Techology Transfer

Reaching Out to an Industry The North Carolina Experience with Its Nursery Industry

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Summary. Many universities face tough decisions on how to allocate limited resources to serve a demanding clientele. Industry officials frequently perceive university researchers and extension specialists as losing touch with reality and working on irrelevant problems. In many situations, this perception is a result of the lack of communication among the parties involved. Research and Extension Commodity Overviews conducted by the College of Agriculture and Life Sciences at North Carolina State Univ. have proved to be an excellent way of improving communications between university personnel and the industries they support. This paper outlines the overview process and shows how this approach benefited the state's nursery industry and the university.

Between 1980 and 1992, North Carolina experienced a 60% increase in the number of commercial nurseries and a 134% increase in the number of harvested acres of nursery stock (Certified Nurseries & Plant Collectors of North Carolina, 1980, 1981). Cash receipts from the sale of greenhouse and nursery stock rose 236%, while the value of floriculture crops increased 286% (N.C. Dept. of Agriculture, 1981, 1993). In addition, the number of registered landscape contractors grew 97% (N. C. Landscape Contractor Registration Board, unpublished data).

During this expansion period, individuals who had little or no production and marketing experience entered the industry. Consequently, these new growers had fundamental problems that more experienced nursery operators already had faced and overcome. North Carolina Cooperative Extension Service (NCCES) personnel refocused their educational efforts to meet the needs of these new growers. However, with such rapid growth, it was difficult for leaders of the North Carolina Assn. of Nurserymen (NCAN), officials of the North Carolina Dept. of Agriculture (NCDA), and extension professionals to keep up with requests for assistance.

Even though NCAN, NCDA, and university personnel share a common goal—helping to establish a healthy and prosperous industry-each organization had basic philosophical differences on how to accomplish this goal. Growers, NCAN leaders, and university personnel recognized the need for increased communication and coordination. As the lines of communication among these groups improved, industry problems were ranked and resources were directed toward the most critical issues.

The Research and Extension Commodity Overviews conducted by the College of Agriculture and Life Sciences (CALS) at North Carolina State Univ. (NCSU) had a dramatic impact on this communication process. The purpose of an overview is to allow commodity organization members to review current research and extension programs related to their commodity. During an overview, research scientists and extension specialists make brief presentations on current projects and programs, as well as describe future plans for their areas. These presentations are followed by discussion periods, during which growers and commodity leaders are encouraged to question the faculty, identify industry concerns, and provide input for planning future research and extension efforts.

Overview process

Commodity overviews are joint research and extension efforts from the outset. The following explains the overview process:

1) Each year, the Assistant Director and State Program Leader for Agriculture of the NCCES and the Associate Director of the North Carolina Agricultural Research Service (NCARS) recommend to the CALS Dean and the NCCES and NCARS Directors which commodity overviews should be scheduled. Although an overview for a specific commodity generally is held every 4 or 5 years, it can be held any time a special need arises or when requested by the commodity organization or industry members.

2) After the dean and directors approve a tentative overview schedule. industry leaders and department heads are asked to suggest preferred dates and locations for each overview session. Overviews are held in locations convenient for the growers (not CALS personnel), and the sites normally are centrally located within the primary production area for a particular commodity.

3) Once the overview date is confirmed, commodity leaders and department heads are notified and requested to submit a list of potential invitees. This list typically includes growers, marketers, processors, agribusiness personnel, county agents, and allied groups such as the NCDA and the North Carolina Farm Bureau.

4) CALS administration compiles the list and extends the invitations. A 50% attendance rate is normal. The mailing list for the ornamental overview includes 60 industry leaders at present, whereas the peanut list has 100 people

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and the tobacco mailing list has about 150 commodity leaders. All invitees are asked to submit a list of their concerns or the issues they would like the faculty or administrators to address during the overview. This list is compiled and circulated to the dean, directors, department heads, specialists-in-charge, and each faculty member who has an ongoing program related to that particular commodity.

5) Department heads submit a list of faculty members who will participate and the topics they will address. The list of topics usually includes a combination of industry concerns and issues the faculty believe are important.

6. Department heads are appointed to chair a "focus group session" for each subject matter area on topics such as nutrition and cultural practices, landscape horticulture, pest management, and economics. As chairs, they are expected to convene the faculty members having responsibilities in their focus group. Some of these groups include faculty members from different departments. For example, the pest management focus group for ornamental horticulture included extension and research faculty from the entomology, plant pathology, and horticultural science departments. During this focus group meeting, faculty members discuss the list of grower concerns and faculty-suggested topics. The chair appoints one or two representatives to make the presentation(s) for the group. All faculty members, whether they are making a presentation or not, are expected to attend the overview and to participate in the panel discussion following the presentation(s).

7) In addition to faculty presentations, the Assistant Director and State Program Leader of NCCES also invites a county agent to participate in the overview program and discuss areas of importance in the delivery of county programs.

8) These guidelines are observed during the overview: a) Focus on *future* extension programs and research projects. Presenters are discouraged from telling what already has been done or trying to "justify a program's existence." b) Focus on needs of the entire industry-not individual problems. c) Reserve at least 60% of the time allocated to each focus group for discussion by the commodity participants and a panel consisting of all faculty members present having ongoing programs related to the specific topic area.

9) After the focus group's presentation(s) and panel discussion, faculty members are excused and commodity participants are asked to discuss with the dean, directors, department heads, and extension specialists-in-charge any concerns they may have about any segment of the CALS program for that commodity.

10) All industry participants' questions and comments are recorded during the overview and wrap-up sessions. A list is then compiled and circulated among the dean, directors, department heads, specialists-in-charge, and faculty members.

11) After faculty members have reviewed the list, CALS administrators may hold a special meeting with appropriate department heads, specialists-in-charge, and faculty members to plan any follow-up actions they deem appropriate.

Advantages and potential shortcomings

There are several advantages of commodity overviews.

1) Commodity representatives, faculty members, and administrators receive a comprehensive review of current programs and input about plans for future programs.

2) Commodity leaders and university personnel are able to discuss mutual concerns in a setting free from external distractions. As a result, participants pay closer attention to discussions and typically leave the overviews with a better understanding of both university and industry perspectives.

3) Commodity leaders are reminded of the numerous research and educational opportunities available to their organizations. Industry leaders often reveal they had forgotten or did not know that the university offered so many programs, and that it was proactive on so many issues.

Overviews, like other strategies designed to receive grower feedback, are not without some shortcomings.

1) There is a tendency to concentrate on short-term problems rather than on future efforts. promoting individual agendas instead of industry needs is also a concern. A good moderator usually can overcome these weaknesses and keep the participants focused on the purpose of the overview.

2) Growers often ask the university to provide services typically offered by NCDA or other government agencies. For example, contacting potential buyers and developing commodity promotional programs are two services that growers request frequently. Commodity leaders are reminded that the university's primary missions are research and education, whereas other government agencies are charged with providing these other services. This drawback is overcome by inviting representatives from the other interested government agencies to attend the overviews. Should the need arise, these specialists outline the programs and services offered by their agencies. In addition, interagency coordination is improved when these representatives attend and listen to the presentations and growers' comments.

3) Research and extension overviews can be intimidating, especially for junior faculty members who have not had their programs critiqued by commodity leaders in front of their peers, department heads, and university administrators.

Overview results

Numerous extension programs for the nursery industry have been launched as a result of the overview process. For example, during one overview, the growers identified marketing as a high-priority topic that should be addressed in greater detail. As a result, the NCAN Board of Directors agreed to help university personnel plan, finance, promote, and identify speakers for a 2.5-day marketing workshop. The workshop was designed for nursery operators who wanted to learn more about the marketing system, marketing alternatives, and how to develop marketing plans. This workshop was so successful that four additional marketing workshops were held in subsequent years.

In addition, more than 200 county and regional workshops on cultural practices have been presented during the past 6 years as a direct result of suggestions at these overviews. Topics have included pruning, irrigation, fertilizing, container substrates, alternative production systems, and propagation of nursery crops. The success of these efforts has been due to grower input at the beginning of the planning process, as well as NCAN's support in promoting and financing various workshops..

Research projects also have been born during com-

modity overviews. Concerns and issues listed by the ornamental and landscape review industry participants were highly focused on related subject areas. Eight of the 20 concerns listed emphasized water quality, water conservation and re-use, capture and recycling of irrigation water, and the effects of various fertilizer products and applications on irrigation and run-off water quality. Another eight of the concerns related to use of agricultural and urban composts and recycled nursery plant wastes and their effects on available nutrients in potting substrates. These industry concerns are being addressed by three research projects in the Dept. of Horticultural Science at NCSU and have stimulated a series of studies, One of the studies, titled "Production and use of aquatic plants for mitigation of nutrients from wastewater run-off," is an intra-departmental study involving faculty members from five CALS departments. A paper was presented recently on the first-year results of this study (Bilderback et al., 1994). The second series of run-off studies is being conducted by capturing all irrigation water leaving a growing area and evaluating the nutrient efficiency of controlled-released fertilizers, irrigation practices, and substrates, some of which contain composts, Progress has been reported to the industry through two field days and one published research report. Other studies have evaluated new technology, controlled-release fertilizers, substrates, and multiple daily short-cycled irrigation application, rather than the industry standard of long-duration irrigation. The overview process provided evidence of the need for these in-depth investigations. Because industry had a part in the decisionmaking process and the development of these research emphases, their interest and input continues.

Economic research projects include a cost-of-production study and a consumer survey. The cost study required cooperating growers to keep detailed production and input records for various crops for at least a year. These details should yield better cost estimates than economically engineered budgets. The consumer survey was conducted at 18 garden centers throughout North Carolina and resulted in >1500 usable questionnaires. This information will help garden center managers segment their markets and assist them to market their products and services more efficiently.

Both of these economic studies were started as a result of the overview process. Growers believed that the results generated by national and regional research projects were not specific enough for their individual needs and said that they wanted more-detailed information for North Carolina. NCAN reallocated some of its research finds and helped secure national competitive grants to support these projects. In addition, the association identified individual cooperators and assisted in coordinating the projects.

Conclusion

Many observers believe that universities should be more interested in identifying their clientele, learning about their needs, and determining how best to meet those concerns. Commodity overviews will continue to play an important role in this process at NCSU. This approach has helped research and extension faculty identify areas in which they can contribute to the industry. These overviews also provide excellent opportunities to present specific programs and explain their importance to the industry, and resolve any misunderstandings. This understanding increases industry support, which, in turn, improves the overall quality of education and research.

Communication between faculty, administration, and the ornamental and landscape industry enhances understanding of the perceived industry needs and improves acceptance of university programs,

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