

Spring Wheat in Iowa

Spring Wheat Viability

Recent record high wheat prices have resulted in interest in spring wheat production in Iowa. Historically, Iowa was a major spring wheat producing state from the mid-1800s until the early part of the 20th century. While spring wheat can be grown in Iowa, its production is not without risk. Risk can be reduced, but not entirely eliminated by recognizing the important production issues and practices for spring wheat.

Adaptation:

- Average hard red spring wheat yield potential in Iowa is 50 Bu/acre. Yield potential ranges from 35 to 65 Bu/acre with more variance from year to year than from one location in the state to another. These ranges are based on research conducted by Iowa State University between 2002 and 2004 at three locations in the Southwest, Central and Northeast parts of the state.
- Damp and cloudy conditions in May, June and early July will reduce yields. Cool and dry conditions during the same time period will produce the highest yields.
- From a quality standpoint, hard wheat is best suited for the western half of the state. The higher moisture environment in Eastern Iowa increases the chance of grain quality problems.
- Durum wheat is not a suitable option for the high rainfall conditions of Iowa because it is susceptible to pre-harvest sprouting, germination while still in the field.

Successful Wheat Production:

The following practices are required to achieve higher yield levels and overall success when growing spring wheat in Iowa:

PLANTING

- Identify a wheat market and lock in a price if possible. The spring wheat delivery points closest to Iowa are in Minnesota and South Dakota. The U.S. futures market for hard red spring wheat is the Minneapolis Grain Exchange.
- Corn is not a good previous crop for wheat production. Corn stalks contain inoculum for fusarium head blight (scab) in wheat. Many of the herbicides used in corn production can carryover and damage wheat.
- **Regardless of the previous crop, herbicide labels should be consulted for plant back restrictions between herbicide application and planting wheat.**
- Plant into fields with 21 parts per million (ppm) or greater available phosphorus according to the Bray-1 test and 131 ppm available potassium.
- Plant before mid-April for maximum yield potential. Seed at 35-40 seeds per square foot with a drill. The seed should be placed in moist soil at a depth of 1 to 1-1/2 inches.
- Apply 50 lbs of nitrogen per acre at or before planting. Avoid over application of nitrogen, especially from manure. Nitrogen applications above 90 lbs/acre are not advised because they increase disease susceptibility, increase weed pressure, cause the crop to lodge, lower yields, and create environmental problems from nitrate leaching.

Pay Attention To Variety:

Since spring wheat varieties have been bred in drier areas north and west of Iowa, many are poorly adapted to the humid, high rainfall conditions of Iowa. *Careful variety selection is the most important factor for spring wheat production in Iowa.* Excellent tolerance to pre-harvest sprouting, fusarium head blight (scab), leaf rusts, and other leaf diseases are all important traits for protecting yield potential under high rainfall and humidity conditions. Other important variety traits include high test weight and high protein. Spring wheat variety tests are conducted in both Minnesota and South Dakota. The locations in these tests closest to Iowa are Lamberton and Waseca in Minnesota and Brookings in South Dakota. Selection of varieties with stability of yield over multiple years and location is the best approach for reducing risk.

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- Prepare a firm, clod-free seed bed. The soil must be firm around the seed to allow rapid germination and establishment.

GROWING SEASON ACTIVITIES

- Consider application of a fungicide to protect the crop from leaf diseases and fusarium head blight (scab). Follow the product label for proper application procedures and timing.
- Consider seeding red clover with the wheat. This can be a profitable method of supplying a subsequent corn crop with nitrogen. It can also help build soil organic matter, suppress weeds and provide late summer and fall forage.
- Wheat can be used as a companion crop for alfalfa establishment. Select earlier-maturing and shorter-stature wheat varieties, reduce the seeding rate (this can reduce wheat yield potential), and promptly remove straw from the field. Another approach would be to plant alfalfa after the wheat crop. This allows

a wheat seeding rate for maximum grain yield. Alfalfa should be planted by August 15.

HARVEST

- Wheat should be harvested at or below 13% moisture. Harvest maturity for spring wheat is typically reached between July 15 and July 25 in Iowa. Make sure to set the combine for wheat and watch harvest losses closely. Cylinder speeds should be fast enough to thresh the grain out of the heads, but slow enough to avoid cracking it. Excessive grain cracking can be avoided by combining at 15 to 18% moisture and air drying the grain to safe storage levels.
- Double-cropping wheat and soybean is only a possibility in the most southern parts of Iowa and can be risky in some years even in these areas. Both grass and legume forage crops can be grown after wheat. The greatest success of double crops occurs with adequate and timely rainfall.

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