



Number 390
February 22, 2013

1. Renovating ponds
2. Winter durum wheat breeding project at K-State
3. Canola meeting in Anthony rescheduled for March 14
4. Comparative Vegetation Condition Report: February 5 – 18 delayed until Monday

1. Renovating ponds

Rural landowners often get a good look at the bottom of their ponds during winter, particularly in dry years. As a result, they might be considering cleaning sediment out of the pond. There are some questions one needs to consider before deciding to clean a pond:

- Should I clean a pond or make a new pond somewhere else? What is the purpose(s) of the pond? What is the pond's value (how much are you willing to spend) for the intended purpose? Is cleaning a pond the best option for a water supply?

Ponds are expensive to build; some leak in spite of corrective measures; they occupy valuable land; unless fenced, ponds are a risk to livestock loss in winter; and they require considerable maintenance. In the absence of a reliable cost quote from a local business person, a good estimate is \$10 per cubic yard to clean.

If a suitable site is available, it is usually less expensive to construct a new pond than to clean sediment from an existing one. Thus, a new pond should be fully considered before deciding to clean an existing one. When figuring the cost, be sure to include fencing the pond and providing a remote watering site.

Many ponds were originally built for livestock water supply. They may have been the best option at the time, but is a pond the best option for the purpose now? See K-State Extension Publication S-147: "Waterers and Watering Systems: A Handbook for Livestock Producers and Landowners." A solar pump in a well might be less than half the cost of a new or cleaned pond, and would have better quality water.

- What to do with sediment?
Placing sediment on the back side of the dam is the best and recommended place. Some of the sediment could also be used to fill low spots, small gullies, or ruts on the property.

- Where should you avoid placing the sediment?
Putting sediment right next to, or upslope from, the pond is not a good spot because it could wash right back in.
- Can sediment be used as a building or topsoil material?
Pond fill will not have any soil structure, so it will have very little strength. It is probably not a good idea to use pond fill under a supporting wall of a building. It might have more value as a topsoil, assuming that the material is very dark in color.

A resource dedicated to ponds is: www.pondsofchestercountypa.net administered by West Chester of Pennsylvania University.

-- DeAnn Presley, Soil Management Specialist
deann@ksu.edu

(With information from Danny Rogers, Biological and Agricultural Engineering, and Morgan Powell, Professor Emeritus, Biological and Agricultural Engineering.

2. Winter durum wheat breeding project at K-State

Kansas is known for hard red winter and hard white winter wheat, and our wheat breeding programs at K-State are naturally focused on those predominant classes of wheat. But we also have a small breeding effort in Manhattan focused on what I like to call “the other white wheat” – winter durum.

Durum is a white wheat used for pasta. Durum wheat is actually a different species than winter wheat or spring wheat. Durum is a tetraploid wheat, having 28 chromosomes, unlike hard red winter and hard red spring wheats, which are hexaploid and have 42 chromosomes each. Durum wheat generally has fewer tillers than hard red winter wheat, but larger head and larger seed.

The U.S. produces spring durum wheat. Most durum wheat is grown in the Northern Plains, primarily North Dakota with some acreage in Montana. There is also a small area of irrigated production in southern Arizona and California, and durum from this region is called “desert durum.”

Most varieties of spring durum are quite susceptible to *Fusarium* head blight (scab), and this is a significant concern for producers in the Northern Plains. Desert durum production depends on irrigation, and there are increasing demands from other users for water supplies in those areas. As a result, there is some interest in the potential for producing durum wheat in other areas, such as Kansas. There is interest from the processing industry in winter durum production in Kansas because of the proximity to mills, and because of some of the limitations on spring durum in the current areas of production. Also, the industry would like to diversify the sources of production beyond just the two current regions, to the extent that may be possible.

At K-State, we are looking at developing winter durum varieties rather than spring durum. There are a few other winter durum breeding programs in Austria, Romania, and at Virginia Tech University.

In producing durum wheat, achieving acceptable quality is critical. In particular, durum wheat needs to be at least 13 percent protein. It also must have acceptable yellow endosperm color. Although durum is a white wheat, its endosperm is a yellow or amber color and this is important in producing acceptable pasta.

Prices for durum wheat are typically higher than for hard red winter wheat – usually about \$1 per bushel higher, although this fluctuates. Yields of the winter durum lines we've been testing have been lower than hard red winter varieties, however. We will have to get yield levels up before any commercial varieties are released.

Scab, winterhardiness, and head sprouting concerns are three concerns for winter durum varieties in Kansas. For these reasons, we foresee western Kansas south of I-70 as the primary potential area for production of winter durum. Durum generally has better drought tolerance than hard red winter wheat, but as a white wheat it is susceptible to head sprouting.

The winter durum lines currently in our program have lower yields than we'd like (about 10% less than the best hard red winter varieties), and are later in maturity, but acceptable. The winterhardiness is probably okay now for Kansas, although there has not been a winter in Kansas that provides a good test for winterhardiness for several years. The protein level of the lines in our program is generally at or near 13 percent, as long as enough nitrogen is applied late in the season to promote protein. Getting the desirable yellow endosperm color has been a bit of a challenge so far.

We have 15 lines of winter durum in replicated tests at four locations in Kansas. In addition, there are 130 F3 generation lines, 300 F2 generation lines, and 400 lines in the doubled haploid program. We're anywhere from 5 to 12 years away from having a commercial variety of winter durum ready.

If winter durum is to be produced in western Kansas, it will have to be done as an identity-preserved program. Separate handling will be required since durum is a different class of wheat than hard red winter or hard white winter wheat. We estimate there is enough potential market for up to about 250,000 acres of winter durum in Kansas as an IP wheat, if we can develop acceptable varieties.

-- Allan Fritz, Wheat Breeder, Manhattan
akf@ksu.edu

-- Andy Auld, Assistant Scientist, Wheat Breeding
asa6979@ksu.edu

3. Canola meeting in Anthony rescheduled for March 14

The Winter Canola Risk Management School originally scheduled in Anthony on Feb. 22 has been rescheduled for March 14 due to the recent snowstorm. The school scheduled for McPherson on February 28 will be held as scheduled. Both schools will begin at 10 a.m.

K-State Research and Extension is dedicated to helping producers make informed management decisions to minimize their production and marketing risks. Industry experts will be on hand to provide updates on the latest marketing prospects for canola in Kansas.

Two of the most experienced canola agronomists in the southern Great Plains will be available to answer questions and provide knowledge about growing the crop.

Canola is a crop that requires attention in the spring. Producers who attend one of the schools will have the necessary tools to successfully scout their fields for disease and potential pest problems.

Topics to be presented at both schools include:

- Canola varieties;
- Winter survival in a drought year;
- Pest management in late winter and spring;
- Winter canola establishment strategies;
- Harvest risk management;
- Update on winter canola insurance; and
- Update on marketing strategies.

Representatives of the Great Plains Canola Association will give an update on what the GPCA has been doing to promote the benefits of canola in a wheat-based cropping system.

The schools are free to attend and will include a complimentary lunch. Organizers ask, however, that attendees pre-register to allow for enough food.

The Thursday, Feb. 28 school in McPherson will be at the McPherson County Extension office. The McPherson school is sponsored by The Citizen's State Bank. Call 620-241-1523 for more information or to register.

The Thursday, March 14 school in Anthony will be held at the Bank of Kansas meeting room. Call the K-State Research and Extension Harper County office at 620-842-5445 for more information or to register.

-- Mike Stamm, Canola Breeder
mjstamm@ksu.edu

4. Comparative Vegetation Condition Report: February 5 – 18 delayed until Monday

The weekly Vegetation Condition Report maps from K-State's Ecology and Agriculture Spatial Analysis Laboratory (EASAL), which usually appear in this section of the Agronomy e-Update, will be sent out next Monday instead.

-- Steve Watson, Agronomy e-Update Editor
swatson@ksu.edu

These e-Updates are a regular weekly item from K-State Extension Agronomy and Steve Watson, Agronomy e-Update Editor. All of the Research and Extension faculty in Agronomy will be involved as sources from time to time. If you have any questions or suggestions for topics you'd like to have us address in this weekly update, contact Steve Watson, 785-532-7105 swatson@ksu.edu, Jim Shroyer, Crop Production Specialist 785-532-0397 jshroyer@ksu.edu, or Curtis Thompson, Extension Agronomy State Leader and Weed Management Specialist 785-532-3444 cthompson@ksu.edu.