AGRONOMY BULLETIN

Tips for Selecting Corn Hybrids

Hybrid selection is one of the most critical decisions a grower can make for the success of their operation. A number of factors go into this decision that are related to environment, farming practices, weather, geography, and markets. All of these factors play a big part in narrowing down the hybrid selection choice.

Factors to Consider:

- **End Use Market:** For many years, most of the corn grown in our trade area was destined for one market, the commercial grain market. Livestock feed, ethanol, and human food supply all drew from this one source. In recent years, there has been an increase in "value-added" contracts for conventional, organic, or even identity-preserved sources of grain. Choosing a hybrid that will fall into one of these categories can significantly reduce the grower's options when considering hybrid selection. Determining which end use market is the first decision that should be made.
- **Agronomics:** This is the most important consideration for hybrid selection. Early season vigor, standability and stalk quality, disease tolerance, and grain dry down are just a few of the agronomic considerations to be considered. Making sure that you have the right product in the right field is very important. Select hybrids based on the agronomic traits that you need for your individual fields.
- **Environment:** There are a lot of environmental factors to consider: soil type, soil nutrient levels, average rainfall, average GDU accrual, etc. Hybrid agronomic characteristics need to be considered for how they hold up in the grower's environment. For example, a very high yielding hybrid that can't handle drought stress will disappoint the grower who tries to raise it on dryland sandy soils in the western states.
- **Farming Practices:** When selecting a hybrid, it's important to consider the grower's farming practices. A no-till or corn-on-corn grower is going to need a hybrid that has aggressive emergence from cooler soils. A hybrid with a strong response to fungicide will work better for a grower who likes to aggressively manage his crop. A hybrid with a higher disease score rating is more suitable for a grower who wants to minimize their application passes through the field.

- **Hybrid Maturity:** It is important to select a hybrid with an appropriate maturity that will be dry, harvestable, and storable by the time we reach fall. There are many websites that will help determine how many growing degree units (GDUs) are normally accrued in a grower's area. Most states have a Mesonet website that will give historical data on a given area and the normal GDU accrual can be cross-referenced against the hybrid maturities being considered. Links to several of those websites are inlcuded in the resources section of this bulletin.
- **Trait Package:** If a grower can use a traited corn without violating terms of a contract or certification, then it is often in their best interest to do so. This would be especially true in areas where Corn Rootworm (CRW) pressure is high. A SmartStax® or Agrisure® trait that will control CRW is well worth the money compared to applying insecticides that have a shorter residual.
- **Testing Data:** A critical part of selecting a hybrid is determining what information is appropriate to use. Often a grower will ask to see local plot data. If the only determination is how a product did in a single plot at one location, the grower will likely be leaving a lot of good hybrids off of their farm. They may also be selecting underperforming products.

  Many seed companies can supply yield and agronomic performance data that is developed from multiple locations with replicated entries. This reduces the chance of error in the data. Legend Seeds evaluates its hybrids in the Legend Elite Advancement Project (L.E.A.P.). Approximately a dozen locations each year, across the Legend footprint, are used to determine the agronomic characteristics and yield potential of all our corn hybrids. This way, the data is significantly more reliable than a single season performance on one farm.

Action Plan:

Breaking down the hybrid decision into manageable steps makes the selection process easier:

1. Determine the market in which the grower wants to sell the grain. This can narrow the decision considerably if certain traits are needed to fulfill a contract, or are prohibited by the end user.
2. Determine the agronomic characteristics needed based on environment, farming practices, and traits needed for their farm.
3. Determine the best maturity range for the grower's area. Select multiple hybrids of varying maturity to spread risk and widen the harvest interval.
4. Use good data when considering your hybrid selections. Replicated data from multiple locations will give you the best information for making a good hybrid selection.

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Summary:

Hybrid selection is critical to having a successful corn crop. Factors such as markets, agronomics, environment, trait, and hybrid characteristics all work together to help the grower make a good choice for their farm.

Resources

Mesonet sources for GDU accrual information:

Iowa: Iowa Environmental Mesonet

Michigan: Michigan State University | National Mesonet Program

Minnesota: Present Climate Conditions - Mesonet - Minnesota DNR

Nebraska: Mesonet by NSCO

North Dakota: NDAWN - North Dakota Agricultural Weather Network

South Dakota: Mesonet Homepage

Wisconsin: Wisconsin State Climatology Office

Other resources used to develop this paper:

A Guide to Choosing Corn Hybrids | Integrated Crop Management

Selecting corn hybrids for grain production | UMN Extension

Growing Degree Units and Corn Emergence | CropWatch | University of Nebraska–Lincoln

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