

# PuraMaize™ Corn Hybrids – Fact Sheet

## What is PuraMaize?

PuraMaize is a natural gene system which impedes pollination from GMO traited and blue corn pollen. It is naturally bred into Blue River corn hybrids, giving organic farmers a powerful tool to combat contamination from neighboring fields.

## How does PuraMaize work?

Corn hybrids that contain the PuraMaize gene complex have the ability to recognize and favor pollen that also contains the PuraMaize gene complex. During pollination, the pollen grains move down the silk channel trying to fertilize the potential kernel. A PuraMaize corn plant will quickly accept like pollen from other PuraMaize plants and slow the pollen of a foreign plant, like GMO or blue corn. The foreign pollen can't win the race down the silk channel and is unable to contaminate the PuraMaize plant.

## Why is Blue River Hybrids working with PuraMaize?

Blue River Hybrids is dedicated to providing organic farmers with high-performing seed and natural tools that add value. They are committed to the development of innovative seed products that are proven in organic farming systems. Blue River is currently working to develop PuraMaize corn hybrids in a wider maturity range.

## Who will benefit from PuraMaize?

PuraMaize is ideal for grain buyers, grain exporters, organic livestock and dairy farmers who want assurance that their grain will be free from GMO contamination or color impurities.

## How does PuraMaize perform?

Bred into elite corn hybrids from Blue River Hybrids, PuraMaize yields are competitive with similar organic hybrids. PuraMaize is a pollen recognition system, and does not affect the growth of the plant or grain fill of the developing ear.

## Does PuraMaize change functional properties?

PuraMaize is a pollen recognition system; it does not alter taste or other functional properties.

### What is the SCIENCE behind PuraMaize?

Some varieties of tropical corn cannot be pollinated by other varieties due to the presence of one or more cross incompatibility genes. Known in corn genetics as gametophyte factors or GaS, these factors selectively control fertilization by only accepting pollen from corn plants with the same genotype. GA1S and GA2S are two such pollen-blocking genes.

PuraMaize is a gene system made up of the GA1S and other genes or gene expressions. It was developed over ten years through traditional plant breeding—not genetic engineering.



### Will PuraMaize prevent all GMO contamination?

Since its release in 2012, side-by-side field tests with GMO corn have shown that, PuraMaize either eliminates or virtually eliminates contamination. It is not, however, a magic wall—i.e., PuraMaize cannot stop pollen movement, but it can block successful fertilization by non-PuraMaize pollen. Farmers still have to clean out and monitor all equipment used for planting, harvesting, and hauling grain.

### Are there any PuraMaize planting requirements?

When planting PuraMaize directly adjacent to a GMO field, use the outer four rows (10 feet) as a buffer zone, particularly if the GMO field is up-wind. PuraMaize strongly prefers its own pollen and the buffer zone creates a PuraMaize pollen-rich environment. When planting PuraMaize near a foundation inbred increase field or hybrid seed production field, maintain a minimum separation of 2,640'.

### What is the difference between PuraMaize and popcorn? Does PuraMaize have the same gene as popcorn?

Popcorn also contains the GA1S gametophyte factor, but the GA1S in PuraMaize did not come from popcorn. PuraMaize was developed by working with eight generations of tropical corn varieties.

### How can PuraMaize technology be put in organic products without using GMO methods?

Since all the genes that make up the PuraMaize gene complex are naturally occurring in corn, they would be considered “native” genes. As such, these genes have been moved into Blue River organic products using traditional corn breeding techniques.

### Is PuraMaize recognized by any third party organizations?

Yes, Blue River Hybrids obtained Non-GMO Project Verification for PuraMaize Hybrids 58PM36 and 71PM50. The Non-GMO Project is an independent non-profit organization committed to preserving and building the non-GMO food supply.

### Who developed PuraMaize?

Tom Hoegemeyer (University of Nebraska and Cerrado Natural Systems Group) developed the PuraMaize gene system over ten years using traditional plant breeding, not genetic engineering. Working with tropical varieties of corn, Hoegemeyer painstakingly brought together specific gene characteristics from obscure sources and bred out deleterious “baggage” to produce the PuraMaize gene system. Cerrado holds the PuraMaize patent (limited to the use of GA1S in yellow dent corn), and Cerrado is an independent company not affiliated with any seed company.

### How do I order PuraMaize corn hybrids from Blue River Hybrids?

To order PuraMaize corn hybrids, e-mail [info@blueriverorgseed.com](mailto:info@blueriverorgseed.com) or call 1-800-370-7979.

**Blue River Organic Seed**, based in Ames, Iowa, is the leading supplier of organic corn, soybeans, alfalfa, sudangrass and red clover. Blue River is focused on the development of innovative organic products like no other company. Their seed products are sold by more than 150 dealers and distributors across the United States. Every purchase of organic seed from Blue River Seed contributes to the continued development of products like PuraMaize. To learn more, visit [www.blueriverorgseed.com](http://www.blueriverorgseed.com) or call 800.370.7979.