2005

Natural Resources Complex

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Natural Resources Complex

I would like to call your attention to a new development in the Institute of Agriculture and Natural Resources at the University of Nebraska-Lincoln which promises to be of interest to everyone here this evening.

Those who have been on East Campus recently probably noticed the construction activity at the former Nebraska Center for Continuing Education at 33rd and Holdrege Streets. When the renovation is complete early in 2006, the facility will become the site for the Natural Resources and Research Complex and will be named Hardin Hall in honor of Clifford Hardin, former United States Secretary, and Chancellor of the University of Nebraska-Lincoln.

The complex will house the faculty, staff, and students of the UNL School of Natural Resources, including the Conservation and Survey Division, and the Water Center. Members of these units currently are located in eight different buildings on both the City Campus and the East Campus. This facility will bring

together key programs including climate, fisheries, forestry, geology, soils, water, and wildlife. It will create links with agricultural, environmental, health, and social agencies. These links will contribute to agribusiness, environmental policy, resource management, and sustainable rural and urban communities.

After the renovation of this building is completed in 2006, we hope you will visit Hardin Hall. This new Natural Resources and Research Complex promises to become the focal point for our teaching, research, and extension education activities related to water and natural resources for the entire State of Nebraska.

Dr. Richard Fleming — of UNL
Dept of Agricultural Leadership,
Education, & Communications

Cornells

PRODUCTION AGRICULTURE – DISTRICT A

The first Master Conservationist recognition in Production Agriculture this year goes to the Clinton and Kitty Cor-nils family of Bushnell in the Panhandle. Will the Cornils please come forward? The landscape on this farm is much better today due to the efforts of three-generations and the sheer variety of Clinton's conservation-efforts. He installed over eight-miles of pasture and cropland terraces on the 8,500 acres he owns or rents. Terraces and crop rotation maintain residue and keep soil-and-moisture in place on dryland acres. He uses a wheat-proso millet-fallow rotation which is a recent change from one that included sunflowers which left the lighter-ground too-vulnerable to blowing. Seven center pivots produce alfalfa and sorghum-sudan grass. Since the focus is more on cattle now, windmills, submersible pumps, underground pipelines and stock tanks allow cattle to graze pastures evenly-and-more efficiently. More than 8,000 trees have been planted in a whole-farm conservation approach. Congratulations to the Cornils.

PRODUCTION AGRICULTURE – DISTRICT B

An early "pioneer" of no-till practices in Valley County is our Master Conservationist in Distict B, the Duane and Katherine Lange "family" of rural Ord. Their crop and livestock operation includes 1,800 acres of crop land and 640 acres of pasture. Duane's [redacted] first "attempt" at no-till was planting dryland corn in wheat stubble which resulted in an "increase" of 20 bushels per acre. While other farmers watched drought "ravage crops" in recent years, Mr. Lange's dryland corn yields "last year" were 130 bushels per acre. Since organic matter is breaking down on the surface, the quality of topsoil has "never" been better, contributing to increased production. Erosion control and "carbon sequestration" also make no-till a valuable farming practice. No-till has increased the capacity of Mr. Lange's soils to hold water so he can apply "more" irrigation water at a time, and it can be used over a longer period of time. The farm has been "showcased" for tours, and the University of Nebraska-Lincoln has used it for no-till demonstrations "numerous times." Congratulations to the Langes.

PRODUCTION AGRICULTURE – DISTRICT C

Our northeast Nebraska Master Conservationist recognition goes to Leonard and Frances Hoffman of Pierce who operate a 1,962-acre cash-grain and livestock farm with sons Robert, Charles, and Dominic. After entering 25.6 acres in no-till in 2000, the family planted the whole farm in no-till in 2002 on both highly erodible and non-highly erodible land. They implemented structural and management practices, which lowered the soil loss rate to under 5 tons per acre, and which is considerably below an acceptable soil loss rate. By participating in the Lower Elkhorn NRD's No-Till program, the increased soil moisture, contour farming, and time-savings have proven beneficial not only in yield, but in personnel, allowing more time for other priorities. Compared to conventional farming, they limit trips over the fields saving time, wear on equipment, labor, and fuel. They eliminated chiseling, disking, and field cultivating, thereby reducing tillage compaction layers in the soil. Congratulations to the Hoffmans!

PRODUCTION AGRICULTURE DISTRICT D

Don and Aggie Roberts and their son, Bill, are the Master Conservationists in southwestern Nebraska. The current operation includes 1002 acres in cropland and 971 acres in pasture or grassland. One of the family's first endeavors was to install a 240-foot livestock well to make use of six acres of native grasses along with utilizing crop land for grazing. In the 1960's, Don, his father Harold, and grandfather W.W., each signed Great Plains Conservation Contracts. The most notable benefit of the conservation practices Don has implemented is continuity. Tree planting helped reduce soil and wind erosion and reap the benefits of beautiful windbreaks, which provide habitat for pheasants, rabbits, and songbirds and shelter for the feedlot. Water conservation mulch has contributed to less soil erosion, increased moisture conservation, and the elimination of weed growth. The Roberts will be in a better position than most to adapt to new requirements of the Republican River Compact Settlement. Congratulations to the Roberts!

PRODUCTION AGRICULTURE – DISTRICT E

Master Conservation recognition in southeast Nebraska goes to the Nielsen family in northern Lancaster County. The Nielsen family includes Wayne and Wanda, the parents, and the present operators, Dave and Vicki. They raise corn, soybeans, wheat, and a small amount of native hay and brome hay on 1,762 dryland acres. The Nielsens switched to no-till in the early 1990s and use it exclusively today. All the land has either storage terraces with tile outlets or contour terraces with grassed waterways, or both. The Nielsens were one of the first in the area to install tile outlet storage terraces. They also were among the first to use bio-solids from the Lincoln Waste Treatment Plant, which greatly reduced the amount of commercial fertilizer needed. Bio-solids also increased the soil organic matter at a faster rate. The bio-solids have increased soil tilth, allowing for faster infiltration of water and improved capacity to hold water, thereby reducing water runoff. Wayne and Dave Nielsen were honored by the City of Lincoln for their efforts in preserving, protecting, and enhancing the natural environment. Congratulations to the Nielsens.

PRIVATE RESIDENCE

No Award Given

COMMUNITY – PUBLIC

Master Conservationist recognition in the Community-Public category goes to the Shell Creek Watershed Improvement Group at Madison represented by Eric Smith and Allen Mitt-ann of Madison. The Shell Creek Group was formed in 1999 by landowners, agricultural producers, community residents, and businesses to address the poor [redacted] water in the area. Shell Creek is a tributary of the Platte River, and the watershed includes 300,000 acres in Boone, Madison, Platte, and Colfax Counties. The watershed is about 80 percent crop land, roughly half-dryland and half-irrigated, and a combination of cash-grain and livestock-enterprises. In an effort to manage natural resources to improve Shell Creek, a Management Plan was developed. The watershed has been awarded a Nebraska Environmental Quality 3219 Grant, and a Nebraska Environmental Trust Grant offers incentives on conservation practices to those people who want to incorporate new conservation-practices. A new practice, permacrop, is being

implemented that uses annual rye grass in areas that could have a grass waterway or areas of steep slope. Ryegrass is planted and a planned crop is no-tilled straight through the ryegrass in the spring. When the rye grass is actively growing, producers spray the grass, leaving the rye foliage and roots to keep erosion at a minimum until the crop can take over. The Shell Creek Watershed Group has held 10 educational meetings tours and field days showing the benefits of the project. Congratulations!

AL
Mr. TAM will introduce his ASSOCIATES.

Nod Away

COMMUNITY – PRIVATE BUSINESS

The winning site developer for the Carl T. Curtis Midwest Regional Headquarters Building for the National Park Service sought to transform an abandoned industrial area, a perceived brownfield, into a recreational, residential, and business area as part of the Omaha Riverfront Development Master Plan. Brinker-Harding of the Noddle Development Company is representing the consortium composed of Leo A. Daly, Kinghorn Gardens, Noddle Development Company, Purdy and Slack, and Kirkham Michael, all of Omaha. Site-sustainability was a high-priority of the design team, and the goal from the beginning was to restore as much as possible of the former industrial site to its native habitat. The project-team created an on-site ecosystem consisting entirely of plant life native to the eastern-Nebraska prairie-landscape that will not need an irrigation system. An Elder from a local Native American Tribe helped with the selection of indigenous plant life. Many of the types of vegetation planned were selected because of their use by local Tribes. Natural grades collect water at low points creating both a detention pond and a retention pond. The landscape provides seeds, nuts, fruits, nectar, and insects for the

wildlife food supply. Communities of plants with similar cultural care needs will lessen inputs of water, chemicals, and fertilizer to create a sustaining environment that provides a reduction in run-off. The entire property is designed to be used as a teaching garden and to display plant materials. Congratulations to the project consortium and the National Park Service.

YOUTH GROUP

After the Shell Creek Watershed Improvement Group was formed in 1999 to implement conservation practices and improve water quality, they asked the Newman Grove Public High School in 2002 to assess and monitor water quality of Shell Creek. Mark Sy-er, the biology teacher, and his students are here tonight. Each summer since 2002, Newman Grove students have conducted water quality tests at several sites along Shell Creek under the supervision of [redacted]. The testing measures several key indicators of water quality, including plant and animal populations, pH, dissolved oxygen, phosphate, nitrate, and other elements. The results show that Shell Creek's water quality ranges from fair to medium. Low dissolved oxygen levels are of particular concern, and the students are conducting further research to investigate the cause. High levels of nitrate, turbidity, and dissolved solids indicate excessive runoff and erosion from the watershed. Rather than focusing on one or two sites, the students have developed a representative sampling of Shell Creek by testing sites from Newman Grove in Madison County to Platte Center in Platte County. Each site is tested eight—

times each summer. What started as a relatively simple summer project has become a multifaceted, continuing program that has benefitted both the students and the community in positive ways. Through the project, students have gained technical skills and new scientific knowledge, community involvement, ability to effect change, and interest in science. Congratulations!