Program Work Team

Record ID: 2001-03

1. Name of PWT: CALS Nutrient Management for Dairy and Livestock Farms

2a. Co-chairs (lead):

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2b. Extension Co-chairs:

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3. List names, affiliations, and contact information of all other program work team members. Please note with an asterisk those who are external stakeholders:

Cornell University faculty/staff:
- Greg Albrecht, Extension Associate, Dept. Crop and Soil Sciences (gla1@cornell.edu)
- Larry Chase, Professor, Dept. of Animal Science (lec7@cornell.edu)
- Karl Czymmek, PRO-DAIRY, Nutrient Management Educator (kjc12@cornell.edu)
- Steve DeGloria, Chair, Dept. of Crop and Soil Sciences (sdd4@cornell.edu)
- Larry Geohring, Senior Extension Associate, Dept. of Biological and Environmental Engineering (ldg5@cornell.edu)
- Johannes Lehmann, Assistant Professor, Dept. of Crop and Soil Sciences (sl273@cornell.edu)
- Alice Pell, Professor, Dept. of Animal Sciences (ap19@cornell.edu)
- Keith Porter, Director, NYS Water Resources Institute, Center for the Environment (ksp2@cornell.edu)
- Caroline Rasmussen, Research Support Specialist, Dept. of Animal Science (crn2@cornell.edu)
- Christine Shoemaker, Professor, Dept. of Civil and Environmental Engineering (cas12@cornell.edu)
- Tammo Steenhuis, Professor, Dept. of Biological and Environmental Engineering (tss1@cornell.edu)
4. In addition to membership of any external stakeholders indicated in item #3, outline other ways your PWT plans to fully engage stakeholders in work team activities:

i) Participation in the statewide Agricultural Environmental Management (AEM) Steering Committee.

ii) Participation in the AEM Certification Committee.

iii) Participation in workshops on specific topics (such as Cornell University’s nutrient management software (CuNMPS), nutrient management modeling, precision agriculture).

iv) Participation in county and regional extension meetings.

5a. Briefly list below up to 6 major statewide program needs that concern or fall within the purview of your proposed PWT:

Agriculture is one of New York State’s largest businesses, and keeping our farms sustainable is critical to the economy of the state, particularly in rural areas. Maintaining economic viability while ensuring environmental quality is key to their sustainability. Sustainability of New York State farms can be improved through more effective use of existing knowledge in creating comprehensive nutrient management plans for each farm.
The ability to develop such plans is, in part, limited by computer tools that can apply existing scientific knowledge, as well as research gaps in our existing knowledge of environmental management. There are many individual program efforts addressing nutrient management issues in CALS departments, including Crop and Soil Science, Biological and Environmental Engineering, Horticulture, and Animal Science. Linking them together through a College-wide Nutrient Management discussion group will improve coordination, and avoid duplication of effort and conflicting projects, as well as streamline information development and delivery.

The PWT addresses needs for:

i) Improved communication regarding nutrient management of dairy and livestock operations within the CALS community and between the CALS community and stakeholders.

ii) Enhanced program planning and implementation of various CALS nutrient management research and educational efforts, including integration of knowledge across disciplines.

iii) Identification of gaps in knowledge and research important for improving nutrient management and priority areas.

iv) Optimize application of research based understanding to farmers and other stakeholders.

Addressing these needs will be essential for improving the economic and environmental sustainability of New York dairy and livestock operations and protection of public and private drinking water supplies.

5b. Describe the process used with prospective PWT members to determine these statewide program needs:

There are numerous research and extension units in individual departments in CALS that address nutrient management issues for New York farms and watersheds. Although these individual units generated a wealth of research data and develop effective extension programming, integration of this knowledge across disciplines can be improved. There is a great need for tools that address whole farm and watershed nutrient management practices as expressed by NYS Departments of Agriculture and Markets and Environmental Conservation, USDA-Natural Resource Conservation Service, and the state AEM Committee, extension educators, and producers. This resulted in a request from the State Agricultural Environmental Management Committee for improved communication across CALS among those involved in nutrient management research and extension programming. A group of CALS faculty initiated a discussion group in the fall of 2000 to address this request. This group identified the above listed program needs and formalized its existence as a discussion group in the form of a PWT in April of 2001.

6a. In general, what major PWT programs or activities are planned (or will be explored) to address the statewide program needs identified above?

i) Bimonthly meetings/seminars:
   a. present current research and extension programming;
   b. identify knowledge gaps and prioritize research needs;
c. identify and prioritize extension programming needs;
d. support on-farm implementation of tools for best management planning.

ii) Develop a website that links all individual program websites and describes the goals and approach of the PWT.

iii) Organize a nutrient management modeling workshop.

iv) Facilitate development of integrated research, teaching and extension proposals and endorsement of proposal submissions.

6b. What intended outcomes would this PWT hope to realize from these potential programs/activities?

To goal of this PWT is to assess current knowledge, identify research and educational needs, facilitate new research, technology and knowledge transfer and aid in the on-farm implementation of strategies for nutrient management that will improve profitability and competitiveness of New York farms while protecting the environment. Specific intended outcomes include:

i) Improved communication within the CALS community.

ii) Improved communication with stakeholders.

iii) A list of research and extension priorities.

iv) Integration of knowledge and generation of research that leads to improvement of management tools for dairy and other livestock farms that address the nutrient impact of farm management (such as CNCPS 5.0 and Cropware 1.0).

v) Enhanced integrated nutrient management extension and teaching programming.

6c. In what ways will this PWT’s programs and activities be evaluated?

i) Participation in bimonthly meetings/seminars and workshops.

ii) Establishment of research and extension priorities.

iii) Success in generating funding for and implementing integrated research, teaching and extension activities.

iv) Contribution to individual programs of members of the PWT.

v) Feedback from stakeholders on the usefulness, timeliness, and other issues relating to the PWT’s efforts.

6d. What timeline do you view as adequate for your PWT to carry our programs/activities and realize hoped for activities?

Initial timeframe for establishment of an efficient discussion group is three years.

7. What steps does this PWT intend to take to further the integration of research and extension in its programs/activities?

Close collaboration with Cornell Cooperative Extension educators, PRO-DAIRY, producers and other stakeholders and participation by both research/teaching and research/extension faculty. Collaboration with other PWT’s such as the Small Farm PWT,
the Crop and Soil Management PWT and the Waste Management PWT on nutrient management related issues.

8. What steps does this PWT intend to take to foster multidisciplinary collaboration and approaches in addressing the statewide program needs identified above.

i. Identify and engage key investigators, collaborators within Cornell University as well as the broader AEM community (such as NYSSWCC, SWCD, CCE, NRCS, DEC, private consultants), farmers, and other stakeholders.
ii. Develop a website.
iii. Bimonthly business meetings and monthly seminars on specific topics. For each specific topic:
   a. present current research and extension programming;
   b. identify knowledge gaps and prioritize research needs;
   c. identify and prioritize extension programming needs.
iv. Organize a nutrient management modeling workshop.
v. Facilitate development of integrated research, teaching and extension proposals and endorsement of proposal submissions.

9. All recognized PWTs will be eligible to receive $4,000 to support work team operational costs. Please indicate below, in a general breakdown (in dollars), how your PWT plans to utilize/allocate such annual support:

<table>
<thead>
<tr>
<th>Meetings:</th>
<th>1,000</th>
</tr>
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<tbody>
<tr>
<td>Publications:</td>
<td>1,500</td>
</tr>
<tr>
<td>Travel:</td>
<td>1,000</td>
</tr>
<tr>
<td>Web site:</td>
<td>500</td>
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<tr>
<td>Other Costs:</td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td>$4000</td>
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</tbody>
</table>

10a. What other internal (Cornell and/or CCE association/regional-affiliated) sources of support, if any, are already committed to support work team activities?

None of the specific group to this point, all costs to date have been borne by PWT members to get it started.

10b. What external (non-Cornell and/or CCE association/regional-affiliated) sources of support, if any, are already committed to support work team activities?

None

10c. What external sources of support will be targeted and sought to support work team activities?

EPA-DOH Dage Drinking Water Act funds, USDA-IFAFS program, NYS Non Point Source Abatement and Control program.