

Crop Protection Clinic on Jan. 24

The 2005 Crop Protection Clinic will be held Monday, Jan. 24 at the Lancaster Extension Education Center. Pre-registration is NOT required. Registration begins at 8 a.m. with sessions continuing from 9 a.m. to 4 p.m. The \$30 registration fee includes proceedings, publications, refreshments and the noon meal.

This very popular clinic offers many topics of interest to crop producers and agribusiness professionals alike. As usual, the latest developments in weed, insect and disease management topics will be covered. A partial list of specific topics this year includes:

- Soybean aphid update,
- Alfalfa insects,
- Foliar diseases,
- Bacterial diseases in corn,
- Weeds to watch in Roundup-Ready systems,
- Herbicide additives,
- Improving pesticide efficacy and drift management.

Participants will also learn about the Great Plains Diagnostic Network, a consortium of diagnostic laboratories equipped to handle disease outbreaks and homeland security concerns.

The clinic will wrap up with a session for commercial applicator certification where commercial pesticide applicators will be able to renew their General Standards and Ag Plant certification by attending the entire workshop session.

“10 Ways to Boost Profit by \$20/Acre” Workshop on Jan. 26

A new workshop, “10 Easy Ways to Boost Profit by \$20 per Acre,” will make its debut at 20 locations across the eastern half of Nebraska this spring, including one on Wednesday, Jan. 26 at the Lancaster Extension Education Center. Pre-registration is required. Registration check-in begins at 9:30 a.m. The workshop will begin promptly at 10 a.m. and will run through 3 p.m.

This program, featured on the cover of the November, 2004 *Nebraska Farmer*, is a compilation of common sense farming practices that are proven by field research but not yet universally adopted by farmers. A notebook containing over 20 papers submitted by extension specialists and educators statewide on various profit-boosting practices has been assembled for this workshop.

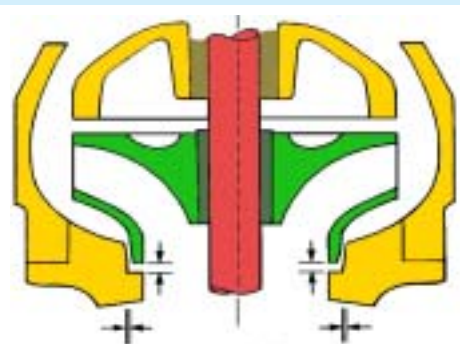
Host extension educators select 10 topics that fit the needs of his/her local area to be presented live in a particular workshop location. Topics chosen for the Lincoln workshop are:

- 1) No-till in dryland cropping systems,
- 2) Switching to no-till can save irrigation water,
- 3) Credit soil for nitrate nitrogen,
- 4) Credit soil organic matter for nitrate,
- 5) Eliminate unnecessary use of P, K and S fertilizer,
- 6) Giving proper credit for legumes in corn rotations,
- 7) Setting realistic yield goals,
- 8) Improve efficiency of the pumping plant,
- 9) Repair leaky gates/gaskets to eliminate a set,
- 10) Using on-farm research to see what works for you.

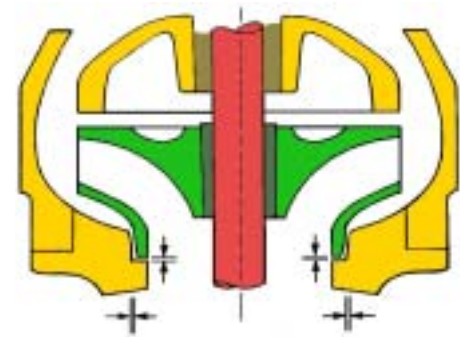
Program fees are \$20 for one person or \$30 for two people from the same farming operation. Fees include one notebook per operation, lunch and refreshments.

If a minimum registration of 30 farming operations is not received by Jan. 24, the meeting will be cancelled and preregistered participants will be notified and registration fees returned.

For a brochure or to ask questions, call Tom Dorn or Karen Wedding at 441-7180. (TD)



One way to boost profits is improving efficiency of the pumping plant. Above is a worn pump, below is a worn pump adjusted for efficiency.



Reduce Soil Compaction by Controlling Traffic in Fields

Random traffic from tillage, planting, harvesting (especially trucks and grain carts) and other operations can track up to 90 percent of a field's soil surface. Strictly controlling wheel traffic can reduce soil compaction, leaving untracked soil mellow, promoting good root growth and maximizing water and nutrient uptake.

Once a traffic lane has been driven on, subsequent passes with similar loads have little effect on the amount of soil compaction in the affected area. If trafficked lanes are followed by additional traffic with lighter or similar loads, little additional compaction occurs.

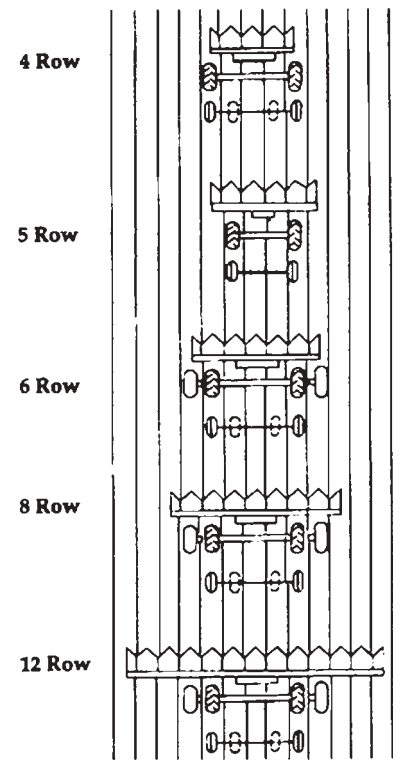
Controlling field traffic entails spacing wheels of all vehicles so they run between the same crop rows, and having wheel tracks in the same inter-row positions year after year. Controlled traffic lanes improve soil-load bearing for machinery, resulting in better traction while

minimizing the area being compacted across the field. Maintaining traffic lanes makes getting into a wet field to plant, spray, cultivate and harvest easier. Fertilizer placement and furrow irrigation practices can also be modified as these traffic zones are established and the traffic lanes are known.

Kits are available to help with wheel spacing. Combine or tractor axle extensions are available, and specially shaped hubs are available to get extra space.

For more information on controlling traffic in fields, see extension publication “Equipment Spacing for Ridge-Till and No-Till Row Crops,” (EC96-780) available at the extension office or online at ianrpubs.unl.edu/FarmPower/ec780.htm. (TD)

At right: combine row crop header size and wheel spacing combinations.



optional drive wheel duals optional rear guide wheel position

Increased Quantities of Stored Corn Heighten Need to Preserve Quality

Many producers started harvest when corn was around 20 percent moisture this year, and many harvested all their corn while it was above 17 percent moisture. Corn price at harvest time had fallen well below county loan rates prompting producers with on-farm storage to either put grain under FSA loan or take the LDP then store grain and hope for an improvement in price. The net result was millions more bushels of corn was dried and stored on-farm than in recent years.

It is imperative to manage grain to preserve quality. Once quality is lost, nothing can be done to improve it. The two biggest factors that affect quality are mold growth and storage insects. The two most important items under the control of the producer to reduce mold and insect damage are to manage the moisture content and temperature of the grain.

Insects are far less active at temperatures below 50° F and many are killed below 32° F. Temperature affects mold growth as well. Mold growth is reduced below 50° F and nearly stops at temperatures below 40° F. Internal heating in the grain from microbial and mold activity is greatly reduced below 16 percent moisture content. The university, therefore, recommends bringing corn down to 15 percent moisture and cooling it to between 30 and 40° F if the grain will be held into the winter months. If held into the summer months, corn should be dried to 14 percent by May. Soybean moisture content should be two points lower than corn, 13 percent for winter delivery and 12 percent for spring delivery, respectively.

Given high propane and natural gas prices in 2004, many

producers with adequate dryer bin space elected to dry grain using low heat or natural air whenever possible. This extended the drying season well into November for many producers. The bright side is, much of the corn was quite cool by the time the grain reached storage moisture throughout the bin. This should have helped producers reach the goal of getting grain both dry and cool going into winter. Those that finished earlier in the fall probably had to push one or two additional cooling fronts through to bring the grain down to the recommended winter temperature range of 30 to 40° F.

A bin of corn is a huge investment and should be monitored at least monthly through the storage period. Check grain temperature with a grain temperature probe near the sidewall and near the center of the bin at least monthly. If there is greater than a ten degree difference in temperature, the aeration fan should be run to push a temperature front through the grain.

Even if the temperature probe did not indicate problems, the next step in the monthly check is to open the roof hatch and start the aeration fan and climb up to check the air escaping from the main hatch. Is the air warmer than expected? Does it have a musty or moldy smell? Can you feel high humidity in the exhaust air as it hits you in the face or do you see condensation forming on the bin roof on a cold day? These can be signs of the presence of a wet spot somewhere in the grain mass that may have been missed by the temperature probe. If you detect a potential problem, open all the hatches and continue to run the aeration fan to push a

temperature front through the grain. If the bin is equipped with a stirring device, make a round or two while aerating to break up pockets of high moisture grain. If the bin does not have stirring devices, it may be wise to remove several hundred bushels of grain from the bin to locate and break up wet spots. Caution: Never enter a bin with the unloading auger running or a bin that could have bridged corn that could collapse and engulf a person.

The amount of time required to push a temperature front through grain depends on the airflow rate. Hours to push a temperature front through grain can be estimated by dividing 15 by the airflow rate in cfm/bushel. (A temperature front will take 15 hours with 1 cfm per bushel, 30 hours with 0.5 cfm per bushel and 150 hours with an airflow rate of 0.1 cfm per bushel). Check grain temperature at several locations to determine when the cooling front has been pushed completely through the grain.

Avoid bringing grain below freezing with aeration when possible. If grain is brought below freezing with aeration, it should be re-warmed as soon as air temperatures are back into the thirties. A frost dam can be created if one waits until spring and then tries to push a warming front through frozen grain using warm, moist, springtime air.

Finally, when not running the aeration system, remember to close roof hatches to prevent rain and snow from getting into the bin. Also cover the fan opening whenever it's not running to prevent problems caused by the chimney effect that can draw in moist air at the bottom of the bin and up through the grain. (TD)