10-9-2017

A Guide to Choosing Corn Hybrids

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A Guide to Choosing Corn Hybrids

Abstract
When you think about which hybrids to plant next season, make sure to take into account all the relevant factors. When selecting hybrids, prioritize yield potential and risk management. There are a number of other components to consider as well, including transgenic options, disease tolerance, maturity, grain dry down, standability, stalk quality, and early season vigor ratings.

Disciplines
Agricultural Science | Agriculture

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When you think about which hybrids to plant next season, make sure to take into account all the relevant factors. When selecting hybrids, prioritize yield potential and risk management. There are a number of other components to consider as well, including transgenic options, disease tolerance, maturity, grain dry down, standability, stalk quality, and early season vigor ratings.

Choose a diverse mix of hybrids to reduce the risk associated with the weaknesses of any individual hybrid. Four to five different hybrids are recommended for most farms, but larger farms may consider even more. Obtain diversity by choosing high-yielding hybrids that differ in relative maturity, disease resistance, insect resistance, or other traits. Planting multiple hybrids can also spread out the maturity dates, which will spread out the timing of pollination and other key stages as well as your workload.

Yield and yield consistency

Genetic diversity is important, but yield is the most important factor to consider when choosing hybrids. The best production strategies will not result in high yields if you don’t choose high-yielding hybrids. Reevaluate the hybrids you choose every year. Newer hybrids typically offer higher yield potential than those that have been on the market for several years.

Look for hybrids that have consistently high yield performance from location to location and from year to year. To ensure this, look at multiple data sources, including public hybrid trials such as those conducted by the Iowa Crop Improvement Association as well as seed company and retailer trials. University trials are helpful because they can compare the yield potential of hybrids from multiple brands in a more rigorous plot design compared to hybrid strip trials. Also look at your own performance trials, as well as strip
trials from other farmers, FFA clubs, and cooperatives. Use as much data as you can to ensure a reliably good hybrid choice.

Transgenic options

A number of transgenic options are available to Iowa farmers and they may be appropriate choices for your farm. Many hybrids have traits for insect protection and most have herbicide traits. Think about whether you need all of the traits or will use the traits that are available in a given hybrid and evaluate whether transgenic hybrids would be more beneficial to your crop compared to conventional hybrids. Transgenic hybrids have been very successful where insect resistance and herbicide resistance has not become an issue. Consider what genetic traits are useful and effective in your fields.

Other risk management factors to consider

Another part of your decision-making process should be disease tolerance. One way to prevent disease could be choosing a hybrid that has resistance or tolerance to diseases typical of your production environment. Look for disease ratings to minimize risk of disease pathogen infections. Consider whether hybrid disease ratings can be used to offset the need of in-season foliar fungicide applications.

Grain dry down is an important factor, especially for farmers who have limited or no drying facilities on their farms. When you look for hybrid dry down characteristics, you should also consider hybrid maturity. Earlier maturing hybrids have a greater potential for field dry down while later maturing hybrids have less field dry down potential and greater risk of a killing fall frost. Be careful when choosing a hybrid for this reason. Both maturity selection and dry down characteristics can be exploited to achieve similar goals.

Standability and stalk quality are characteristics to consider to ensure production is harvestable. While hybrids are often characterized for standability and stalk quality, weather conditions throughout the growing season can have a large influence. You can help evaluate the performance of hybrids in this area by doing a pinch test on corn stalks in all your fields every year. This will provide some data with which to evaluate your hybrid’s performance on your farm for the given management and weather conditions.

Early season vigor is key to a strong season and getting adequate stand establishment. With hybrid selection occurring well ahead of planting, hybrids with good early season vigor can help protect against unpredictable weather conditions in April and May. Considering seedling vigor is especially important if you plant cover crops, plant into high residue situations, or have soils that are typically cold and wet in the spring.
Choosing diversity

Crop rotation and management practices can and should influence the hybrids that get selected for an individual field. The previous year’s hybrid genetics do not have an influence on the current year’s hybrid performance. However, planting hybrids with the same insect/herbicide traits for multiple years puts you at a greater risk of resistance development. It is also known that hybrids can respond differently to the farming practices being used. Select hybrids that match your management. For instance, if the field is in continuous corn, rotate transgenic traits used for insect protection and select a hybrid that is best suited for continuous corn.

While understanding that corn hybrids should be placed according to management practices being used, also realize the hybrid selection can be an integral part of a pest management program. Transgenic traits and disease ratings can be used to determine if in-season foliar fungicides are needed and dictate aspects of the herbicide program being used.

Seed costs

Seed cost is an important factor when choosing your hybrids. Seed discounts are offered for quantity and early payment. These are great opportunities that should be taken into consideration. Weigh the benefits of your hybrids (insect-repellant, disease-resistant, etc.) against tradeoffs in your herbicide and fungicide programs. Balancing the level of transgenic traits attained versus the cost for alternative management can provide an opportunity to save seed costs with additional expense for pesticides. These tradeoffs should be considered when considering conventional or various levels of trait inclusion.

In summary, prioritize yield potential and risk management when choosing hybrids. Choose a diverse mix of hybrids. Consider the transgenic hybrids that may fit your farm situation. Evaluate hybrids based on their disease resistance, their potential for dry down and maturation, their standability, and their early season vigor. Plant new hybrids frequently to prevent resistance development. Make sure to keep cost in mind by balancing hybrid benefits with their price tag to ensure that you make profitable decisions.

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Category: Crop Production

Crop: Corn

Tags: hybrid selection  corn maturity  corn management

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