

CORN HYBRID SELECTION – 2015

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Hybrid selection is one of the most important management decisions a corn grower makes each year. It's a decision that warrants a careful comparison of performance data. It should not be made in haste or based on limited data. Planting a marginal hybrid, or one not suitable for a particular production environment, imposes a ceiling on the yield potential of a field before it has been planted. In the Ohio Corn Performance Test (OCPT) (<http://www.oardc.ohio-state.edu/comtrials/>) it is not unusual for hybrid entries of similar maturity to differ in yield by 80 bu/A, or more, depending on test site. Another consideration in hybrid selection that has received more attention recently as commodity prices have dropped is seed cost. Of all non-land costs for corn, seed costs on a per acre basis increased the most between 2006 and 2014, increasing by 164% percent (<http://www.farms.com/expertscommentary/corn-seed-costs-from-1995-to-2014...>).

Growers should choose hybrids best suited to their farm operation. Corn acreage, previous crop, soil type, tillage practices, desired harvest moisture, and pest problems determine the relative importance of such traits as drydown, insect and disease resistance, herbicide resistance, early plant vigor, etc. End uses of corn should also be considered - is corn to be used for grain or silage? Is it to be sold directly to the elevator as shelled grain or used on the farm? Are there premiums available at nearby elevators, or from end users, for identity-preserved (IP) specialty corn such as food grade or non-GMO corn? Capacity to harvest, dry and store grain also needs consideration. The following are some tips to consider in choosing hybrids that are best suited to various production systems.

1. Select hybrids with maturity ratings appropriate for your geographic area or circumstances. Corn for grain should reach physiological maturity or "black layer" (maximum kernel dry weight) one to two weeks before the first killing frost in the fall. Grain drying can be a major cost in corn production. Use days-to-maturity, growing degree day (GDD) ratings, and harvest grain moisture data from performance trials to determine differences in hybrid maturity and drydown. One of the most effective strategies for spreading risk, and widening the harvest interval is planting multiple hybrids of varying maturity.

2. Choose hybrids that have produced consistently high yields across a number of locations. Choosing a hybrid simply because it contains the most stacked transgenic traits, or possesses appealing cosmetic traits, like "flex" ears, will not ensure high yields; instead, look for yield consistency across environments. Hybrids will perform differently based on region, soils and environmental conditions. Growers should not rely solely on one hybrid characteristic, or transgenic traits, to make their product selection. Most of the hybrids available to Ohio growers contain transgenic insect and herbicide resistance. In the 2015 OCPT over 90% of the hybrids tested contained transgenic traits. However, recent OCPTs reveal that there are some non-transgenic hybrids suitable for non-GMO grain production with yield potential comparable to the highest yielding stacked trait entries. Nevertheless, when planting fields where corn rootworm (RW) and European corn borer (ECB) are likely to be problems (in the case of RW - continuous corn and in the case of ECB - very late plantings), Bt traits offer outstanding protection and may mitigate the impact of other stress conditions. For more on Bt traits currently available, check out the "Handy Bt Trait Table" (<http://www.msuent.com/assets/pdf/28BtTraitTable2015.pdf>) from Michigan State University.

3. Plant hybrids with good standability to minimize stalk lodging (stalk breakage below the ear). This is particularly important in areas where stalk rots are perennial problems, or where field drying is anticipated. If a grower has his own drying facilities and is prepared to harvest at relatively high moisture levels (>25%), then standability and fast drydown rates may be somewhat less critical as selection criteria. There are some hybrids that have outstanding yield potential, but may be more susceptible to lodging problems under certain environmental conditions after they reach harvest maturity. Corn growers should consult with their seed dealer on hybrid sensitivity to root lodging and greensnap (pre-tassel stalk breakage caused by wind). Greensnap is relatively rare in Ohio. However, in recent years, especially 2012, greensnap caused major yield losses in some hybrids as the result of strong windstorms in late June and July.

4. Select hybrids with resistance and/or tolerance to stalk rots, foliar diseases, and ear rots. Consult the Ohio Field Crops Diseases web page online at <http://www.oardc.ohio-state.edu/ohiofieldcropdisease/> for the most common disease problems of corn in Ohio. In recent years, several diseases have adversely affected the corn crop - including northern corn leaf blight, gray leaf spot, Stewart's bacterial leaf blight, and Gibberella and Diplodia ear rots. Corn growers should obtain information from their seed dealer on hybrid reactions to specific diseases that have caused problems or that have occurred locally.

5. Never purchase a hybrid without consulting performance data. Results of university/extension, company, and county replicated hybrid performance trials should be reviewed before purchasing hybrids. Because weather conditions are unpredictable, the most reliable way to select superior hybrids is to consider performance during the last year and the previous year over as wide a range of locations and climatic conditions as possible. Hybrids that consistently perform well across a range of environmental conditions, including different soil and weather conditions, have a much greater likelihood of performing well the next year, compared to hybrids that have exhibited more variable performance. I place the greatest confidence in hybrids that have performed well across multiple locations and years. To assess a hybrid's yield averaged across multiple Ohio test sites and years consult the sortable "Combined Regional Summary of Hybrid Performance" tables available online at <http://www.oardc.ohio-state.edu/comtrials/regions.asp?year=2015®ion=...>

Topics: **Corn Planting**

ABOUT THE C.O.R.N. NEWSLETTER

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