

Hutterite colony feeds hybrid rye with success

August 8, 2023

By Carly Rundle & Becca Brattain

Editor's note: Carly Rundle is an animal feed consultant for KWS Cereals USA. She can be contacted at carly.rundle@kws.com. Becca Brattain is the country manager for KWS Cereals USA. She can be contacted at becca.brattain@kws.com.



Upland Colony hosted a field tour for local farmers to find out how growing rye has proven useful for feeding their hogs, not just as a cash crop.

With recent changes in environmental conditions across the prairies, farmers are looking for a crop that can thrive in extreme climates. Winter hardiness, drought resistance and disease tolerance rank as some of the

top characteristics they look for in a crop, and what some have found is hybrid rye.

Hybrid rye is a fall-planted winter cereal that is harvested in mid-summer. Bred for its high yields, ergot resistance and standability, hybrid rye produces high-quality grain and greater yields compared with conventional rye varieties. Pairing that with the fact that this is a low-input crop, needing 20 per cent less water than winter wheat, it is a perfect fit for the region.

Self-sufficiency matters for Upland Colony

Upland Colony is one such farm that recently found hybrid rye. Located near Artesian, South Dakota, they have developed an interest in diversifying their crop rotation to improve soil health and increase annual crop yields. Upland Colony is one of many Hutterite colonies in the area, and they focus on holistic farming – raising livestock, producing manufactured goods and striving to be as self-sufficient as possible.

Ken Wurtz, the farm manager at Upland Colony, has been planting hybrid rye for a few years now.

“I’m impressed by its ability to suppress weeds, its drought tolerance, its low fertilizer requirements, and disease tolerance,” said Ken.

Given the ease they had in growing hybrid rye, Ken’s next mission was to find out how best to use it.

The natural option was to sell to the distilling market. However, when faced with an on-farm corn shortage in 2022, he and Cornelius Wurtz, the hog manager at Upland Colony, became very interested in the opportunity to incorporate hybrid rye into their swine diets.

Previous research conducted at the University of Illinois concluded that the crude protein in hybrid rye ranges from eight to 12 per cent, with 0.25 grams per kilogram of digestible lysine. The total dietary fibre content is around 18 per cent, and the metabolizable energy content is estimated to be 3,150 kilocalories per kilogram when fed to growing pigs. Additional work by the University of Illinois and South Dakota State

University (SDSU) has shown that, altogether, hybrid rye has an attractive nutrient profile that fits extremely well in all stages of swine diets.

Upon hearing these results, interest at Upland Colony grew, and they started developing a plan to get further use out of their rye beyond selling it to the distilling market. In collaboration with their swine nutritionist, and with support from the research team at SDSU, they developed a plan to begin incorporating hybrid rye into their sow diets.

Testing the rye diet on-farm



Upland Colony has experienced good results feeding rye to both sows and nursing pigs.

After careful consideration, Upland Colony decided to start including hybrid rye in their sow diets in September 2022, at 20 per cent of the total ration for gestating and lactating sows. They wanted to better understand how to process and handle this new feedstuff and get a clearer idea on how their hogs consumed and performed with it in their diets.

When asked how the sows were performing with hybrid rye, Cornelius was quick to brag.

“Hybrid rye is as good as or better than corn,” said Cornelius. “They eat it well, it digests well, and we are weaning some heavy pigs”.

Compared with feeding sows a standard diet, adding hybrid rye did not influence feed intake, as sows fed with and without hybrid rye reached their optimal targets. After the success of incorporating hybrid rye into sow diets, they were excited to see just what else hybrid rye could do.

To test it out, Cornelius set up their nursery barns so that one barn was fed a traditional corn-based diet that did not contain hybrid rye, and the other barn was fed a diet with five per cent hybrid rye in the diet during the first week, continuing with seven per cent for the remainder of the nursery period.

The nursery pigs that were fed hybrid rye had a feed-to-gain ratio of 1.32, whereas pigs that were not fed hybrid rye had a feed-to-gain of 1.56, indicating that feeding hybrid rye is more efficient than feeding a diet without it. Based on these results, Ken and Cornelius plan to continue including hybrid rye in their swine rations and are eager to keep seeing all the benefits that hybrid rye has to offer their farm.

Results show cost savings

Table 1. Input costs of producing corn and hybrid rye in the Midwest region of the United States¹

	Corn	Hybrid Rye
Yield, bu/acre	180	100
Seed	\$114.50	\$57.60
Fertilizer	\$221.09	\$115.60
Chemicals	\$58.00	\$7.20
Drying	\$20.52	\$0.00
Crop Insurance	\$19.98	\$0.00
Fuel, repairs, labor	\$63.97	\$44.85
Total direct cost/acre	\$498.06	\$225.25
Metabolizable energy (Mcal/acre)	14,970	8,009
Cost/1,000 Mcal metabolizable energy	\$33.27	\$28.12

¹Market pricing and farm expenses are only estimates based on averages in the Midwest region of the United States (Illinois, Michigan, Minnesota, Nebraska, North Dakota, South Dakota, Wisconsin).

²Metabolizable energy concentrations adapted from McGhee and Stein (2020).

Table 1

Currently, feed costs make up the largest portion of a livestock producer's budget. Input costs for hybrid rye are substantially lower than corn. With lower seed, fertilizer, chemicals, fuel, labour and drying costs, the direct cost of producing hybrid rye is estimated to be around USD \$225.25 per acre (CAD \$302.97) compared to USD \$498.06 per acre (CAD \$669.91) producing corn based on averages in the U.S. Midwest region (*Table 1*).

Even though hybrid rye has slightly less metabolizable energy concentration than corn, the cost per 1,000 megacalories of energy is USD \$5.15 (CAD \$6.93) less when feeding hybrid rye than with corn. This means that, ultimately, the producer is spending less for the same amount of energy used by the pig.

In a time when feed costs are high and hog margins are low, replacing corn with hybrid rye may be a solution to consider for an integrated farm to maximize profits. The benefits can be seen from the time of sowing the seed to bringing the pigs to market. With improvements in feed efficiency observed in the sow barns and the nursery, Upland Colony has had great success incorporating hybrid rye into their swine diets and say that they are looking forward to continuing this practice for years to come.