

WHEAT PERFORMANCE IN ILLINOIS TRIALS - 2024

Crop Sciences Special Report 2024-01, July 2024

Darin K. Joos, Jessica Rutkoski, and Giovanni Preza-Fontes
Department of Crop Sciences, University of Illinois, Urbana

The 2024 winter wheat growing season was outstanding for most of the crop's development but became less favorable shortly after the flowering stage. Due to warm-spells during February, green-up was about 10 days earlier than normal and the crop remained ahead of normal for the rest of the season. Warm temperatures and dry conditions early in the season promoted good tillering and head development, which put the crop in a good position to achieve record yields. However, once heads emerged, the weather was consistently wet. The wet weather during and shortly after the flowering stage promoted infection of multiple diseases. The most important disease that we observed was Fusarium Head Blight (FHB), also referred to as Head Scab. Head Scab is known to reduce the quality of the wheat crop. The disease infects the developing kernels resulting in lower test weights, and Deoxynivalenol (DON) accumulation in the grain. The economic impact of Head Scab is mostly due to its impact on test weight and DON. Yield losses due to Head Scab are usually minor, except when the disease is very severe. For many growers, Head Scab was severe enough to cause a reduction in test weight and some accumulation of DON. In some fields, Scab was severe enough to cause a major yield reduction as well. Head Scab was worst in fields where susceptible varieties were planted and where an appropriate fungicide had not been applied right at flowering. Head Scab was not the only problem that limited the wheat crop's yield and quality this year, we observed diseases caused by multiple species of Septoria, and this may have also limited the final yield. We also observed lodging in many fields which was probably promoted by high tiller densities combined with powerful winds, and diseases that affect the root and stem strength.

The average yield this year was 83 bu/acre, which is the 2nd highest state average wheat yield on record. State average wheat yields have been record-breaking for the past two years, and 2024 probably would have been another record-breaking year if conditions had been drier during flowering and grain filling. The Illinois Wheat Association predicted a 104 bu/acre average yield for Southern Illinois during the wheat tour at the end of May. The actual yield came short of this number, in large part due wet conditions that promoted disease development during grain filling. In summary, Illinois had a great wheat crop in 2024 with some challenges toward the end of the season.

To aid variety selection decisions, we present these wheat variety testing results from 6 locations across the state of Illinois. Plots were seeded at the rate of 36 seeds per square foot, and consisted of six, 7.5-inch rows trimmed to about 16 feet before harvest. Yields were corrected to 13.5% moisture. In addition to yield we report Maturity time and Jointing time. Maturity time is measured in days and it is a factor to consider when selecting varieties to be followed by double-crop soybeans. Jointing time is reported as Early, Medium, and Late. Early jointing is associated with a higher risk of spring freeze damage. We also report Scab Resistance which is based on DON levels observed from a nursery that is misted and inoculated to create good conditions for infection across all varieties. Entries treated with seed-applied insecticide have insecticide treatment identified by the product trade name in the tables.

Participating companies are listed on Page 2, regional data in Tables 1 and 2, individual location data in Tables 3 to 8, wheat variety characteristics in Table 9, and the Fusarium head scab ratings in Table 10.

Participating Companies

We thank these companies for their support of this program in 2024.

AgriMAXX Wheat Co
7167 Highbanks Rd
Mascoutah, IL 62258
(855) 629-9432

Dyna-Gro Seed
200 W 2nd St.
Flora, IL 44818
(618) 578-0660

Kratz Farms LLC
4380 Sherman Road
Slinger, WI 53086
(262) 305-6631

AgriPro
1521 Convent St.
Suite 200
Bourbonnais, IL 60914

FS InSPIRE
1701 Towanda Ave., PO 2500
Bloomington, IL 61701
(309) 557-6399

KWS Cereals
4101 Colleen Dr
Champaign, IL 618/22
217-800-1008

Albert Lea Seed
1414 West Main
Albert Lea, MN 56007
(800)-352-5247

Green Valley Seed
121 West College St
Kahoka, MO 63445
(800) 748-7943

Langdon Bros Seed
3590 S 100E
Hartford City, IN 47348
(800) 526-4366

American Organic
1676 CR 2200 E
St Joseph, IL
(217) 469-2351

Hoffman Seed House
PO Box 66
Hoffman, IL 62250
(618) 495-2617

Martin Seed
10280 West SR 28
West Lebanon, IL 47991
(217) 649-6348

Baird Seed Co.1122
Knox Highway
18Williamsfield, IL 61489
(309) 639-2248

Kennell Seed Farms
2153 County Rd D
South Wayne, WI 53587
(608) 293-2200

Pioneer Hi-Bred Int'l Inc
7100 NW 62nd Ave.
Johnston, IA 50131
(800) 247-6803

BioTown Seeds
373 N Diener Rd
Reynolds, IN 47980
(219) 984-6038

Kitchen Seed Company
PO Box 286
Arthur, IL 61911
(217) 543-3476

VCIA
9225 Atlee Branch Lane
Mechanicsville, VA 23116
(804) 746-4884

DeRaedt Seed Corp.
10 N 971 Tower Road
Hampshire, IL 60140
(847) 514-8844