Guidelines for choosing corn hybrids

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Guidelines for choosing corn hybrids

Abstract
When selecting corn hybrids to plant next spring, prioritize yield potential and risk management. There are a number of other things to consider as well, including transgenic options, disease tolerance, maturity, grain drydown, standability, stalk quality and early-season vigor ratings.

Disciplines
Agricultural Economics | Agronomy and Crop Sciences | Plant Breeding and Genetics | Plant Pathology

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This article is published as Licht, M. 2017. Guidelines for choosing corn hybrids. Wallaces Farmer, Farm Progress, Chicago, IL. Posted with permission.
BIG DECISION: As combines make their way across fields harvesting this year’s crop, farmers are watching the results and will soon decide which corn hybrids they’ll plant next spring.

CROPS  >  CORN

Guidelines for choosing corn hybrids

*When you think about which hybrids to plant next season, make sure you consider all the relevant factors.*

Oct 16, 2017

*By Mark Licht*
When selecting corn hybrids to plant next spring, prioritize yield potential and risk management. There are a number of other things to consider as well, including transgenic options, disease tolerance, maturity, grain drydown, standability, stalk quality and early-season vigor ratings.

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

Yield and 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. Re-evaluate 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 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 as they can compare the yield potential of hybrids from multiple brands in a more rigorous plot design than hybrid strip trials. Also, look at your own performance trials, as well as strip trials of other farmers, FFA clubs and cooperatives. Use as much data as you can to ensure a reliably good hybrid choice.

Transgenic options available
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
you use the traits 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 haven’t become an issue. Consider which genetic traits are useful and effective in your fields.

**Posing risk**

Other risk management factors include:

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

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

- *Standability and stalk quality.* These characteristics ensure production is harvestable. While hybrids are often rated for standability and stalk quality, weather conditions throughout the growing season have a big influence. You can help evaluate standability by doing a pinch test on stalks in all your fields every year. You’ll get an idea of a hybrid’s performance on your farm for given management and weather conditions.
• *Early-season vigor.* This is key to getting a strong start and 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. 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 spring.

**Mixing it up**
Crop rotation and management practices can and should influence the hybrids selected for an individual field. The previous year’s hybrid genetics don’t have an influence on the current year’s hybrid performance. However, planting hybrids with the same insect and herbicide traits for multiple years puts you at 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 a field is in continuous corn, rotate transgenic traits used for insect protection and select a hybrid that’s best suited for continuous corn.

While understanding that corn hybrids should be placed according to management practices used, also realize that 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.

**It pays to pay attention to seed costs**
Seed cost is a consideration when choosing hybrids to plant. Price discounts offered for quantity and early payment are great opportunities. Weigh the benefits of your hybrids (insect and disease resistance, herbicide protection, etc.) against trade-offs in your herbicide, insecticide and fungicide programs. Balancing the level of transgenic traits you choose versus cost of alternative management can provide an opportunity to save seed costs, but you’ll have additional expense for pesticides. Compare these trade-offs as you consider planting conventional hybrids or hybrids with various levels of traits.
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 drydown and maturation, their standability and their early-season vigor. Plant new hybrids frequently to prevent resistance development. Keep cost in mind by balancing hybrid benefits with their price tag to ensure that you make profitable decisions.

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