Thoughts for the New Year

by Daniel J. Duncan, ARDC Director & IANR Ag Research Division Assistant Dean and Director

A few years ago, I put the following "Thoughts for New Year's Resolution" in this column. The words below are not mine; I wish I knew who to give credit to.

Thoughts for New Year's Resolutions

* Promise yourself to be so strong that nothing can disturb your peace of mind.
* To talk health, happiness and prosperity to every person you meet.
* To make all your friends feel that there is something special in them.
* To look at the sunny side of everything and make your optimism come true.
* To think only of the best, to work only for the best and expect only the best.
* To be just as enthusiastic about the success of others as you are about your own.
* To forget the mistakes of the past and press on to greater achievements of the future.
* To wear a cheerful countenance at all times and give every living creature you meet a smile.
* To give so much time to the improvement of yourself that you have not the time to criticize others.
* To be too large for worry, too noble for anger, too strong for fear and too happy to permit the presence of trouble.

As we start the new year, I would like to thank everyone at the ARDC, throughout the University of Nebraska System and within the local community for an exciting year in 2005. I look forward to this coming year knowing we can turn the challenges we face into opportunities and grow stronger through the process.

Happy New Year!!!

Training Opportunities For Crop Producers

Now is the time to for those involved in crop production to review their educational needs for the upcoming year. The following provides details on upcoming training opportunities.

* Managing High Priced Nitrogen

Friday, January 13 * 1 p.m. - 4 p.m. Complimentary lunch at 12:00 Noon at the August N. Christensen Research and Education Building at the ARDC. This session also serves as training for the Lower Platte North NRD nitrogen management training requirements.

With nitrogen prices on the rise, it is important to make cost-effective decisions. Topics include: nitrogen use for 2006, how optimal rates are affected by fertilizer N price, the N credits; discussion of other issues of fertilizer use, e.g. slow release products, manure nutrients; production of anhydrous ammonia - why the limited supply and high cost; are we moving to more dry and liquid nitrogen sources; production of anhydrous ammonia - why the limited supply and high cost; are we moving to more dry and liquid nitrogen sources; trends in use of N fertilizer products, including anhydrous ammonia and slow release N fertilizers; Nitrogen needs for dryland and irrigated corn in 2006; Nitrogen use for 2006, how optimal rates are affected by fertilizer N price, the N credits; discussion of other issues of fertilizer use, e.g. slow release products, manure nutrients; production of anhydrous ammonia - why the limited supply and high cost; are we moving to more dry and liquid nitrogen sources; trends in use of N fertilizer products, including anhydrous ammonia and slow release N fertilizers; Nitrogen needs for dryland and irrigated corn in 2006; Nitrogen needs for dryland and irrigated corn in 2006; Nitrogen needs for dryland and irrigated corn in 2006; Nitrogen needs for dryland and irrigated corn in 2006.

Presenters include: Richard Ferguson, Extension Soil Fertility Specialist, and Charles Wortmann, Extension Nutrient Management Specialist of UNL’s Department of Agronomy and Horticulture and Keith Glewen, UNL Extension Educator.

RSVP REQUESTED - please call or e-mail.

Contact UNL Extension at (402)624-8030, (800)529-8030 or e-mail Keith Glewen at kglewen1@unl.edu.

Note the operator skill necessitated in the above photo. Farm Operations staff planted the crop adjacent to the Carbon Sequestration Project area. This requires a great deal of planning and precise equipment placement.

ADRC Farm Operations play an integral part in the successful outcomes of research, teaching, and extension programs of many university departments. The ultimate mission of Farm Operations is to help facilitate research and education programs the most effective way by sharing resources and expertise.

Research

While ARDC Farm Operations does not conduct research, it provides land, equipment, labor, expertise, and services to departments when the resource is not available within the academic department or is cost prohibitive for the department to do so on its own. This allows the university to efficiently manage ARDC lands and provide large scale agricultural services to assist the researcher of the burden of managing a crop and instead allowing them to concentrate on research implementation and data collection. Farm Operations manages the crop from planting through harvest and the researcher needs only to concern themselves with specialized applications and other research protocols within the field. Farm Operations works closely with the researcher to plan out every facet of the crop including research treatment layout (using the farm’s 20 ft wide equipment), seed requirements (often changing within field by hybrid and rates), tillage (we hope not), pest control management (weed, insect, disease), application timing and rates, irrigation, harvest method (dry grain, high moisture 28-30%, silage, identity preserved segregation). Some practices may be withheld so as not to conflict with the study treatments. For example, not applying an insecticide to control corn rootworm in a corn rootworm efficacy trial.

In all cases the farm staff
must be meticulous at implementing and documenting their work in the field. The utmost care is taken to ensure that the work is conducted on an accurate and consistent basis which reduces unknown variables in the research. This means getting a project planted on the same day, before a rain comes, or scheduling harvest so that the grain across a field is at the same moisture, or the plot yield is not affected by a delay in harvest.

Field mapping and reporting consumes a considerable amount of staff time. It starts with a written production plan for each field detailing seed, seed rate, fertility, acres, plot plan, and research protocols which must be followed. The plan is discussed with the staff and implemented, recording all aspects of the operations. Typical records available to the researcher include date, operation type, hybrid, variety, seed trait, seed rate, herbicide and adjuvant rates, irrigation dates and amounts, fertilizer treatments, equipment fuel use, harvest yield by weight, moisture, and spatial location (yield map). The data is analyzed, error checked and summarized for use by the researcher.

Tools of the Trade

Yield Monitor - Used to determine the harvested bushels and grain moisture while the combine is on the go. Used with GPS and yield mapping software to create a yield map showing yield variation across the field and to document plot yield.

GPS - Geographic Information System - Software which records and displays the information captured with GPS, yield monitors, planters, and sprayers. Used to create field plans showing crop and associated production parameters such as weather, seed, soil types, fertility, field boundaries, names, and area size. Keeps record of manure applications. Displays site specific yield, pesticide, and seed applications. Useful for planning by creating the plot boundaries on the computer dimensionally prior to application in the field. Shows land use, roads, buried utilities, irrigation system pivot tracks and end-gun coverage areas, wells, aerial photos, or anything you want to tie a location to.

The Farm Operations staff use many forms of modern technology, such as this GPS-equipped combine.

Researchers can access much of this information via the internet on the Agricultural Research Division's website vastly improving information sharing within the university community.

GPS Guidance - Light Bars - Aids the tractor operator or sprayer operator in maintaining a uniform application swath width. Using light indicators or arrows, the system tells the operator to steer right or left to stay on track. Very useful for wide swath equipment such as sprayers or dry spreading equipment where the swath width is often 80’ or more and is difficult for the operator to gauge or determine where the previous swath was. The system automatically determines the swaths across the field on equally spaced patterns.

AutoSteer - This system steers the tractor automatically without operator input. Using RTK (Real Time Kinetics) GPS, the tractor can steer on its own within one inch accuracy.


Mark Schroeder and Walker Luedtke provide management for Farm Operations.

Farm Operations QUICK FACTS...

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tillable Acres (but all no-till)</td>
<td>3,000</td>
</tr>
<tr>
<td>Number of Fields</td>
<td>111</td>
</tr>
<tr>
<td>Acres Irrigated</td>
<td>1,325</td>
</tr>
<tr>
<td>Yield Difference Between Irrigated and Dryland Corn</td>
<td>71 bu/acre</td>
</tr>
<tr>
<td>Yield Difference Between Irrigated and Dryland Soybeans</td>
<td>13 bu/acre</td>
</tr>
<tr>
<td>Days of Harvest</td>
<td>31 Days</td>
</tr>
<tr>
<td>Tandem Truck Loads of Grain Harvested Fall 2005</td>
<td>758</td>
</tr>
<tr>
<td>Most Grain Harvested in One Day</td>
<td>26,900 bushels</td>
</tr>
<tr>
<td>Bin Storage Capacity</td>
<td>275,000 bushel</td>
</tr>
<tr>
<td>Miles Traveled by Combines Harvesting Crop</td>
<td>1,328 miles</td>
</tr>
<tr>
<td>Number of GPS Yield Points Recorded</td>
<td>573,650</td>
</tr>
<tr>
<td>Pages filled by GPS Yield Points if Printed</td>
<td>10,095</td>
</tr>
<tr>
<td>Number of Large Round Bales Made</td>
<td>1,216</td>
</tr>
<tr>
<td>Roadside Mowing Tractor Hours</td>
<td>415 Hrs.</td>
</tr>
<tr>
<td>Hour Meter Runtime for All Farm Equipment</td>
<td>2,741 Hrs.</td>
</tr>
<tr>
<td>Gallons of Fuel Metered from Fuel Station</td>
<td>46,281 Gallons</td>
</tr>
<tr>
<td># of Farm Staff</td>
<td>9</td>
</tr>
<tr>
<td>Miles of road for snow plowing</td>
<td>26 miles</td>
</tr>
</tbody>
</table>

About the People

The Farm Operations staff work together to keep things running smoothly year round. While the following provides areas that each employee is primarily responsible for, they assist wherever needed depending on the season.

* Allen Bahm, Ag Tech II, and his wife, Mary, live at Ashland. They have one daughter. Allen handles trucking, swathing hay and driving the bus for tours and other groups as needed. He is an active member of the Ashland Fire and Rescue Unit.
* John Kirchmann, Ag Research Tech II, and his wife Lene live near Yutan. They have two daughters and a son. John focuses on planting and harvesting operations.
* Fred Proskovec, Ag Research Tech II, lives near Malmo and is fire chief for the volunteer fire department. Fred handles the grain handling and filling.
* Walker Luedtke, Assistant Farm Manager, and his wife Kristin live near Wahoo. They have a son and a daughter. Walker supervises the day to day operations of the Farm Operations staff.
* Mark Schroeder, Associate Director and General Farm Manager, and his wife, Barb live in Lincoln. They have a daughter and a son. Mark is responsible for overall management of farm operations on 3,500-acres at the ARDC, a job that requires much coordination, planning and timing among a variety of individuals. He also serves as the associate director for the ARDC.
* Rod Thorson, Ag Research Tech II and his wife, Shellie, live in Wahoo with their three sons. Rod’s main responsibilities are planting and harvesting.
* Dave Werner, Ag Research Tech II and his wife, Jan live near Wahoo. They have three sons and a daughter. Dave does most of the spraying and harvesting for Farm Operations. He and his family enjoy camping, gardening and outdoor activities in their spare time.
* Bob Weatherly, Ag Research Tech III Irrigation Technician, oversees irrigation operations. Bob is a native of Tekamah. He and his wife, Beth, currently call Fremont home. They have three grown children.
* Chad Lunkel is serving as a temporary staff member at Farm Operations. He is originally from Wahoo and most recently lived in Sublette, Kansas where he worked as a crop consultant for five years. He currently resides near Wahoo.

In Rememberance...it was 2001 as Kent in this issue as he was an AgTech II with Farm Operations for many years providing vehicle maintenance and field services.

Kent Thomson 1951-2009

Kent Thomson passed away in 2004. We remember Kent in this issue as he was an AgTech II with Farm Operations for many years providing vehicle maintenance and field services.
* Nebraska No-Till Conference * Wednesday, February 8 at the August N. Christenson Research and Education Building at the ARDC. The conference will also be held on February 7 at the Ag Center in Holdrege. Registration begins at 9 a.m. with conference from 9:25 a.m.-4 p.m. UNL Extension will give corn and soybean producers information on how to be successful with minimum and no-till at the Nebraska No-Till Conference.

Producers will learn the benefits of no-till and how it can work for them. Speakers include no-till farmers, university specialists and industry representatives.

Dr. Jill Clapperton of Alberta, Canada’s Agriculture and Agri-Food Canada’s Lethbridge Research Centre is the featured speaker at both locations. She will speak on research findings and will discuss how soil biology and ecology interact with cropping and soil management systems to facilitate long-term soil quality and productivity. Clapperton is an internationally respected lecturer.

Other topics/speakers/locations include: no-till - making it work in southwest Iowa - David Dukes, grain and livestock producer, Bedford Iowa (ARDC only); water infiltration study in no-till and tilled Nebraska fields - Paul Hay, UNL Extension Educator (both locations); residue management - Paul Jasa, UNL Extension Engineer (Holdrege only); payments for sequestering carbon in Nebraska - Randy Pryor, UNL Extension Educator (both locations); ten years experience no-tilling in irrigated crop production - Mark Watson, grain producer, Alliance, NE (Holdrege only); and the value of no-till education Mike Kucera’s, State Resource Conservationist (ARDC) and Dan Gillespie, No-Till Specialist (Holdrege).

Registration is due February 1. For more information or to register at the ARDC location, call (402)624-8030 or (800)529-8030 or e-mail at kglewen1@unl.edu. For more information or to register at the Holdrege location, call (308) 995-4222 or e-mail churl1@unl.edu. Online registration available at http://arc.de.unl.edu/notill.htm.

* Private Pesticide Applicator Training * For private pesticide applicators with expiring certification and those seeking first-time certification. Training will be held at the August N. Christenson Research and Education Building at the ARDC on the following dates and times:

- **Tuesday, January 17** - 1:00-4:00 pm
- **Wednesday, January 18** - 6:30-9:30 pm
- **Saturday, January 21** - 9:00-Noon

* Marketing Workshops * Two marketing will be offered at the ARDC in February. **Grain Marketing Basics** with Roy Smith will be held on February 14 and **Winning the Game** will be held on February 15. **Watch for more details!**

* Nitrogen Management Training * Thursday, January 19 at 1 p.m. and **Wednesday, February 15** at 6 p.m. at the August N. Christenson Research and Education Building at the ARDC. All producers using fertilizer in the LPN-NRD must attend nitrogen accreditation at least once every four years.

**NSFGPP Update** * You are invited to attend the Nebraska Soybean and Feed Grains Profitability Project (NSFGPP) meeting on Thursday, March 9 at the August N. Christenson Research and Education Building at the ARDC. Obtain valuable crop production-related information from on-farm research projects conducted on area farms.

**Crop Management Winter Programs** * Start off the new year by enhancing your knowledge with University of Nebraska-Lincoln Extension Crop Management Winter Programs. Registration for the training sessions begins at 8:30 a.m. followed by the workshops from 9 a.m. to 5 p.m. The workshops offer in-depth information from university specialists and private industry representatives. Continuing education credits for the Certified Crop Advisor program are also available. Fees include lunch, refreshment breaks, and workshop materials. Participants can attend one or both sessions.

Program titles, date, location, cost and topics include:

For more information or to register call (402) 624-8000, e-mail kglewen1@unl.edu or visit the web at http://arc.de.unl.edu/training.htm.
**Opportunities to Learn and “Grow”**

It's not too soon to start thinking about lawn, garden and acreage plans for next year. Check out these late winter/early spring horticulture programs!

**Creating A Horticulture Paradise’ Series**

- **Time:** 7:90 a.m.  
  - **Cost:** Free
- **Location:** UNL Extension in Dodge County, 1206 W. 23rd Street, Fremont
- **Contact:** Sarah Browning, (402) 727-2775, sbrowning2@unl.edu
- **February 21**  
  - **Success With Seeds**
    - Joan Steffenmeier, West Point Garden Center

- **February 28**  
  - **Run For The Roses**
    - Kim Todd, UNL Landscape Horticulture Specialist

- **March 7**  
  - **Rain Gardens: Putting Rainwater to Work in Your Landscape Beds**
    - Kelly Feethan, UNL Extension Educator

- **March 14**  
  - **Pollinating Insects In Your Garden**
    - Nick Aliano, UNL Department of Entomology

- **March 21**  
  - **Rethinking Shelterbelts**
    - Justin Everson, Nebraska Statewide Arboretum

**Master Gardener Training**

- **March 2-30**  
  - **Time:** 9:00 a.m.-4:00 p.m  
  - **Cost:** $150.00
  - **Location:** UNL Extension in Dodge County, 1206 W. 23rd Street, Fremont
  - **Contact:** Sarah Browning, (402) 727-2775, sbrowning2@unl.edu

**Acreage Insights- Rural Living Clinics**

- **January 14**  
  - **Wildlife Enhancement**
- **February 18**  
  - **Growing Fruit Trees: Culture, Training & Pruning**
- **March 18**  
  - **Vegetable Gardening in Nebraska**

**Commercial Pesticide Applicator Training**

- **April 15**  
  - **Horse and Management**
  - **Time:** 9:11 a.m.  
  - **Cost:** preregistration $10.00/person, at door $15.00/person
  - **Location:** UNL Extension in Dodge County, 1206 W. 23rd Street, Fremont
  - **Contact:** Sarah Browning, (402) 727-2775, sbrowning2@unl.edu

- **Registration form:** http://acreage.unl.edu

**Selecting the Right Horse for You & Conducting A Profitable Horse-Related Business**

- **Date:** February 23  
  - **Time:** 7:8 p.m.  
  - **Cost:** $30.00/person
  - **Location:** At home presentation, via participants computer. Must have a separate phone and computer line to participate. Registration form: http://cit.webex.com

**Success With Seeds**

- **Contact:** Sarah Browning, (402) 727-2775, sbrowning2@unl.edu

**RESEARCH PROJECT AND SITING ASSISTANCE**  
- Cont. from P. 3  

* Effect of Occasional Tillage of No-Till Systems and Soil Carbon  
* Nebraska Soil Fertility Project - Mead Site  
* Phytophthora Resistance Screening of Soybean Varieties  
* Environmental Impact of Land Application of Beef Feedlot Manure  
* Spring Grazing Effects Under Various Crop Tillage Practices  
* Compost Yield Effects on Crop Production - Alfalfa  
* Grazing on Conventional and Ridge Till Plant Crop Production Systems  
* Corn Rootworm Genetic Evaluations Isolation  
* Systems Cattle Late Spring Grazing  

**Other Investigations and Assistance**

* AGRO/MSYM/AGEN 431 - Site-Specific Crop Management Class Laboratories  
* MechSysMgt 452/852 - Irrigation Systems Class Laboratory  
* Crop Diagnostic Clinic Planning, Site Field Work, Equipment  
* Supplemental Fertilizer CSP Corn Production Sites  
* Soybean Cyst Resistant Variety Comparison  
* Entomology Field Planning and Operations-General Research Area  
* Wheat Greenhouse Area  
* Sustainable Ag Projects (forage harvest NH3 fertilizing, and equipment storage)  
* Compost Treated Fields Harvest Yield Comparisons  
* Land Area Transfer Field 1-15  
* Beef Feedlot Spring Drylot Field Management  
* Beef Lagoon Irrigation Management  
* Swine Lagoon Manure Irrigation Management  
* Ag Awareness  
* Foundation Seed Production (Wheat-Corn-Soybean Harvest, Pest Management, Irrigation, Equipment).