Hybrid rye is produced by crossing two inbred, open-pollinated rye populations and has been bred to produce high-yielding rye cereal grain and forage with low incidence of disease. Hybrid rye performs well in drought conditions and on sandy soils and even better on more productive soils. First developed in Germany in 1986, hybrid rye was made commercially available in 1995, and has been available in the U.S since 2015.

INCORPORATING HYBRID RYE INTO YOUR CROP ROTATION

Hybrid rye can follow any crop that allows planting in September. Hybrid rye performs best with early fall planting following non-grass, short season crop species such as early soybeans, hay, canning crops, or legume cover crops.

GRAIN HYBRID VARIETY SELECTION

Grain yields for hybrid rye range from 40-100 percent greater than open-pollinated varieties. Albert Lea Seed carries three grain-type, conventional hybrid rye varieties—Bono, Serafino, and Tayo—that may be harvested for grain, used as silage/hay, or grazed. Certified organic Tayo seed is also available. Two hybrid rye varieties, Progas and Propower, are specifically for forage production. Visit bit.ly/hwrye for more information about each variety.

The University of Minnesota, North Dakota State University and Iowa State University all evaluate rye varieties at multiple locations across their states. These variety trials are available online at:

- Minnesota: bit.ly/mnrye
- North Dakota: bit.ly/ndrye
- Iowa: bit.ly/iowarye

PLANTING

Plant hybrid rye early, evenly, and at an optimum population to allow for maximum fall tillering. With a uniform, dense stand of rye in the spring, few spring tillers will form—minimizing the potential for later flowering and ergot infection.

**Planting date:** In southern Minnesota, plant hybrid rye from Sept. 1–21 for best fall tillering and grain/forage yields. Plant earlier if further north and later if further south—when fall soil temperatures are below 59°F. Planting too early may result in too much fall growth and increase the possibility of winterkill; later planting will result in reduced grain yields.

**Planting Depth:** Seed hybrid rye 0.75–0.8 of an inch deep. Rye can emerge from greater depths, but deeper planting slows emergence, fall growth, and tillering.

**Planting rate:** Planting rate for hybrid rye is calculated on a live seed basis, which takes into account the germination rate of each seed lot. The recommended planting rate for hybrid rye is 800,000 live seeds per acre. Because of hybrid rye's ability to form many more tillers per plant than open-pollinated rye (particularly when planted at the optimum time), it can be planted at a lower seeding rate than open-pollinated varieties. Calibrate drills or other seeding tools to deliver the recommended 800,000 live seeds per acre.
PLANT GROWTH AND POLLINATION

Hybrid rye produces eight to 20 tillers per plant and large root systems. Each fall tiller represents a potential head of rye the following spring. Spring tillers can also produce viable seed heads but are typically less productive than fall tillers.

Pollination and Ergot: Hybrid rye has lower incidence of ergot due to more uniform development and flowering. A field of hybrid rye sheds pollen in a very short period of time—in a matter of hours. In addition, the KWS hybrids are PollenPlus® varieties, which produce more pollen than open-pollinated varieties. You may notice a “dust cloud” of pollen over the field during pollen shed. The hybrid uniformity of flowering and pollen shed reduces potential ergot infection. Once rye flowers are pollinated, they close immediately and are no longer susceptible to infection by ergot spores. Spring tillers and damaged fall tillers may set heads and pollinate later than the majority of the tillers in a field, increasing the entire crop’s exposure to infection from ergot spores.

FERTILITY

pH: Rye is more tolerant of lower soil pH levels compared to other small grains. Hybrid rye preforms best at soil pH levels of 5.5 to 7.5.

Phosphorus and Potassium: Crop removal rates for a bushel of rye grain are somewhat lower for phosphorus (P) and comparable for potassium (K) to removal rates per bushel of winter wheat. But, because hybrid rye yields are higher per acre than those for wheat, total P and K requirements per acre will be greater for hybrid rye. Rye grain removes 0.187 pounds of P and 0.256 pounds of K per bushel of yield (bit.ly/nutreport). Additional K is recommended, however, to support the vegetative growth of the crop. For soil testing in the optimal ranges for P and K, suggested fertilizer rates are 25 pounds per acre of P and 40-50 pounds per acre of K. Rates should be increased for soils testing in the low or very low ranges.

Nitrogen: The nitrogen (N) requirement is 1.2 pounds available N per bushel of hybrid rye grain. Apply N credits for soybeans, forage and cover crop legumes, and manure as you would for corn before calculating addition N fertility needs. For forage yield, apply 100-120 pounds per acre of total N to ensure both high protein and high forage yield. Apply 20-40 pounds of N per acre in the fall, with the remainder applied in the spring while the rye is still vegetative and before stem elongation begins. If using manure for either grain or forage hybrid rye, apply in the fall to optimize the nitrogen mineralized and available both in the fall and in very early spring.

MARKETS FOR HYBRID RYE GRAIN

Rye is used in animal feeds and for food as flour in baked goods, distilled into whiskey, and cooked as whole grain or flaked, similar to oatmeal.

For hybrid rye buyers, visit bit.ly/ryemarket.

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