

# R7 Placement Strategy

## 1. The Right Genetics....

The Right genetics lines were developed years ago by farmers who unknowingly were using the earliest method of plant breeding called mass selection. These “families” originated with the first open-pollinated corn varieties, when farmers saved the best ears for seed to plant next season’s crop. Knowing each hybrid’s genetic type helps determine which hybrid’s work best in particular environment and allows producers to select a genetically diverse planting portfolio that will help mitigate risk.

## 2. The Right Soil Type.....

The right soil type is one of the first considerations for proper hybrid selection needs to be the field’s soil type.

Corn growth and development speed up on sandy soil types, enabling later maturities to be utilized.

Large flex-ear type genetic families with fibrous root systems that have large surface areas for water absorption perform well on sandier, drought –prone soils.

Eastern types that have fixed ear size and large penetrating roots with less total surface area for water absorption do poorly on lighter, sandier soil types, but are the best on poorly drained sticky clays because they can break through the hardpan layers.

Western types perform poorly on saturated soils because they are sensitive to having “wet feet.” Medium-textured soils are best for Westerns because they tend to be short.

## 3. The Right Plant Population...

Optimal plant population varies from one hybrid to another, based on ear type and stress tolerance.

Environments favoring fixed-ear hybrids.

When planted at their optimal populations on highly productive fields, fixed-ear hybrids, with their tolerance to high plant population, tend to have the highest yield potential. Northern and Eastern genetic types, found in most fixed-ear hybrids, have unusually strong silking characteristics, enabling them to pollinate an ear under hear, even at high plant populations, with exceptional uniformity of ear size.

A flex-ear hybrid has a competitive advantage when plant populations are reduced by stress-related conditions such as planting in cool, wet soils; emerging in no-till systems; and using lower populations as a drought-control mechanism to mitigate risk.

## 4. The Right Cropping System....

One of the major variables in hybrid placement is the previous crop. Because most of the diseases and insects in corn carry over on the prior crop’s residue, continuous corn rotations have a greater buildup of corn-specific insect and disease pests. In addition, because corn following soybeans or other legume crops benefits from carryover nitrogen released from previous crop residue, certain hybrids that demand high

nitrogen nutrition can thrive in corn-after-soybean rotations but will struggle in the lower-nitrogen corn-on-corn environment.

## **5. The Right Traits.....**

Just a few years ago, many of the highest yielding genetics never reached their genetic potential because insects such as corn borer, or herbicides such as growth regulators, injured the crop, reducing yield. The high yield potential of today's newest genetics is protected by corn borer tolerance (Bt) and corn rootworm (CRW) traits, which guard against crop injury due to corn borers and corn rootworms. These insect protection traits are more like insurance, protecting the grower's land, fertilizer and seed investments.

## **6. The Right Plant Nutrition.....**

Farm Service Coop promotes variable rate technology. This technology balances soil fertility and soil pH. Our goal is to create a balanced soil with fertility and pH levels that will achieve optimal yields.

Nitrogen-driven southern genetics continue to absorb nitrogen later in the growing season, after flowering and into the mid grain-fill stages, compared to hybrids made with other genetic families. This late-absorbed nitrogen generates large, filled-out ears.

Eastern genetic types planted at aggressive populations. On highly productive soils, plant populations of 34,000 plants per acre are required before Eastern genetic types can generate their optimal yield potential. High soil fertility, nitrogen for yield and potassium for stalk quality are required to support plant populations at this high density.

Western genetic types with lower nitrogen. When population is adjusted downward, Western genetic types are tolerant to lower nitrogen. Western genetic types are the shortest of all genetics, using less nitrogen for leaf area index and saving more nitrogen to push yield in the grain.

## **7. The Right Plant Partner.....**

Farm Service Cooperative promotes hybrid programs that prevent weed resistance and minimize crop injury. Generally, less healthy genetic families are the most responsive to fungicide treatments. Hybrids containing a High Yield Genetic Family female are highly responsive, especially when combined with northern and southern males.