the content of their workshop and entered into conversation with those who had not attended that workshop. This gave participants an opportunity to learn about themes that had been developed through workshop dialogue across the conference.

After participants were seated at tables, Merrill Ewert challenged them to review their findings from workshops and speakers by looking for points of divergence and convergence. He asked them to come to some resolution on points of convergence if possible; moving on towards specific points of action that could be taken by persons holding a variety of positions. He said that the effort depended upon: 1) The ancient skill of handwriting on cards provided at each table; 2) Listing points of convergence and divergence on individual cards; and 3) Reading and discussing all the cards at each table and then passing them on to other tables for comment.

<u>The following points of convergence were summarized from the cards that participants wrote at tables</u>:

- Rural areas and farms are in trouble
- Quality of agricultural and rural life was a value that all supported
- All held a concern for environmental protection
- Economic viability for sustainable agricultural practices was needed
- Market development can provide a key to sustainable farming
- Property tax increases made sustainable agriculture more difficult
- Incentives for environmentally sound agriculture were needed
- Agricultural education should be provided for all.
- Understanding each others positions and interests will help
- Find ways for diverse groups to work together
- Value on farm research with farmers as participants
- Farmers themselves should be involved in education
- Both natural environments and communities need improvement
- Decision-making should be community based
- Farm workers should participate in the decision-making process
- Everyone appreciates good food

The following themes were reported as not being resolved and were still a source of divergence among participants:

- Is international competition good for the environment?
- Which agricultural methods contributed to sustainable agriculture?
- Is soil testing good?
- How much should the government be involved with agriculture?
- Should change be resisted or embraced?
- How safe is safe?
- How should the interests of agriculture in the northeast be united?
- Should regulations be emphasized or more incentives provided?
- What are public perceptions and beliefs about agriculture?
- Methods should be used to improve viability of sustainable agriculture?
- Is competition necessary?
- Is science reliable?
- Can organic agriculture be profitable?
- What defines "quality of life?"
- Should farm workers have the right to collective bargaining?

David Deshler remarked that the conference had provided an opportunity for participants to practice conflict management and dispute resolution among a variety of stakeholders who were present. He presented a framework for addressing conflict that has been used by the Community Dispute Resolution Center, Ithaca, New York.

Conflict management includes the following stages:

- Define agenda, process, and ground rules for mediation
- Parties tell their stories and their positions are identified.

- Positions are translated into interests
- Information is collected and alternatives are generated
- Options are developed and explored
- Recommendations and agreements are developed

He commented that the design of the conference had been based on some of these stages and that the workshops were intended to encourage parties to tell their stories, present their positions, explore mutual interests, and identify alternatives and options for sustainable agriculture.

When assisting parties to a dispute, listening is essential. David Deshler said that the Community Dispute Resolution Center suggest that listeners and mediators should: 1) Convey respect; 2) Model listening; 3) Convey empathy; 4) Learn other perspectives; 5) Discover causes of conflict; 6) uncover misunderstandings, 7) Discover interests; 8) Hear positions; 9) Learn to respond to offers; 10) Discover commonalities; 11) Discover the positive; 12) Find Room for movement; 13) Discern softening of attitudes; and 14) Discern readiness to settle. David Deshler commented that many participants at the conference had been practicing this art of listening at the conference and that this had generated positive understanding across a variety of divergent positions.

Merril Ewert asked participants to define specific actions designed to promote partnerships between individuals and groups that are concerned with the problems of rural communities, agriculture, the environment, and our food system. Participants were asked to decide what outcomes from the conference should be shared with constituent groups. What essential steps could be taken on convergent items?

<u>Participants listed the following</u>:

- Include diverse participants in follow-up farm tours.
- Request that agencies be more inclusive of previously excluded interests (such as environmental groups)
- Focus on some basic interests, look at shared interests and how to get there.
- Provide personal testimony to legislature on preservation of county farm land.
- Recognize conflict and work toward resolution.
- Learn about conflict management approaches to building consensus among organized groups with divergent interests.
- Visit schools to teach kids about agricultural commodities; where food comes from; in order to improve understanding of food systems.
- Get consumers researchers, farmers, policymakers to design strategy to identify needed information to share.

- Read newsletters and journals including Northwest Farming Foundation.
- Set up a telephone action line as a sustainable agriculture action group.
- Sponsor sustainable agriculture seminar series, conferences, workshops.
- Avoid spending too much time talking to ourselves. Educate the non-farm sector.
- Talk to county legislatures including congressional office holders to get "our point across." People from different groups could go together.
- Improve public awareness regarding benefits for supporting locally produced food in NY.
- Spread ideas from this conference through service clubs, exchange of newsletter articles, newspaper, and other mass media.
- Build a broader definition of 'sustainable agriculture'.
- Provide mini-conferences like this one at the local level.
- Start and promote farmer's markets.
- Institute organic labeling standards.
- Undertake participatory action research on techniques as well as on public policy issues.

Media Release

CONSUMER ISSUES TO BE EXPLORED AT FARM CONFERENCE

Consumers have the potential to shape the future of farming through their food preferences. Does the food supply offer choices that encourage a sustainable food and agriculture system? The sustainability of our food system will be discussed at the "Farming for the Future: Partners in Stewardship" conference. The conference will be held at the Sheraton University Inn & Conference Center on Wednesday, Feb. 22, and Thursday, Feb. 23.

"A food system that makes us truly food secure not only provides for a safe, nutritious and abundant food supply but also protects and even improves the ecological systems upon which it depends," explained Jennifer Wilkins, nutrition educator at Cornell University. Dr. Wilkins is one of 55 panelists who will present their views on critical agricultural issues at the conference. She will focus on consumer issues.

The conference will include consumers, community leaders, government agency staff, agribusiness people, environmentalists, farmers and farm advisors. "There is a need for productive dialogue among the various groups of people concerned with the sustainability of agriculture in the Northeast," according to conference coordinator Suzanne Cady. The conference is designed to bring people with different points of view together to discuss the future role of agriculture in their communities.

Workshops will examine topics of consumer interest that often create conflict. Topics include public concerns about food safety, community land use planning, sustainable production and management of landscapes, and the effect of dairy farming on water quality. Other sessions will discuss production, marketing and policy concerns for fruits and vegetables and cash grain farms. Participants can share their points of view and learn skills for building partnerships among diverse interest groups.

The conference is co-sponsored by Cornell Cooperative Extension, Agway, Cornell Farming Alternatives Program, Finger Lakes Organic Growers Cooperative, Natural Resources Conservation Service, and Northeast Sustainable Agriculture Research and Education, among other groups.

To register, contact Pam Kline, Department of Soil and Atmospheric Sciences, 144 Emerson Hall, Cornell University, Ithaca, NY 14853. Tel. 607-255-2177.

MEDIA RELEASE

FUTURE OF FARM-COMMUNITY RELATIONS TO BE DISCUSSED IN CONFERENCE

Today's farmers are often caught in the middle between the conflicting demands of consumers, environmentalists, government regulations and their own economic needs. Representatives of these groups will meet to discuss their differing views of agriculture in a conference titled "Farming for the Future: Partners in Stewardship," to be held February 22 and 23, 1995, at the Sheraton University Inn and Conference Center in Syracuse.

The conference developed out of a series of six annual "Transitions" conferences organized by Cornell's Farming Alternatives Program. Previous conferences were aimed primarily at farmers; this event is intended to bring farmers, local government planners, agriculture and agribusiness professionals, extension agents, consumer advocates, environmentalists and others together.

'The goal of the conference is to broaden the perspectives of people from these different interest groups, and give them the skills to work collaboratively," said Suzanne Cady, the conference coordinator. "We want the conference to be educational and inspiring, but at the same time we want to examine issues that create conflict."

Workshops will deal with current controversies in agriculture such as the effect of dairy farming on water quality, public concerns about food safety, and whether new government regulations help or hinder farmers who are trying to follow "sustainable agriculture" approaches. There will be sessions devoted to the cash crop, grain, fruit, vegetable, dairy, landscape, and ornamental industries.

The conference is co-sponsored by Cornell Cooperative Extension, Agway, the Cornell College of Agriculture and Life Sciences, Cornell Farming Alternatives Program, the Northeast Organic Farmers' Association of New York, USDA Natural Resources Conservation Service (formerly Soil Conservation Service), and several other groups.

For more information or to register for the conference contact Pam Kline, Department of Soil and Atmospheric Science, 144 Emerson Hall, Cornell University, Ithaca, NY 14853, 607-255-2177.

FARMING FOR THE FUTURE: PARTNERS IN STEWARDSHIP EVALUATION SUMMARY

Overall success of conference in meeting participant needs:

Outstanding 17% Good 80% Fair 3% Poor 0%

*170 people including speakers attended Farming For The Future Conference and 60 evaluation forms were returned

Rating of each workshop by conference participant:

How useful to you	Highly	Somewhat	Not at all
	----------%----------		
Understanding Diverse Perspectives (opening session)	67	33	0
Can Dairy Farms Coexist With Clean Water?	72	28	0
Holistic Resource Management: A Useful Tool For Land Use Planning?	18	82	0
Are Fruits and Vegetables Safe to Eat?	58	40	0
Innovative Management and Marketing Options for Cash Grain Production	57	43	0
What are the Economic & Environmental Impacts of Intensive Rotational Grazing?	80	20	0
How Does Sustainable Agriculture Affect Farm Labor?	50	50	0
Does Nutrient Management of Fruit and Vegetable Production Affect the Environment?	0	100	0
Do New Developments in Federal, State and Local Agriculture Policies Promote Sustainable Agriculture?	52	45	0
Building Local Partnerships (Summary Session)	27	67	7

Evaluation questions and pertinent comments by workshop participants:

Below are the different participant categories:

A. Farmer **B.** Community Development Planner **C.** Consumer Advocate

D. Environmentalist **E.** Extension Agent /Farm Advisor **F** .Farmer/Environmentalist

G. Other (Government Agencies, Agricultural Business, Academic)

1. Please comment on any sessions that were particularly useful to you.

A. Farmer

*may use some of the processes of decision making discussed in the Holistic Resource Management (HRM) workshop
*all sessions attended where highly useful, in particular: Innovative Management and Marketing Options for Cash Grain Production
*while somewhat interesting the summary session was not up to the rest of the conference as far as an applicable presentations
*all- information on fruit and vegetable safety will use with staff and customers
*policy information with city and state officials and other organizations was useful
*HRM workshop was very good but too much essential information in too little time
*excellent question and answer session in small grain workshop
*opening session was well prepared, it was good to get diverse viewpoints
*all sessions had great diversity of organizations

B. Community Development Planner

*farm labor workshop- would like more writing by FAD and others about building a sustainable labor force as follow-up

C. Consumer Advocate

*would have liked more emphasis on organic farms
*appreciated the comments of organic farmers in the Are Fruits & Vegetables Safe...--liked the fact we could all talk together

D. Environmentalist

*Dairy Farms & Clean Water...--the new program proposed was very interesting
*Do New Divisions in Federal State...--promoting sustainable agriculture was useful
*farm labor session was very interesting & clean water workshop was well structured
*fruit and vegetable safety--put decision on safety in hands of consumer by labels identifying origin would help markets for N.Y. perusing sustainable agriculture
*in Dave Deschler's comments on dispute resolutions he discussed generating alternatives, developing and explaining options and I realized that this was missing from the conference.

E. Extension Agent/Farm Advisor

*the labor session was great, the presentation by Jennifer Wilkens and Jim Barney were excellent

*HRM workshop-- I learned more about teaching and communicating and human dynamics and perspectives

*grazing workshop was excellent

*session on HRM tended to give me a shot of encouragement for lifetime-held view on problems and solutions

*session on federal state and local policies has reconfirmed my long term views and ideas

F. Farmer/Environmentalist

*HRM workshop needed more time

*HRM, opening session, and "do new developments in federal, state and local agriculture.." could have been more hands on and practical information

*would have like to have had small round table discussions at workshops

G. Other (Government Agencies, Agricultural Business, Academic)

*most useful part of the conference was the people part, new names, new contacts

*excellent opening session

*HRM, opening, and closing sessions were great

*labor session was impressively diverse

*farm labor session was very thought provoking --even though it did not answer all my questions, it helped with forming the kind of question people in sustainable agriculture should be asking about farm labor

*food safety was very interesting but needed to be more understanding of other view points

*opening session created a lot of discussion

*try to have more interaction between people attending workshops and people with exhibits

*impressed with the attendance, organic farmers intermixing with commercial farmers, environmental groups mixing with government groups--ten years ago you could have never gotten them all in the same room together, much less talk

Summary of Comments for Question #1: The HRM workshop and the Farm Labor workshop seemed to stand out the most. The HRM workshop was extremely helpful to all types of individuals (from farmers to government agencies) and shared useful information on decision making, communicating, and time management. The Farm Labor workshop challenged people working in sustainable agriculture to consider labor issues and to help formulate relevent questions.

2. Will you make any changes in your work as a result of this conference? If so, please explain possible changes, and what inspired this change.

A. Farmer

*possible organic certification
*will try to work more cooperatively with groups concerned about food system and security
*will use HRM in my personal planning
*establish dialogue with local farmers as to their needs and concerns
*increase networking with groups presented at conference
*fewer conferences
*want to learn more about the new biological controls (predators) being looked at by researchers
*more soil testing

B. Community Development Planner

*better networking with farmers, and Farm Bureau

C. Consumer Advocate

*begin to build partnership with Farm Bureau
*will campaign for sustainable agriculture/conference made me realize how important it is to help this program

D. Environmentalist

*conference gave deeper understandings of issues and perspectives
*disappointed in farmer turnout, should make it more affordable
*invite farmers and Agricultural advisors like Carol Montgomery and Wm Albrecht, who are implementing scientific breakthrough on soils, plants, and animal health to ensure farmers across county to farm profitable by sustainable agriculture

E. Extension Agent/Farm Advisor

* met new colleagues developed partnerships instate and at VT Boarders
*made several important contacts
*would like to get involved with food system policy
*If you want to involve more extension agents there needs to be more incentives ; i.e. cost sharing
*will work more with NRCS, counties, districts, etc. instate and along VT boarders to create new partnerships
*has provided some encouragement to again try for more in the way of solutions via the "horizonal" approach while facing the pressure of parochial/vertical obstacles/attitudes/policies
*more insight for agriculture and Farmland Protection Board

F. Farmer/Environmentalist

*follow NY Farm Show

*changes in manure management, fertilizer management and look at the impact these materials will have on our environment

*will do more research on environmental and farm management practices before we change and improve

G. Other (Government Agencies, Agricultural Business, Academic)

*my horizons were broadened, and perspectives changed.

*feel more comfortable with organic agriculture now

*will interject HRM principles and expand networking opportunities

*will disseminate knowledge to other people

*walked away with a more optimistic outlook

*will bring some of the messages I heard to my constituents as I go around talking to them about food safety

*will reach out to other groups to recruit new members and educate for the understanding of realities of economic problems

*want to do more work on economic viability of sustainable practices

*yes will make changes in my work--conference pointed out the opportunities and challenges faced when establishing dialogue with people holding diverse opinions/attitudes

Summary of comments for Question #2: The conference provided a better understanding of the common thread that exists between the many different groups represented. Participants came away with a greater interest in creating new partnerships and building stronger networks amongst themselves.

3. Farm Tour Suggested Topics

*whole farm planning
*organic farm operations
*organic vegetable and orchard
*manure management and expected regulations
*new biological control research
*milk processing and marketing
*no-till planting fields of rye, wheat, oats
*soil quality and composting
*land use planning
*what do conventional farms do to be sustainable
*diversification within a farm
*include a visit to farm labor camp
*profitability of sustainable agricultural techniques
*dairy farms, cooperatives dealing with sustainable agriculture
*advanced IPM strategies
*multi-species grazing
*enhancing the quality of life for farmers--HRM of farms show us some examples

4. Farms Suggested

*Columbia Co. livestock: deer, dairy goat, 1000 cow dairy (J Calhoun)
*Grindstone Farm, Dick DeGraff
*John Meyer farm in Seneca
*Klaas Martens, Pan Yang: organic vegetable modeling on computer program he wrote
*NOYA
*Noblehurst Farms
*HiFi farm, Dave Fisher: grazing system
*Karl North, Arkville, NY
*Mark & Sarah Russell, Sudbury, VT: seasonal dairy (HRM)
*Russ Kowal, Orange Co.: onion farmer
*Stephen Penning, Orange Co.: orchardist
*Allen Baird, Orange Co.: dairy farmer
*Morse Pitts, Orange Co.: organic farmer
*Alasa Farms, apple IPM

5. Distance Willing To Travel.
(listed in order of choice)

1. 1 hour = comfort zone 75-100 miles
2. 1-2 hours 120-180 miles
3. up to 4 hours 200-300 miles
4. any distance

many other county agencies and organizations. For more information contact Norman Greig, Dutchess County Farm Bureau President, (914)758-1234.

What is New York Farm Link?

The future of New York agriculture depends on young people being able to enter farming. But the barriers can seem insurmountable. Farming is a capital intensive business, and few young people have the economic resources for start up. At the same time, many older farmers are finding it difficult to phase out of farming and maintain adequate resources for retirement. FarmLink brings together experienced farmers who are looking toward retirement with young farmers looking toward a future in agriculture. The program also provides assistance to families in the process of transferring their farm business to the next generation. The NY FarmNet toll-free number, 1-800-547-3276, serves as an access point for the program and the statewide database of beginning and exiting farmers. A FarmLink advisor is available to work with both parties, providing one-to-one assistance with the decision making and transfer process. The advisor can also provide relevant resources, recommend workshops and make referrals to appropriate professionals for developing the transfer arrangement.

Agricultural Tourism Brochure Receives Funding

A $35,000 state grant has been awarded for the publication of an agritourism brochure featuring the rural resources of Seneca, Yates and Ontario Counties. The brochure project is being sponsored by the Sullivan Trail Resource Conservation and Development Council. Agriculturally-based enterprises, wineries, farm markets, areas of particular beauty, and natural resources are among the dozens of rural attractions which will be highlighted in the brochure. The brochure is expected to be available next spring. It will be distributed by local tourism agencies and at the New York State Thruway rest stops.

The project is funded through a grant from the Regional Economic Development Partnership Program, which is part of the New York State Department of Economic Development and contributions from the Ontario County Four Seasons Development Corporation, the Seneca County Department of Economic Development, Planning & Tourism, and the Yates County Industrial Development Agency and others.

Sullivan Trail RC&D also recently completed a forest industry marketing brochure. For more information on either of these projects, contact Richard Winnet, Sullivan Trial RC&D, (607)776-9631. ❑

UPCOMING EVENTS

Transitions Conference Gets a New Name And a New Boost! New ideas, new speakers, new co-sponsors, and new audiences will be coming together this winter for the biggest and most significant sustainable agriculture conference yet organized in New York State. Building on the successful *Transitions* conferences held annually since 1989, the 1995 conference will be expanded to include two full days of workshops and speakers, resource displays, and networking sessions. It will be geared for an expanded audience of farmers, agricultural educators and consultants, rural community leaders, environmentalists, planners, policymakers and others at the cutting edge of issues affecting the future of agriculture in our region.

Mark your calendars now for *Farming For the Future: Partners in Stewardship*, to be held February 22–23 at the Sheraton University Inn and Conference Center in Syracuse. Sessions focussing on dairy/field crops, vegetables, fruits and ornamentals will provide opportunities for producers and specialists to share successful innovations in soil and nutrient management, pest management, and marketing. Sessions for educators, consultants, agency staff and others will focus on program planning and implementation strategies, building partnerships and professional networks, and strategies for working with diverse audiences.

Farm-related organizations please send us your latest news and announcements! The *Farming Alternatives* newsletter is a great way to share information with other farmers and groups in New York State and the region. Send submissions for our winter issue by November 15.

Pesticide Recertification credits and Certified Crop Advisor credits will be offered for selected sessions. Conference goers will also be able to take in the Farm Equipment Show running Feb 23–25 at the State Fair grounds nearby. *Farming For the Future* is sponsored by Cornell Cooperative Extension, Agway, Northeast Regional SARE Program, Cornell Farming Alternatives Program, Soil Conservation Service, NOFA-NY, and many others.

Don't miss it! For more information and registration materials, contact Pam Kline, Department of Soil and Atmospheric Science, Cornell University; (607)255-2177.

Agricultural Marketing Seminars offered this fall and winter by Cornell Cooperative Extension of Dutchess County: Contact Les Hulcoop, Cornell Coop. Ext. of Dutchess County, (914)677-8223.

November 16, 2–5pm *Does a Farm Tour Fit into Your Farm Market Plan?*

December 7, 2–5pm *Local Chefs and Farms Round Table Discussion*

December 14, 2–5pm *Farm Market Opportunities*

February 22, 1995 *Helpful Hints on Marketing*

March 1, 1995, 2–4pm *Brochure Workshop*

Farm Bill Policy Meetings. The New York Sustainable Agriculture Working Group (NYSAWG) will sponsor its third set of meetings on policies for fostering a more sustainable food system. Meetings will focus on planning and mobilizing to impact the farm bill. For more information, contact Kathy Lawrence, (718)622-0746.

November 5, 9:30–5pm, *Your Food Today! and Tomorrow?* Contact Kathy Lawrence, (718)622-0746.

November 14, Dutchess County. Contact Les Hulcoop, (914)677-5006.

November 15, 6–8pm, Elmira, NY. Contact Kathy Dubel, (607)734-9784.

November 16, 12–5pm, Syracuse, NY. Contact Karen Kerney, (315)475-7190.

November 17, 6-9pm, Western NY. Contact Michel Attia, (716)546-7180.

Catskill Agriculture Conference sponsored by Catskill Region agricultural groups. *Catskill Agriculture: Expanding the Po$$ibilities*, will be held at SUNY-Delhi, Delhi, NY on November 19, 1994. The conference is aimed towards traditional and conventional Catskill Region farmers/ producers interested in improving profit margins. Includes information on marketing and resource management. For more information, contact Sally Fairbairn at the Catskill Center, (914)586-2611.

The 1995 New York State Farmers' Direct Marketing Conference will be on February 7–9, 1995 at the Sheraton Inn, Batavia, NY. The conference will feature presentations on financial analysis, tourism, merchandising, customer relations, and others, as well as a trade show and a tour of farm markets. Contact Cornell Cooperative Extension county offices or Ken Silsby, Conference Chairperson, (716)433-2651 for registration information.

The New York State Vegetable Growers Conference will be held February 14–16, 1995 at the Sheraton Inn & Convention Center in Syracuse, NY. In addition to commodity presentations and a trade show, new features this year are a potato short course and an all-day cultivation conference (see below). For more information contact Jean Warholic, NYS Vegetable Growers Association, (607)539-7648.

Cultivation Conference, February 16, 1995 at the Sheraton Inn & Convention Center in Syracuse, NY. This day-long event is devoted to mechanical weed control in field and vegetable crops. Highlights will include first hand experience and tips from farmers, a trade show and the latest field research in the Northeast and Canada on equipment alternatives, timing of cultivation, options for in-row control, integrating mechanical and chemical control, and cultivation in conservation tillage. The Cultiva-

Appendices for the Table Rock Farm Tour

CORNELL
UNIVERSITY
NEWS
News Service ■ Village Green ■ 840 Hanshaw Road ■ Ithaca, New York 14850-1548 ■ (607) 255-4206 ■ Fax (607) 257-6397

FOR RELEASE: JULY 21, 1995

Contact: Blaine P. Friedlander Jr.
Office: (607) 255-3290
Home: (607) 844-3073

CORNELL TOUR OF ENVIRONMENTALLY FRIENDLY DAIRY FARM IS AUG. 17 IN CASTILE, N.Y.

ITHACA, N.Y. — Agriculturalists will have a field day learning to implement sound environmental strategies at the "Sustaining Agriculture in New York State with Agriculture Environmental Planning" tour on Thursday, Aug. 17, at Table Rock Farm, Castile, N.Y. (Wyoming County).

Farmers, extension agents, farm advisers, environmentalists, agricultural business people as well as employees of local, state and federal conservation agencies are invited to tour Table Rock Farm, which has had a long history of environmental enhancements. In 1994, the 850-cow farm won the Progressive Forage Producer Award from the New York State Forage and Grassland Council. The farm received the award for its conservation practices, manure management and for being one of the first dairy farms in New York to implement integrated pest management practices.

"Table Rock Farm maintains a unique and positive philosophy regarding environmental management," said Michael Walter, professor and chair of Cornell's Agricultural and Biological Engineering Department.

This tour is funded by the Sustainable Agriculture Research Education Program of the Northeast Region. It also is sponsored by Cornell Cooperative Extension in cooperation with USDA Natural Resource Conservation Service, NYS Soil and Water Conservation Districts and the NYS Department of Agriculture and Markets.

Topics on the tour include:

- Voluntary Farm Environmental Planning;
- New York State Responsible Environmental Agricultural Proposal;
- Farm Environmental Assessment; and
- Maintaining Favorable Farm-Neighbor Relations.

The $15 fee includes catered lunch at Letchworth State Park, as well as bus transportation from Ithaca. For information, contact Bernadine Italiano, (607) 255-0417, or through e-mail at <bji3@cornell.edu>.

-30-

(334/95)

ENVIRONMENTAL MANAGEMENT
SUSTAINING AGRICULTURE IN NEW YORK STATE

FARM TOUR AGENDA

9:30 - 10:00
Registration

coffee, juice and donuts available. Informally view parlor

10:00 - 10:30
Welcome and Introductions

Introductions, purpose of tour, mention of farming for the future conference, and why voluntary farm environmental planning
Nate Leonard, *pro-dairy, cornell cooperative extension*

Introduction to New York's States Environmental Planning proposal and its importance in sustainable agriculture
John Wildeman, *new york state conservation committee*

10:30 - 12:30
Voluntary Farm Environmental Planning as applied to Table Rock Farm

Introduction of history of farm, particularly regarding early environmental work (IPM/potato leafhoppers & aphids -- soil conservation/diversion ditches etc.), cooperative research
- handouts given by CMA
- tour manure pit, comment on manure storage and handling.
- heifer barn, talk about keeping "clean water clean"
- fuel tanks, discuss fuel tank history, leak, and working with DEC
- visit silo effluent collection area and talk about system, and the need for it
- discuss ration balancing for favorable economic and environmental impact. Point out scales used to weigh in and out all farm products

Bruce Tillapaugh, *cornell cooperative extension*
Willard De Golyer, *table rock farm*
John Diebel, *western new york crop management association*
David De Golyer, *table rock farm*
Danny Fox, *cornell university*

Discuss farm planning process. CMA, NRCS/SWCD, and extension

Open discussion

12:30 - 12:45

drive by diversion ditches, site of fuel leak, and continue to Letchworth park for lunch

12:45 - 1:30
LUNCH AT TRAILSIDE SHELTER

1:30 - 2:30
New York State Responsible Environmental Agriculture Proposal

Introduction to proposal, and how it could simplify conformance with all Federal, State and Local environmental standards. There will be an overview of details of the program, and how it will be used by farmers. Session will discuss the certification process of the proposal, and the impact of the program on New York State Agriculture

John Wildeman, *new york state conservation committee*
Rich Lewis, *nrcs/new york state soil and water conservation committee*
Dave Dodge, *new york state department of ag and markets*

2:30 - 2:55
Farm Environmental Assessment

How to use environmental assessment on your farm operation. Participants will have the opportunity to use several environmental assessment work sheets, and to review the results on Table Rock Farm and other farms

Peter Wright, *cornell cooperative extension*

2:55 - 3:20
Maintaining Favorable Farm, Neighbor, and community Relations

Willard De Golyer talks about starting friends of agriculture, the farms philosophy about keeping good community, neighbor relations, and will gives examples of how he has accomplished this goal

An overview of topic, importance, and possible solutions. Will Introduce a new cornell publication addressing these issues

Willard De Golyer, *table rock farm*
Duncan Hilchey, *farming alternatives program, cornell university*

3:20 - 3:30
Concluding Remarks

3: 30 - 6:30
Bus travels back to Ithaca with intermediate stops

Best Management Practices for Agriculture

Access Road Improvement

Alternative Water Supply

Barnyard Runoff Management System

Conservation Tillage:
- Minimum Till
- No-Till

Constructed Wetlands

Contour Farming

Cover and Green Manure Crop

Critical Area Protection:
- Permanent Vegetative Cover
- Streambank and Shoreline Protection

Crop Rotation

Diversions

Fencing

Filter Strips

Fuel Storage Spill Containment

Grassed Waterway

Integrated Pest Management (IPM):
- Biological Controls
- Cultural Practices
- Resistance Crop Varieties
- Scouting
- Trap Crops

Irrigation Water Management:
- Scheduling
- Trickle Irrigation

Nutrient Management:
- Composting
- Fertilizer Management
- Land Application of Manure
- Manure Nutrient Analysis
- Manure Storage System
- Soil Testing

Nutrient/Sediment Control System

Pasture Management:
- Short-Duration Grazing Systems

Pathogen Management

Pesticide Management:
- Computerized Precision Application
- Evaluation of Site Specific Leaching and Surface Loss Potential
- Pesticide Handling Facility
- Pesticide Applicator Education and Training
- Proper Equipment Calibration
- Proper Timing of Pesticide Application
- Read and Follow the Label Directions

Riparian Forest Buffer

Silo Leachate Management

Stripcropping

Terraces

Fact Sheet

NYS Agricultural Nonpoint Source Abatement and Control Grant Program

Program Objective -- To fund projects on one or more farms which will reduce and/or prevent nonpoint source pollution from agriculture activities through the implementation of best management practices in a watershed of a priority waterbody (surface or groundwater) as identified by the Commissioner of Environmental Conservation.

Best Management Practices -- Are those practices eligible for funding listed on the back of this sheet.

Eligible Project Costs -- Include architectural and engineering services, the cost of preparing plans and specifications, consultant and legal services, and other direct expenses related to project construction.

Maximum Cost-Sharing Allowable -- The matching grant may be up to 75 percent of the total eligible project costs.

Farmers Match -- Can be in cash or in-kind services.

Funding Available -- $800,000 was available for Rounds I and II. We hope to have $1,000,000 available for Round III. The Request for Proposals (RFP) will be sent out in October.

Amount and Type of Projects Funded -- Twenty-one projects in 17 counties were selected for funding in Rounds I and II. The projects funded ranged in cost from $4,147 for a streambank protection project in Essex County to $139,500 for a complete manure/barnyard runoff/milkhouse waste management system for a dairy farm in Jefferson County.

Eligible Applicants -- Soil and water conservation districts are eligible to apply for these state Environmental Protection Funds on behalf of one or more farms in a watershed. The soil and water conservation district, if the project is approved, will administer these funds locally and provide project oversight.

Method Used to Select Projects for Funding -- Projects are selected by the NYS Soil and Water Conservation Committee. Projects submitted are evaluated on their potential for clearly addressing a water quality need or opportunity, the cost effectiveness of the solution proposed, and whether there is strong evidence of local support for the project.

REAP (RESPONSIBLE ENVIRONMENTAL AGRICULTURAL PLANNING)

HOW DID THE CONCEPT GET STARTED?

Commissioner of Agriculture and Markets, Richard McGuire and Dean of the College of Agriculture & Life Sciences, David Call created a Task Force in response to farmer concerns about:

- Federal and State nonpoint source (NPS) pollution regulations
- Recent court suits and enforcement actions
- Proposed local regulations regarding NPS pollution

WHAT IS REAP?

A program to provide farmers "one stop shopping" to develop and implement environmental farm plans. This is an opportunity for the agricultural community to be proactive and avoid regulations. The program will be:

- Voluntary
- Tailored to each individual farm
- Administered by local people familiar with farmer concerns
- Targeted at real threats to the environment
- Documenting the farmer's current environmental stewardship
- Focused on recommendations that are economically feasible
- Accomplished through a tiered planning approach
- Promoted through the use of incentives

HOW WILL FARMERS FIND OUT ABOUT THE PROGRAM?

An educational component is under development and will be delivered to the farm community and others consisting of activities to:

- Create a awareness among farmers, policymakers and others about environmental issues related to agricultural activities
- Implement a farm level effort to improve farm/neighbor relations to prevent conflicts and to provide farmers with a means to conduct a self assessment of the environmental risks posed by their current farming activities to help them determine if they need technical assistance
- Educate and train certified planners to develop, implement and evaluate environmental farm plans

The local Cornell Cooperative Extension will have leadership for the education component with assistance from the Soil & Water Conservation District, Natural Resources Conservation Service and others.

WHAT IS THE TIERED PLANNING APPROACH?

A method to address agricultural environmental issues using several levels of criteria to assess the extent of water quality needs on individual farms. The method will give credit for everything the farmer has done to date. The tiers used are as follows:

Tier I Questionnaire regarding farm practices and potential concerns to be completed by the farmer

Tier II Worksheet assessing resources and management in areas where the questionnaire indicates a potential concern; to be completed by the farmer with assistance from a certified planner as needed.

Tier IIIA NPS Implementation Plan indicating Best Management Practices (BMPs) needed to solve a concern identified on the worksheet where comprehensive planning is not called for to be completed by the farmer and a certified planner.

Tier IIIB Whole Farm Action Plan addressing multiple concerns identified on the worksheet, considering all farm resources (including economics) and developed by the farmer and a team of certified planners.

The Soil & Water Conservation District has leadership for planning, with assistance from the Natural Resources Conservation Service, Cornell Cooperative Extension and others.

WHAT INCENTIVES WILL BE USED TO ENCOURAGE PARTICIPATION?

- Cost-sharing through the Agricultural Nonpoint Source Abatement Program to implement BMPs on farms in priority watersheds to address agricultural NPS concerns. The program was initiated in 1995 and is administered by the NYS Soil & Water Conservation Committee and Ag & Markets at the State level and the Soil and Water Conservation District at the local level.

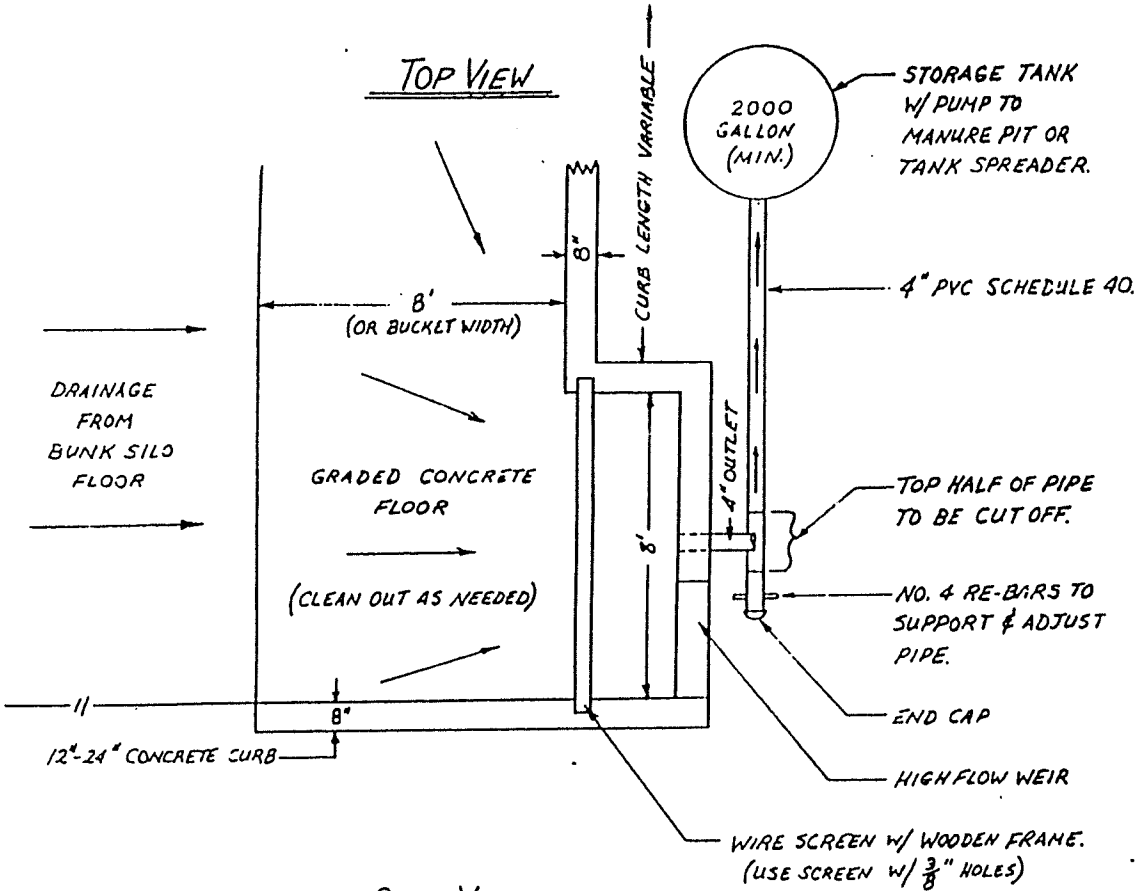
- Other proposed incentives are:
  -Regulatory relief from state and local regulations
  -Tax credits
  -Interest and insurance rate reductions
  -Improved farm profitability
  -"One stop shopping plan" telling what is needed/how to address

WHAT CAN I DO AS A FARMER?

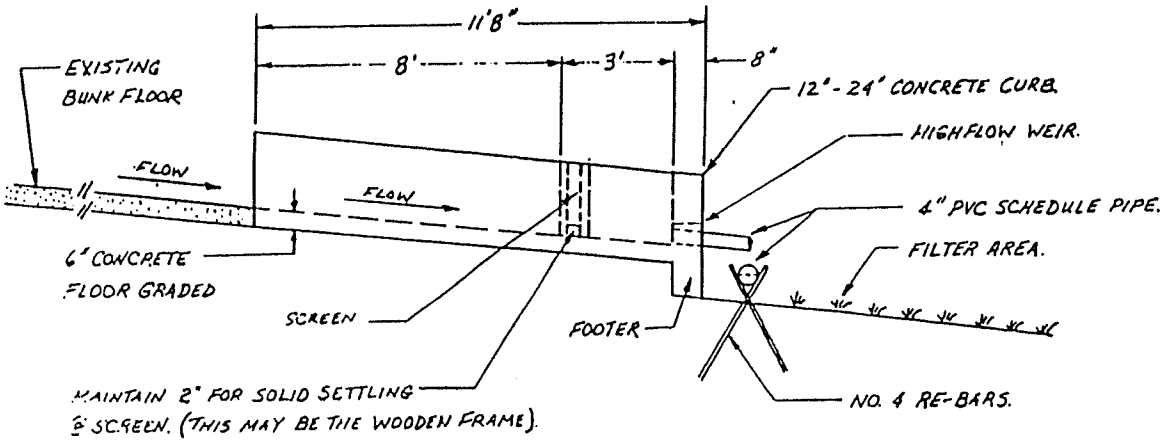
- Keep up-to-date on environmental issues
- Become informed about water quality issues within your watershed
- Learn about REAP and express your thoughts on the program
- Continue to apply and maintain BMPs on your farm utilizing federal and state cost-sharing funding where needed
- Tell other farmers and the public about your success with BMPs
- Get involved in the tiered approach

FARM ENVIRONMENTAL ASSESSMENT HAND-OUTS

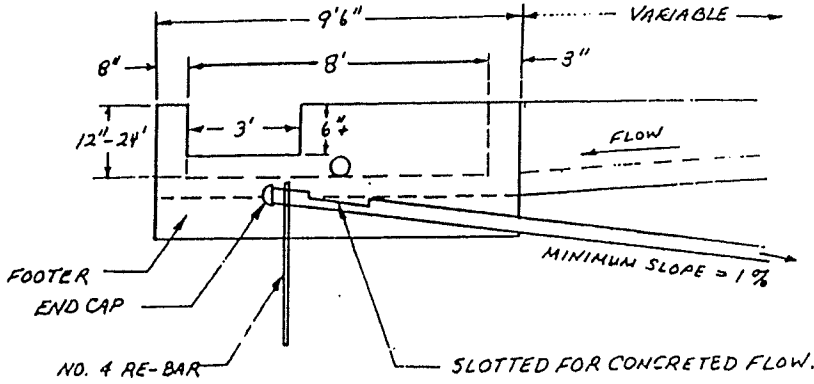
TOP VIEW



SIDE VIEW



END VIEW (FRONT)



NOTES

1- FILTER AREA SHALL BE GRADED 1% MINIMUM.

2- ADJUST PIPE TO COLLECT CONCENTRATED FLOW ONLY AND TO PREVENT KILL ZONE IN THE FILTER AREA. THIS WILL KEEP STORAGE TO A MINIMUM.

3- FILTER AREA TO BE SEEDED TO: TALL FESCUE OR ANY OTHER DENSE, SOD FORMING MIXTURE.

4- SOME DIMENSIONS MAY BE CHANGED TO ACCOMMODATE VARIABLE FIELD SITUATION. THIS CAN BE USED AS A GU

BUNK SILO EFFLUENT CONTROL
LOW FLOW SILAGE RUNOFF COLLECTION SYSTEM.

PW & OL	6-74
GM	6-74

NOT TO SCALE

REAP TIER II WORKSHEETS

TABLE OF CONTENTS

Manure: Field Application

Worksheet #2

	Lower Potential Concern 1	2	3	Higher Potential Concern 4
Is manure applied to land as a "RESOURCE" or "WASTE? 2	Manure is applied primarily to growing crops or within a few weeks prior to planting of a crop. AND Manure is applied at agronomically accepted rates. AND Commercial fertilizer applications are reduced or eliminated in order to account for nutrients in manure.	Manure is applied primarily in the fall and early spring on land to be planted to crops. AND Manure is applied at agronomically accepted rates. ✓ AND Commercial fertilizer applications are reduced or eliminated in order to account for nutrients in manure. ✓	Occasionally manure is applied to snow covered or frozen fields, fields that infrequently flood, or to some fields at very high rates. OR Manure is applied primarily on crop land but commercial fertilizer applications only partially account for manure nutrients. OR Manure is occasionally applied at rates that exceed crop nutrient requirements.	Substantial quantities of manure is applied to snow covered fields, fields that regularly flood, or to fields at very high rates. OR Manure is applied primarily on crop land but commercial fertilizer applications are not adjusted to account for manure nutrients. OR Manure is often applied at rates that exceed crop nutrient requirements.
How many *animal units do you have *per acre of land to which manure may be applied? 1.187	Rotation — Animal units/acre Corn-Legume — less than 1 Corn-Grass — less than 1.5 Grass — less than 2.25	850 x 1300 565 x .50 1472 Animal units / 1240 Acres	Rotation — Animal units/acre Corn-Legume — between 1-1.5 Corn-Grass — between 1.5-2.25 Grass — between 2.25-2.5	Rotation — Animal units/acre Corn-Legume — greater than 1.5 Corn-Grass — greater than 2.25 Grass — greater than 2.5
Do you know the nutrient needs of your crops? 1	Soil tests are done every 2 to 3 years, AND All corn fields are tested every year for nitrates with PSNT. 15" corn Not done	Soil tests are done every 4-5 years, AND Some corn fields are tested regularly for nitrates with PSNT.	Soil tests are done less than every five years, AND Corn fields are tested irregularly for nitrates.	Soil testing is not done AND Corn fields are not tested for nitrates.
Do you know the nutrients applied to the land from manure? 1	Records indicating number of loads of manure applied to each field are maintained. ✓ AND Manure application equipment has been calibrated within the past five years to determine amount applied per acre. ✓ AND Manure samples are tested at least every other year for nutrients. ✓	Two of the three practices listed in the "LOWER POTENTIAL CONCERN" category have been implemented.	One of the three practices listed in the "LOWER POTENTIAL CONCERN" category have been implemented.	None of the practices listed in the "LOWER POTENTIAL CONCERN" category have been implemented.

Storage of Manure

Worksheet #2

	Potential Concern			
	Lower			Higher
	1	2	3	4
Liquid Manure Storage System:				
Storage facility condition	Designed and installed according to engineering standards. Plans and soil test on file. AND No sign of leaks, cracks or other structural problems. AND Emergency plan available for pit failure or spills.	Designed and installed according to standards in use at the time. AND No sign of leaks, cracks or other structural problems.	Not designed according to standards. AND No sign of leaks, cracks or other structural problems. AND If earthen - Installed on tight soils and with bedrock & normal water table more than 3 ft. below bottom of storage unit.	Not designed according to standards. AND Installed on permeable soils. OR If earthen - Closer than 3 ft. to normal water table or bedrock without an appropriate liner. OR Limited knowledge of soil conditions and depth to bedrock. OR Evidence of leaks, cracks or other structural problems.
Semi-Solid or Solid Manure Storage System:				
Stacked outside on concrete or on the ground. N/A	Storage has roof. AND No liquid runoff. OR Storage has no roof but retaining wall prevents liquid runoff which is handled in a separate liquid waste system. AND Up slope surface water diverted. AND Never stacked in field or on bare soil.	Liquid runoff is stored in a separate system with retaining walls. AND Up slope surface water diverted. OR Never stacked in field or on bare soil.	Any liquid runoff is diverted to grassed filter strip. AND Up slope surface water diverted. OR Stacked on medium to fine textured soils. AND It is cleaned out completely in the Spring.	Liquid runoff is not contained. OR Up slope surface water is not diverted. OR Stacked on coarse texture soils.

Storage of Manure (2)

	Lower 1	2	3	Higher 4
Management of Liquid and Solid Manure Storage Systems:				
Preventing clean water from entering storage	Storage has a roof, rain gutter and surface water diversions to prevent precipitation and runoff from entering storage. AND Perimeter drainage system to prevent ground water entry.	Storage has surface water diversions to prevent runoff from entering storage. AND Perimeter drainage system to prevent ground water entry. ✓		Little or no control exists over amount of roof water, surface water, or ground water entering storage.
Period of manure storage /	More than 250 days.	180-250 days.	Less than 180 days	Less than 90 days.

OTHER 1. Approximate distance from storage unloading facility to nearest surface water body. – Condition on Pond

2. Approximate distance from storage facility to water wells. 400'

3. Are your wells high in nitrates? No

4. Location of wells in relation to manure storage? ? 40' - 60' deep

5. Does your manure storage unit accomodate silage juice and milking center waste. Yes
- **Does human waste enter manure storage unit?**

6. How much freeboard remains right before storage is emptied? 6'+

7. Do you have access problems? No

8. Do you have two valves for gravity outlet system, and for pumped inlet system? No Yes

9. Do valves leak? No

ADDITIONAL COMMENTS:

Barn Yards

Worksheet #9

	Potential Concern			
	Lower			Higher
	1	2	3	4
*Distance from barn yard to nearest *watercourse	Greater than 200 ft.	Between 100-200 ft.	Between 50-100 ft.	Less than 50 ft.
Is clean water [including roof water, upslope runoff, animal watering sources] kept separate from manure?	All water is diverted away from yard.	Most water is diverted away from yard.	Some water is diverted away from yard.	Considerable clean water runs through the yard.
Control of yard runoff	All yard runoff is collected & held in storage capable of handling all runoff from a 5 inch rainfall event	Liquids from yard are directed to a lush grassed filter area. Solids are contained & scraped up daily.	Liquids are directed to a grass filter area. Solids are scraped up less than once daily.	There is nó means of controlling runoff through yard.

* Distance: The length runoff water can flow over any watercourse, excluding any length the water flows over a non-vegetated surface.
* Watercourse: Water flowing over a non-vegetated channel off the property to a water body.

OTHER:1. Are curbs needed for ease of scraping?

2. Are animals in the yard over winter months?

3. Where is drinking water well in relation to barnyard?

4. Is there a need for fencing animals away from watercourse?

5. What is the square footage of the barnyard? (Is the barnyard sized right for the number of animals?)

6. Are the roof gutters adequate? - Are the drip trenches maintained?
- What is the area of grass filter strip in relation to drainage area?

ADDITIONAL COMMENTS:

Appendices for the Conflict Resolution Workshop

Farming for the Future conference preparation:
Training of Workshop Facilitators Agenda

December 14, 1994
1:30-3:30
Room 240 Emerson Hall

1. Introduction - Suzanne Cady [1:30-1:45]

(a) Goals for this meeting
(b) Goals for the February conference

2. What are the conflicts? - D. Merrill Ewert [1:45-2:00]

Identifying potential points of fragmentation or conflict that may appear in the February workshop. Participating workshop facilitators will propose what they foresee as the issues.

3. Framework for conflict resolution - David Deshler [2:00-2:30]

Presentation of a conflict resolution model. Will be presented on a single transparency and supported with handouts for additional reading. Half of this time will be devoted to the presentation and half to a discussion.

4. Presentation of case studies - Suzanne & Merrill [2:30-3:00]

Suzanne will distribute two cases of actual conflict and divide the participants into two groups. These groups will discuss these for 10 minutes and role play a resolution scenario following the principles just presented in the previous session. Merrill will help debrief this session.

5. Incorporating facilitation into workshops - Dave & Merrill [3:00-3:30]

The last part of the training session will examine ways through which workshop leaders can incorporate facilitation/conflict resolution skills into their sessions.

YES!! Coffee, cold drinks, and snacks will be provided.

COMMUNITY DISPUTE
RESOLUTION CENTER

MANAGING PROBLEM BEHAVIORS: WHAT TO DO

FIRST:

Wait, to be sure that intervention is necessary.

"Wisdom is the art of knowing what to overlook"
William James

THEN:

Intervene in ways that allow the group to learn from the intervention:

- describe the behavior you've observed
- if it violates ground rules, specify how
- offer an example of behavior that would be desireable

STRATEGIES:

* Reframe to identify and restate interests.
* Question for clarity.
* Generate options other than the one stated.
* Look for data related to the statement.
* Look for and state shared concerns.
* Define areas of agreement as well as those of disagreement.
* Use humor.
* Play dumb.
* Name what you see or sense.
* Change the medium.
* Step out of role to comment on what you are doing and why.

AVOID:

- becoming too directive, judgmental, preachy or lecturing
- assigning motives
- jumping to conclusions
- generalizing about the group or its behavior

WP\newtrng\probbeha

COMMUNITY DISPUTE
RESOLUTION CENTER

Positions and Interests

	DEFINITION	EXAMPLE
POSITION	a specific outcome or action perceived as meeting immediate needs	$18,000 salary
INTEREST VALUES	the desires, fears, beliefs, values and concerns that parties hope to advance through dispute resolution	compensation, security, lifestyle, status, career advancement, self-esteem

Comparing Positions and Interests

A POSITION is	An INTEREST is
Specific action	Broad concept
Concrete	Abstract
Single outcome	Many possible outcomes
Minimally negotiable	Fosters maximum discussion
Demands result in near-term	Suggests long-term approaches to meeting needs
Easy to evaluate	Complex to evaluate

Farming for the Future conference preparation:
Training of Workshop Facilitators Agenda

December 14, 1994
1:30-3:30
Room 240 Emerson Hall

1. Introduction - Suzanne Cady [1:30-1:45]

(a) Goals for this meeting
(b) Goals for the February conference

2. What are the conflicts? - D. Merrill Ewert [1:45-2:00]

Identifying potential points of fragmentation or conflict that may appear in the February workshop. Participating workshop facilitators will propose what they foresee as the issues.

3. Framework for conflict resolution - David Deshler [2:00-2:30]

Presentation of a conflict resolution model. Will be presented on a single transparency and supported with handouts for additional reading. Half of this time will be devoted to the presentation and half to a discussion.

4. Presentation of case studies - Suzanne & Merrill [2:30-3:00]

Suzanne will distribute two cases of actual conflict and divide the participants into two groups. These groups will discuss these for 10 minutes and role play a resolution scenario following the principles just presented in the previous session. Merrill will help debrief this session.

5. Incorporating facilitation into workshops - Dave & Merrill [3:00-3:30]

The last part of the training session will examine ways through which workshop leaders can incorporate facilitation/conflict resolution skills into their sessions.

YES!! Coffee, cold drinks, and snacks will be provided.

Can panelists f

Farming for the Future
Facilitation Case Study I

background: Last week a news story was broadcast describing pesticide use on fruits and vegetables. The TV reporter claimed that cautions should be used in eating unpeeled produce, to avoid risk of exposure to pesticide residues. A consumer advocate group, Clean Food Now, has been pressuring extension agents at the local county office to respond to the apparent need for safe food. Researchers at Cornell do not find pesticide residues to warrant changes in crop production practices. They report insignificant health effects in laboratory studies of pesticide residues and cite minimal levles of residues found by annual EPA monitoring.

setting: A county extension agent has arranged for members of Clean Food Now to meet directly with a Cornell food scientist and a crop production specialist. The agent had hoped to generate a list of recommended pest control practices for fruit and vegatable growers that both scientists and consumer advocates agree upon. However, during this meeting, a tie vote results every time the agent proposes a recommended practice for the list. The underlying differences in values between the scientists and the consumer advocates seem to be creating a gridlock. The meeting is becoming a stalemate, without productive interaction.

players (5):

- County agent (moderator of meeting)
- Cornell food scientist
- Cornell crop production specialist
- Clean Food Now spokesperson (lawyer)
- Clean Food Now member (mother of young children)
- Facilitator (invited to help with conflict resolution, if needed)

Farming for the Future
Facilitation Case Study II

background: In response to new federal regulations to reduce soil erosion, there has been a great demand by farmers for advice on sustainable agriculture practices. An agribusiness consulting firm has been asked repeatedly for specific management suggestions. However, the company has little previous experience in this area. A consultant with the business has arranged for a group of clients (farmers) to meet and share their experiences with various sustainable agriculture practices. The farmers at the meeting have a wide range of experiences and are eager to learn from each other.

setting: The consultant has been facilitating the meeting of farmers which is now half over. One grower repeatedly interrupts the others and steers the conversation back to one point. This grower feels very strongly that all of the current soil erosion problems stem from land preparation techniques, in particular the use of the moldboard plow. He has expressed this point of view three times already in this meeting. The consultant would like to move on to discuss the use of cover crops and learn, in particular, what planing dates work well in this region of New York for the various cover crops.

players:

agribusiness consultant (facilitator)
farmer 1 ("Mr Plow")
farmer 2 (has extensive experience with cover crops)
farmer 3 (has modified own tillage equipment to incorporate cover crop residues, a major deterrent to widespread use of cover crops)