

Section I  
General Information

1. Project Number: ENE96-16  
Funding Period: 9/1/96 through 3/31/99
2. Project Title: Diagnostic Team Approach to Enhancing Dairy Farm Sustainability
3. Project Coordinator: Lisa A. Holden, Penn State University, 324 Henning Bldg.,  
University Park, PA 16802 Phone: (814) 863-3672 Fax: (814) 865-7442  
Email: [lholden@das.cas.psu.edu](mailto:lholden@das.cas.psu.edu)
4. Type of Report: Final
5. Date of Report: May 24, 1999
6. Reporting Period: From 9/1/96 to 3/31/99
7. Major Participants: L.A. Holden, C.W. Heald, L.J. Hutchinson, Penn State
8. Cooperators: Twenty-six farm families and their agribusiness advisors
9. Project Status: Completed
10. Statement of Expenditures: Statements were sent from Penn State Research  
Accounting Office under separate cover.

Section II  
Final Report

**Key Findings:**

Note: The term “diagnostic team” was changed to “advisory team” during the project.

The goal of this two-year project was to implement a model for using diagnostic teams on dairy farms. The teams initially focused on two key areas: reducing incidence of mastitis and increasing income over feed costs. Project investigators held informational meetings for farm advisors to learn more about using teams; the advisors recommended clients to the project; project investigators made short farm visits and invited the farm families to participate in the project. A training session for members of all the teams was held prior to the first team meeting.

Thirteen teams per year (97-98 and 98-99) formed and provided information about their teams. About half of the teams continued to function beyond that first year. Many of the teams impacted the timeliness of decision making, problem solving, and implementation of solutions. Many farms saw improvements in milk yield and milk quality. Many farms made changes in feeding management and farm management practices. More than half of the farms expanded their operations or began to specialize in specific enterprises (milking cows rather than raising youngstock). Agribusiness advisors in the project used the information about teams to work with new teams, outside of the project.

Dairy advisory teams can be useful for:

- ◆ Achieving farm goals in a timely fashion.
- ◆ Promoting positive communication among farm advisors.
- ◆ Solving on-farm problems more quickly and more completely
- ◆ Planning for long-term sustainability of the farm operation.

**Objectives:**

1. Implement a model for forming diagnostic teams for critical farm level problem solving.
2. Improve team members' skills in problem solving, critical thinking, and whole farm planning.
3. Utilize farm oriented diagnostic teams on participating dairy farms.
4. Evaluate the impact of the diagnostic teams and revise training materials.
5. Disseminate information about effectiveness of diagnostic teams through field days, pasture walks, and educational conferences.
6. Assist team members in forming new teams and expanding problem focus areas.

**Methods**

For this project, dairy advisory teams were implemented and monitored for a period of one year. Thirteen teams were formed in each of the two project years. The timeline for activities was as follows:

**November** – Informational meeting for agribusiness and Cooperative Extension advisors. Advisors recommend clients for the project.

**Nov to Jan** – Short farm visits by project investigators to invite farms to participate. Farmers give invitations to training session to potential members of their advisory team.

**January** – Training session for all members of advisory teams for that project year.

**February** – First on-farm team meetings held.

**Monthly, Bi-monthly or quarterly** – On-farm advisory team meetings.

**Quarterly** – Coordinator's meetings with project investigators to monitor team progress, provide additional information, etc.

**Next February** – Final on-farm meetings held for the project. Survey data collected.

**Accomplishments**

- Obj 1: The model was implemented successfully with 26 farms for at least one year.
- Obj 2: Data collected from participants indicated that problem solving and decision making was done in a more timely fashion when advisors worked together effectively in a team.
- Obj 3: Twenty-six out of thirty farms who started teams still had functioning teams at the end of their project year. About half of those teams continued beyond the designated time for the project.

- Obj 4: Training materials have been improved based on feedback from project participants. Training materials included short exercises to demonstrate the effectiveness of the team concept and a short case study to encourage active participation during training.
- Obj 5: Information about the use of advisory teams has been shared via presentations, articles and a web site.
- Obj 6: At least 10 advisory team participants are working with teams not involved in any formal project. Project investigators currently have two funded projects working with advisory teams and also help others not involved in projects get started with new teams.

### **Findings**

Positive on-farm changes made as a result of using advisory teams varied by farm. Many of the changes included improvements in milk yield and quality, in communication among people, in facilities or feeding systems, and in staffing or job assignments. Many of the farms achieved short-term goals related to production, profitability, or lifestyle while working with advisory teams. Eighteen of the 26 farms have expanded or were planning to expand their herds. Satisfaction with milk quality, income over feed costs and services provided to the farm increased with use of the advisory team on most of the farms surveyed. More information about specific areas in the farm business was collected and shared with advisors as a result of forming advisor teams. More regular monitoring of key control points occurred after compared with before the use of advisory teams.

New information and ideas brought to the farm by advisors during team meetings were very valuable to farm managers according to survey information. An additional benefit to the advisory team was reported to be the completeness of problem solving and the timeliness of making improvements. Some teams focused more on short-term, tactical goals while others began to develop a more strategic look at where the farm business was headed in the future. The team coordinator was vital to the success of the team.

### **Dissemination of findings**

Two articles have been distributed through Cooperative Extension publications: Herd Health Memo and Dairy Digest. An article in Hoard's Dairyman resulted from these extension publications. Seven presentations have been given in the Northeast (New York and Pennsylvania) about dairy advisory teams. Information from this project was presented nationally at the American Dairy Science Association meetings and internationally at the World Buiatrics Congress. A web site about Dairy Advisory Teams is being developed at [www.dat.das.psu.edu](http://www.dat.das.psu.edu)

### **Practical Applications**

During and following completion of this project, at least 10 of the advisors who participated in project teams started new teams with other clients outside of the project.

Materials and resources provided to project participants have been adapted and used by agricultural professionals for dairy and non-dairy clients.

### **Potential Benefits and Impacts**

Benefits of using an advisory team depend on the individual farm and its advisors. Most of the project participants surveyed indicated some benefit to using an advisory team. Specific on-farm changes that were recorded indicate that there is potential for many positive outcomes with advisory teams on some farms. The number of team continuing beyond the project year and the number of advisors using teams with non-project clients is perhaps the best measure of the potential for positive impact.

### **Feedback from Farmers**

Based on phone and mail survey information, 22 of the 26 farms made specific improvements to some aspect of their operations as a result of the advisory team. Many of the changes centered on improving feeding management, milk production, or milk quality. About half of the changes made were related to labor issues, which may have impacted time off, working hours, etc. Eighteen of the 26 farms have either expanded their herd or plan to expand in the next five years.

### **Future Recommendations & Areas Needing Additional Professional Development Efforts**

Two areas that project participants indicated they needed more information about were: (1) managing information for use in decision making and (2) working with people and managing employees.

### **Photographs**

The photos included in this final report are from the January team training session.