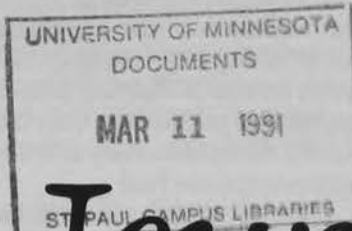


Agricultural News

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Agent training features Farm Bill, new international emphasis

What are longer term implications of the CRP and wetlands provisions? What about the balance among agriculture, forestry and wildlife interests in the '90s?

These key issues from 1990 Farm Bill legislation will be discussed at the opening session for in-service agent training March 19-21 on the University of Minnesota's St. Paul Campus. Other new items on the in-service training agenda include:

—An international emphasis, with 30 Minnesota Agricultural Student Trainee (MAST) students scheduled to meet with faculty and share international experiences. The MAST students will present an informal program at the banquet session on Tuesday, March 19.

"It will be a good chance for faculty to visit informally with MAST students," says Marilyn Grantham, agriculture program leader. In addition, agents and other agriculture faculty and staff members are invited to a reception honoring new MAST trainees Wednesday afternoon, March 20.

—Agents working on their



Minnesota Extension Service educators and officials from state and federal agencies met to discuss Farm Bill programs earlier this winter.

master's programs can get independent study credit for in-service specialized training courses, per approval of their advisor.

—The new Minnesota Commissioner of Agriculture, Elton R. Redalen, will give the keynote address. He'll talk about how his agency and the Minnesota Extension Service can cooperate on

programs in the '90s. Department heads and interested research and state extension faculty members are invited.

—State Sen. Earl Renneke, LeSueur, will visit with specialized livestock agents and state faculty on animal agriculture issues in the '90s.

Jack Sperbeck

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Current information available from University of Minnesota Extension: <http://www.extension.umn.edu>.

Grain quality may lead to better markets

Corn growers in 20 southeastern Minnesota counties are learning more about improving grain quality with an eye to tapping into more profitable markets as they develop. In the meantime, they are drying grain with less fuel.

"It's really an educational program on improving corn quality through a \$21,000 grant from the Southeast Minnesota Initiative Fund," says Bill Wilcke, agricultural engineer with the University of Minnesota's Extension Service. The grant, designed to promote rural economic development, continues to June 1991.

Tim Arlt, Steele County extension agent, administers the grant as it involves Owatonna's Steele-Waseca Cooperative Electric (SWCE). Arlt says, "More people are storing grain again." Farmers interested in storing corn were among more than 300 who attended fall seminars on corn quality in eight southeast communities: Ormsby, New Ulm, Northfield, Mapleton, Blooming Prairie, Chatfield, LeSueur and Clarks Grove.

They learned that proper corn drying methods are crucial. High temperature corn drying is the culprit, making corn kernels more susceptible to breakage, one factor that lessens quality. "Rapid heating, rapid drying and rapid cooling break up kernels. Slow cooling relieves stresses on the kernels and the product is less likely to break up in handling," Wilcke says.

While improving corn quality is the aim, energy conservation is also a benefit. What with the Middle East situation, using less fuel from there is a plus.

Two farm cooperators are participating in the project, which includes monitoring drying systems and storage bins. The grant allowed equipment purchases to probe bins for corn samples, monitor grain temperature and check moisture content in the bins. It also paid for breakage susceptibility tests. Wilcke says the Agricultural Engineering department has research laboratory instruments that can measure the breakage susceptibility of grain samples.

"World grain markets are so competitive buyers can be choosy about quality," Wilcke says. Both China and South Africa have better quality corn, but their drying

methods differ drastically from ours, he explains. In China, drying is labor intensive, and much of the grain is air dried. In South Africa, much of it is field dried. Wilcke notes the new U.S. farm bill includes provisions that will affect grain quality standards.

Market development is slow, Arlt and Wilcke agree. Slightly higher prices are being paid now in some of the local markets (turkey and chicken growers, fructose and ethanol producers), but Wilcke says no major markets exist; these must be developed. Grain quality and its susceptibility to breakage is an even bigger issue in the export market.

Mary Kay O'Hearn

Food safety is everyone's responsibility

Part 3 of 3

Conclusions

"The food industry, like book writers, is not perfect," says Vern Packard, extension dairy technologist. He says milk is often the first product probed in environmental testing, since it's easy to analyze. When ground or air levels of nuclear testing were measured, milk was always a testing tool.

"It still remains a most useful product for assessing levels of environmental pollutants. That fact does not imply that milk is necessarily more or less a source of such compounds than other foods," Packard says.

His book reference is to *Diet For A Poisoned Planet*. Author David Steinman visited the Twin Cities last fall during a national promotion tour. Extension's Educational Development System, working with Bill Schafer, extension food technologist, alerted media to university experts willing to talk about the book, even though they differed with some of Steinman's conclusions.

Consumers who question

Packard about milk are apt to ask about injecting cows with BST (bovine somatotropin, a growth hormone found naturally in cows) to increase milk production. Packard, who has reviewed pertinent research literature, finds the safety evidence persuasive. In addition, he says the Food and Drug Administration (FDA) would not approve BST if in doubt of its harmlessness. (FDA has determined that milk and meat from cows involved in BST research are safe for human consumption, but is still evaluating making BST commercially available in the United States). Packard sees BST as "probably one of the safest food additives to hit the scene in many years."

Although he says he can't speak to the economics of it, he says "the safety is indisputable."

Yet there is no way, Packard says, that a milk processing plant can operate efficiently by trying to separate the milk from BST-treated cows. He recalls that Texas, for a time, required milk supplies originating out-of-state to come solely from farms using pipeline milking equipment. Such milk had to be

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EDS changes

Joyce DeBoe is the new agriculture core team leader for Educational Development System (EDS), replacing Gene Anderson who moves into EDS administration.

Other EDS/ag core team news: Writer/editor Mary Kay O'Hearn quietly retired about Jan. 1. She and graphic designer Mike Ruetten, who left for greener pastures in the corporate world, were missed immediately because a few other EDS'ers are trying to cover all the work they did. We wish both of them well.

Food safety/cont. from p. 2

trucked and handled separately from other milk. "It turned out to be an impossible way to operate," Packard says.

The most serious food health risks to consumers are the food borne diseases (the salmonellas—the naturally present pathogens). Some 10-20 million cases of diarrhea each year are said to be caused by food borne diseases, which occur in all foods. Luckily, the human body is able to excrete many of these toxic compounds.

Schafer likes to consider the food safety topic a matter of food "hazards" and food "risks." He defines a "hazard" as a source of harm. A "risk" is a probability of harm where there is exposure. There can be "high risk" or "low risk" depending on the exposure level and susceptibility.

He'd like consumers to learn to assess the risks in food, make their own choices to deal with them (manage the risks), then be their own watchdogs on proposing solutions. That means checking out perceived problems and taking some action. "It could mean notifying a local or state health department, even legislators, to change the system," Schafer concludes.

Mary Kay O'Hearn

Marketing Programs

Applying Marketing Concepts in Program Planning

(Sixth in a series on program quality and applying marketing concepts in program planning. The marketing research method information is taken from Chapter 3, "Research Methodologies and Processes," in Marketing Research in Adult Learning by C. F. Falk and P. Miller, 1986, Learning Resources Network, Manhattan, Kansas.)

Sample surveys are the seventh and last marketing research technique Falk and Miller discuss. The term "sample" means that a select group representative of the total group or population is surveyed, rather than the total group.

Surveys can be conducted via personal interview, telephone or mail. Falk and Miller note, however, that although this market research technique is a very powerful approach to collecting information, it usually takes more expertise, time and money than other techniques previously discussed. Therefore, surveys should be used only when the creditability of your market research data is essential for convincing a third party (such as an outside funding source for a prospective program).

The authors indicate that the most important factor in conducting a survey is choosing respondents to participate (selecting the sample). The first step is to define the total group that the survey results will describe. The next step is to randomly choose a smaller number of members to represent the total group. The sampling plan should allow for all members to have an equal probability of being selected. Someone with an understanding of statistical methods can help you determine the size of the sample needed and the best means of selecting participants.

Sample size (number of survey participants versus total population) is very important because it significantly affects the accuracy of the survey results. Falk and Miller note that as a general rule, the larger the sample in relation to the population, the more accurate the results. In practice, they note that there are three sample size levels that guide market researchers. A sample of 120 is probably the smallest anyone should attempt (if your total group or population is smaller, survey everyone).

Falk and Miller also indicate that the sampling error at 120 respondents is plus or minus 10 percent. Increasing the sample size to 400 reduces the error to plus or minus 5 percent, and increasing it to 1,200 reduces the error to plus or minus 3 percent.

Falk and Miller caution that writing survey questions and designing questionnaires is both a skill and an art. Amateurs need expert help not only with designing questionnaires, but also with determining sample size and conducting statistical analysis. Another key factor is remembering to pre-test questions and questionnaires prior to use with the sample group.

Most statistical analysis nowadays is performed on computers. Several analysis programs are available for PCs. Falk and Miller recommend planning ahead by preparing a tentative outline of the data analysis to be sure that your survey results will answer your market research questions.

(Additional program planning techniques will be discussed in upcoming issues.)

Marilyn Grantham

Marilyn Grantham
Program Leader, Agriculture



Agent Profile

West Polk County agriculture agent **Russ Severson** is apt to be happy on March 15. That's the day after the first Small Grains Institute & International Expo in Crookston ends, and the event looks like a success.

Russ, who is president of the planning committee, says the idea for the institute came from two sources. "We did a survey of people who'd attended our sprayer calibration clinics to find out what additional programming they'd be interested in. We found there was high interest in a program of this type.

"And, the wheat and barley growers needed a mechanism to get results of the research they'd funded to growers who could use the information," he says.

Russ has also worked on Cercospora leaf spot control programs for sugarbeets. "We helped show farmers how to monitor their

fields and use a computer model (developed jointly by NDSU and UM scientists) to predict control," he says.

The Small Grains Institute is sponsored by the Minnesota Extension Service, Minnesota Wheat Council, Minnesota Barley Council and American Oats Association. This is the first time a multi-commodity program has focused on mutual concerns of the three commodity groups.

Russ grew up on a farm in southwestern Minnesota. He has B.S. and M.S. degrees in soil science from the University of Minnesota. Before he started with the Minnesota Extension Service



Russ Severson (left) with Doug Rains, fieldman for American Crystal Sugar. (photo by Don Breneman)

in November 1986, he spent 14 years doing soil fertility research with the university's Northwest Experiment Station, Crookston. His agent specialty is pest management and environmental issues. The sprayer calibration clinics he's organized have drawn 350 to 400 people per year.

Campus Profile

Agriculture's safety record lags behind industries like mining, construction and manufacturing and it's "time to catch up," says



John Shutske, the new safety specialist with the University of Minnesota's Extension Service.

John started Nov. 1, 1990, but he's no stranger to extension-type safety programs. His last job was with Illinois Farm Bureau Insurance (Country Companies), where he was a community education

coordinator and safety specialist.

Although he was headquartered in Illinois, he developed agricultural safety programs for Oregon, Washington, Nevada and Alaska. Now he wants to reduce farm accidents in Minnesota.

"We have real accidents happening to real people every day. And they affect not just the farm families involved, but the agricultural industry. Within the next three or four years I'd like to see a lower farm injury rate and fewer rural health problems," he says.

Farm injuries should not be part of the accepted culture of

rural communities, he adds. "We must overcome 'accepting attitudes' of high accident rates in rural communities.

"It will take a multi-disciplinary effort. We're talking about a basic understanding of the fabric and structure of local communities and leaders. We need agricultural production experts and social scientists working together with community leaders, farmers who set good examples and children. Children can have a big impact," he says.

From 300 to 400 children under 14 die from farm-related accidents every year, John says.