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Integrated Pest Management more than business as usual

Routinely spraying pesticides in schools to keep bugs away seemed like a good sanitation measure, until University of Nebraska–Lincoln Extension showed otherwise.

Through its Integrated Pest Management (IPM) training, extension helped school personnel across Nebraska learn safer ways to eliminate pests, said Clyde Ogg, pesticide safety educator based in Lincoln. The training was funded by grants from the U.S. Environmental Protection Agency, Nebraska Department of Agriculture and extension administration. "We were concerned about people who were making pesticide applications without any training," Ogg said.

In one example from a few years ago, Ogg said a school custodian applied a pesticide on the lawn and didn’t keep students away from the area. Students walked through the grass and tracked the pesticide inside the school. Other schools routinely hired exterminators to spray for pests even if they weren’t present.

No major harm has resulted, but "all it takes is one small incident," Ogg said.

In 2002 extension surveyed more than 700 school administrators statewide about their pesticide use and IPM practices.

Of the 200 administrators who completed the survey, 64 percent indicated that pesticides were routinely applied in their schools. Untrained custodial and maintenance workers made these decisions in 54 percent of the schools.

As a result, extension in 2003 and 2004 developed a brochure, a Web site, learning modules and a 210-page book, "Integrated Pest Management in Schools: A How-to Guide," given to more than 400 extension faculty, pest management professionals, school nurses, custodians, maintenance workers, supervisors, food service workers and groundskeepers.

In 2005, Ogg invited representatives from schools in Columbus, Lincoln, Malcolm, Omaha, Oshkosh and Sutherland to attend the Urban Pest Management and the Nebraska Turfgrass conferences. School officials also received reference materials, in-service training and on-going assistance. Ogg and his colleagues in June visited individual schools in those districts.

Afterward, participants said they planned to seal cracks and crevices in schools to reduce pests, improve water drainage to prevent mold and pest-conducive conditions, and use lower toxic pesticides when needed to protect human health and the environment.

"It helped us tremendously in looking at the pest solutions a little differently," said Shelley Bengtson, environmental specialist with Omaha Public Schools. OPS personnel now use less toxic solutions when spraying for pests and better understand pest nesting practices, Bengtson said.

Bill McCoy, director of operations for Lincoln Public Schools, said extension’s IPM program helped school employees better prevent pests from entering schools. For example, teachers learned to properly store containers of food, rather than leave them open, McCoy said.

LPS also now uses more sticky traps and less pesticides to kill pests, McCoy said, adding LPS’ goal is to get all personnel involved in IPM.

"As one of our custodians said, ‘it takes a village to kill a pest,’” he said. “It takes everybody working together.”

— Lori McGinnis

Ogg can be contacted at (402) 472-1632.
Dean’s comments

Nebraska sits over a majority of the largest underground aquifer in the Western Hemisphere. We rank 10th in the nation in the number of streams and river miles in our state, and 16th in total wetland acreage.

Water, and water issues, matter to Nebraskans. We know too well the effects of drought in our state, and constantly seek ways to make the most efficient, effective use of our resources.

University of Nebraska–Lincoln Extension provides education to help manage the challenges water shortages bring. Extension links the research of the land-grant university system with practical application of that research to improve people’s lives and livelihoods. We help people put knowledge to work.

Extension education helps producers determine such factors as options for planting water-saving crops, strategic and timely irrigation, crop rotations, skip row planting, planting fewer acres and land-retirement programs. In urban areas, homeowners learn extension strategies for water conservation for lawns and gardens.

Nebraska areas hardest-hit by drought are the Panhandle and southwest Nebraska. Participants in extension’s Republican River Basin Irrigation Management Project in southwest Nebraska estimated new techniques learned would help them save 2.2 inches of water per acre of irrigation use in the area, a 10 percent to 15 percent water savings. Based on the 180 participants and the acres they irrigate, that totals more than 45,000 acre-feet of water annually. Producers estimate value of knowledge gained through this program averages about $16,500 per operation, or conservatively $2 million annually for the state.

In the Panhandle, the Pumpkin Creek Watershed Project shows producers how to conserve groundwater through no-till and crop rotations, in addition to careful irrigation management. This three-year, grant-funded demonstration project builds on irrigation management studies from other parts of the state while focusing on western Nebraska soil, crops and climate.

Innovative new tools, such as the Water Optimizer, help producers determine what to plant. This computerized decision-support tool, based on research collected over the past 20 years, was developed by UNL scientists and is being taught by UNL extension educators.

These are a few of the many examples of extension’s work in helping conserve agricultural water use. Another realm of water-saving programs await the urban homeowner.

Last fall the Bureau of Reclamation awarded UNL extension a Commissioner’s Water Conservation Award recognizing extension’s contributions. This award is one of only five given annually to individuals or entities that demonstrate significant accomplishments in improving water use efficiency.

It’s nice to have this recognition. Yet the biggest reward for all of us in extension is knowing we help Nebraskans put knowledge to work.

Elbert Dickey
Dean and Director
University of Nebraska–Lincoln Extension
County employees, officials find eGovernment a time-saver and asset

County employees, officials find eGovernment a time-saver and asset

Burt County was one of the few counties in Nebraska that did not have a Web site prior to the training, said Carroll Welte, extension educator based in Tekamah. Now the site is online and more people are going online to get questions answered.

"Now they can see it will help save them time," Welte added. "They won't have to answer a lot of the same questions."

Nuckolls County Clerk Selma Ferguson said the number of phone calls her office received declined sharply when it put its 2004 election results on its new county Web page.

"It cut down on our telephone calls at least 75 percent or more," she said, adding "I was pretty basic in my knowledge of the computer. The computer is a fear to us with no training," she said. "The knowledge she gained from eGovernment, she said, "was a tremendous asset."

--- Lori McGinnis
Phyllis Schoenholz can be contacted at (402) 768-7212.

County government effective, citizens find

A group of citizens in Banner County got involved in their county government to improve it. Instead, they grew to respect and appreciate it more.

Cheryl Burkhart-Kriesel, University of Nebraska–Lincoln Extension community development specialist in Scottsbluff, helped facilitate development of a property tax advisory committee in 2005.

The committee was assigned to review the county budget and make recommendations on cost cutting, program shifting and consolidation. County taxpayers were invited to join the committee. Interest was high because people had ideas to improve their local government. Burkhart-Kriesel said.

"We wanted a group of between 10 and 12 but we had so many volunteers we upped it to 16," she said.

--- Lori McGinnis
Burkhart-Kriesel can be contacted at (308) 632-1234.
Extension education is on the road for Nebraska

Maybe it's the use of technology you're interested in, such as conducting business by distance education or simply e-mailing the grandchildren. Maybe it's determining what's ailing your corn, soybean or wheat crops. Maybe it's convincing your children to eat healthier by trading a candy bar for an apple.

University of Nebraska–Lincoln Extension is on the road in 2006, helping Nebraskans do these very things and much more through extension's BIT Mobile, Plant Diagnostic Lab and Nutrition Mission Discovery Lab.

All three deliver extension education to Nebraskans.

The BIT (Business Information Technology) Mobile is a self-contained mobile classroom carrying all the tools needed for high-speed computing and technology education.

“It's a university resource that can go into any community in the state,” said Connie Hancock, extension educator based in Sidney and the driving force behind the BIT Mobile.

The grant-funded lab is a 28-by-9-foot trailer for multimedia instruction users immediately put to use. The lab contains 14 laptop computers, a file server, a Polycom audio and video communications system for videoconferencing, and GPS/GIS mapping units.

Classes and workshops cover topics such as enhancing private business and local government using online capabilities, precision agriculture, digital photography, word processing or spreadsheets. Extension personnel with expertise in information technology coordinate or teach the classes.

Through the use of the BIT Mobile's technological capabilities, information technology educators will be able to demonstrate the potential benefit of high-speed/broadband and Internet access for business owners, agricultural producers, libraries, economic development groups, local governments and more, Hancock said.

The Mobile Plant Diagnostic Lab has the ability to diagnose crop diseases on-site, a real time advantage.

“Children in nutrition education program take to heart better eating”

Children in a University of Nebraska–Lincoln nutrition education program discovered not all snacks are candy, and heavy soda pop consumption can add up to as much as 60 pounds of sugar in one year.

The children are students of the Nutrition Mission curriculum, developed and taught by UNL extension educators Jessye Goertz based in Broken Bow and Kayla Hinrichs based in Oud.

Goertz and Hinrichs a few years ago became alarmed by reports that one of every three Nebraska youth is overweight or at risk of being overweight, and may not outlive their parents.

The Nutrition Mission curriculum they developed plays off a space mission theme for fourth-, fifth- and sixth-graders in creating nutrition awareness and healthier eating habits.

In the three 45-minute sessions, children learn about USDA's MyPyramid, which emphasizes more fruits, vegetables and whole grains, and less sugar and fat. They also learn about serving sizes and portion sizes, the importance of milk, how to read food labels and the definition of a calorie.

Children make healthy snacks such as yogurt parfaits, fruit smoothies and shaker bags.
The competitive edge can become an overwhelming factor in sports, music, drama, rodeo and other activities. Great Fans. Great Sports. puts that competition into perspective.

The new program, a joint effort between University of Nebraska–Lincoln Extension and the University of Nebraska Alumni Association, was kicked off last summer. The purpose of the program is to teach children to be better participants in competitive activities and parents, coaches and other adults to be better fans, said Kathleen Lodl, 4-H youth development specialist.

“People have been telling us sportsmanship needs to be front and center,” Lodl said. “Sportsmanship is important in teaching responsibility and this is a program that puts this in focus.”

In spring 2005, 65 people were trained in Great Fans. Great Sports. An online curriculum was readied, then 4-H partnered with schools, community groups and other youth-serving organizations across Nebraska to put the curriculum into action, she said.

One outcome was that Little League baseball teams in Garfield County started having a code of conduct read before games. Another was children learned to come better prepared to athletic practices so they could focus on the activity.

Great Fans. Great Sports. is based on the six pillars of character and the decision-making tools of extension’s Character Counts! Program.

— Lori McGinnis

Lodl can be contacted at (402) 472-9012.
Wet corn byproducts a tremendous advantage in cattle industry

Nebraska’s ethanol and feedlot industries seem made for each other.

Their match has a multimillion dollar effect in the state, said Galen Erickson, University of Nebraska-Lincoln Extension beef feedlot nutrition specialist.

Wet corn byproducts from the state’s dozen ethanol plants make excellent, economical feedlot cattle feed, Erickson said, adding “Having these byproducts and using them in Nebraska is a tremendous advantage for Nebraska feedlots.”

Ethanol is an alternative fuel additive made from about one-fourth of the state’s annual 1.4 billion bushel corn crop. Nebraska has the third largest ethanol production capacity in the nation, currently at more than 523 million gallons annually. At least six more ethanol plants are to be built in Nebraska, Erickson said.

As Nebraska’s ethanol industry has boomed the last 25 years, plans also are on the drawing board to grow crops for biodiesel, another alternative fuel having great potential. Soybeans in eastern Nebraska already produce biodiesel.

David Baltensperger, UNL crop breeding specialist in Scottsbluff, said oilseed crops that could be used for manufacturing biodiesel also grow well in western Nebraska’s semi-arid climate.

Baltensperger said up to 5 million High Plains acres, which include western Nebraska, could produce brown mustard, canola and false flax.

“These crops are very responsive to limited irrigation,” Baltensperger said. “Everything looks positive.”

Extension education helps interested producers learn more, as have 10 producer demonstration plots coordinated by extension. Grants also allow extension to work with Progressive Producers and Blue Sun Biodiesel cooperatives to learn more about the potential of crops and biodiesel in Nebraska, Baltensperger said.

For now ethanol leads the way in alternative fuel production, mostly in eastern and central Nebraska. In many cases extension has lent a helping hand by providing detailed crop and livestock statistics to ethanol interests, and by working with community and economic development leaders in drawing ethanol interests to local communities.

Once ethanol plants are established and nearby feedlots feed wet byproducts, extension works with producers in developing comprehensive manure plans for fertilizer use, to evenly distribute the high-nutrient manure on fields.

In north-central Nebraska, extension worked with a local cooperative to develop distillers grain cubes, made from an ethanol byproduct, to feed as a high-protein supplement in cow-calf operations.

The ethanol byproducts/beef industry match has, according to some, revolutionized the cattle industry.

Ninety percent of Nebraska’s wet corn byproducts are fed to beef cattle in place of corn, Erickson said, and come in two forms, wet distillers grains from ethanol plants and wet corn gluten feed from plants that manufacture corn syrups, plastics and other products from corn, as well as ethanol.

Feeding wet ethanol byproducts is cheaper than feeding regular corn, Erickson said, plus there is no expense of drying. Cattle like the sticky, palatable taste of byproducts and gain weight well with them. These factors have provided a savings of about $80 million to cattle feeders and ethanol plants, he said.

In fact, feeding byproducts wet instead of drying them provided a $212 million net cumulative economic benefit to Nebraska from 1992 through 1999. Terry Klopfenstein, UNL beef nutrition scientist, estimates the cumulative effect had doubled to about $400 million by 2004.

The same attributes that make feeding wet byproducts economical also present some challenges, Erickson said. For example, the wet feed must be transported from the plants to the feedlots at least weekly to prevent spoilage. For transportation costs to be effective, feedlots and plants need to be within 60 miles of each other. Manure may contain greater amounts of phosphorus, so when used as a fertilizer it must be spread over a greater amount of ground.

“We can handle the challenges,” Erickson said. “The advantages far outweigh the challenges.”

Erickson said under optimum conditions feedlot cattle rations would include 30 percent to 40 percent wet byproducts, although on
On-site wastewater management testing

Many people not used to taking tests might balk when told they must to comply with a new environmental regulation. University of Nebraska–Lincoln Extension’s classes for on-site wastewater treatment has helped overcome some fears and, in the process, changed some mindsets, according to Jan Hygnstrom, UNL extension project manager, and Tony Mendes, vice president of the Nebraska On-Site Waste Water Association (NOWWA).

Hygnstrom said most class participants now “realize the important role they play in protecting public health and the environment, and that they truly are professionals.”

On-site wastewater treatment systems usually are for homes and businesses outside city limits. State law now requires that any installer, pumper or inspector of these systems be trained, tested and certified by Jan. 1, 2006. Extension received a grant from the Nebraska Department of Environmental Quality (NDEQ) to develop and teach a science-based curriculum.

“The first measure of success – across the board – is the high level of passing rate,” Mendes said. “These are people who may not have done much written testing in a number of years.”

NDEQ reports that results for the first five tests show a 90 percent passing rate. That is a higher figure than people who were tested without extension’s class, Hygnstrom said.

Developing and teaching the classes were extension’s Sharon Skipton, Wayne Woldt and Hygnstrom. Their respective areas of focus toward curriculum development and class delivery were water quality/environment of the home, engineering/groundwater and biology/soils.

Hygnstrom said participants learn the scientific rationale for the regulations. An example might be why traditional on-site treatment systems are ineffective for sandy soils and high water tables, due to the potential for disease-causing bacteria and viruses to enter the groundwater.

Eighty-five percent of Nebraskans drink groundwater, Hygnstrom said, adding on-site systems that don’t treat wastewater are expensive to replace and can lower property values.

Nearly 500 people took the class at seven locations in 2005. Some took more than one type of class, bringing the number trained to 632.

Mendes said initially resistance for the education and certification was high. After being in extension’s classes, he said participants have “significantly better awareness and understanding about what they can do to achieve a common good. There’s more to this than just meeting some requirements.”

— Cheryl Alberts

Hygnstrom can be contacted at (402) 472-9614.
Extension helps decipher Medicare changes

Filling out paperwork to choose among 40 different prescription drug coverage plans is a daunting and confusing task for many.

University of Nebraska–Lincoln Extension is helping Medicare recipients and the professionals who work with them sort out the changes brought about by congressional passage of the 2003 Medicare Reform Act.

Extension became involved in 2004 when a temporary prescription drug card was made available to Medicare recipients. In 2005 extension helped provide education about the first-ever prescription benefit program, which began Jan. 1, 2006.

“It is such a complex issue,” said Judy Weber, coordinator of extension’s Medicare education project and a retired extension educator. “Medicare recipients and professionals are looking to us as an organization that can help get the technical information out there.”

When the transitional drug cards were made available, only about 13 percent of Medicare recipients nationally got them, and it was believed to be less in rural states, Weber said.

USDA’s Cooperative State Research Extension and Education Service selected UNL Extension and extension at four other state universities to launch a pilot program to educate and enroll eligible Nebraskans in the drug card program.

The card provided discounts on prescription drugs and even provided a $600 credit toward drugs for lower-income recipients. Since the average Medicare recipient takes between 10 and 20 prescription drugs, savings are important, Weber said. The Nebraska campaign, started in November 2004, was titled “The Greatest Gift You Can Give a Senior Citizen This Year is a Prescription Drug Card.”

Extension personnel contacted more than 200 civic groups and organizations, held educational meetings, did radio and television interviews and gave speeches to help more people take advantage of the card.

“Medicare is complex, and many didn’t realize they could save money with a Medicare prescription drug card,” Weber said.

As a result of extension’s efforts, at least 530 Medicare recipients enrolled for the cards between November 2004 and September 2005, potentially saving at least $820,000. More than 430 recipients received individual assistance with the enrollment process.

One north-central Nebraska recipient who was paying $220 a month for prescriptions paid less than $20 a month with the drug card. A recipient in northeast Nebraska saved more than $500 a month.

In 2005, extension and several state and local agencies dealing with older Nebraskans, their families and the low-income formed the Nebraska Medicare Prescription Drug Coalition to help Medicare recipients apply for the new program that began Jan. 1.

The new program requires participating recipients to select an insurance plan to cover drug costs. Seventeen insurance companies in Nebraska are taking part in the program and more than 40 plans are available.

The coalition has held monthly satellite or telephone conferences statewide since June 1 to educate and provide outreach to recipients and the agencies and health professionals working with recipients and to assist in the enrollment process.

Extension helped form 30 local coalitions across Nebraska to help answer recipient questions about the new program and get them signed up, Weber said.

Mary Nelson, extension educator based in Omaha, facilitated four satellite conferences in Omaha to help medical professionals and others working with recipients know how to help get them signed up for the new program.

“We’ve been able to offer those agencies a venue to get the information out,” she said.

Deborah Lane, associate director for communications of AARP in Nebraska, said more than 1,000 professionals and more than 4,000 Medicare recipients have been educated through coalition training sessions. Medicare recipients appreciate the help, she said.

“The presentations help alleviate the anxiety and fears they have about the whole process,” she said.

— Lori McGinnis

— Lori McGinnis

Nelson can be contacted at (402) 444-7804.