Development of super sweet corn continues

SYRACUSE, N. Y. — New high-sugar super sweet corns, that are not only sweeter, but retain sugar levels for a longer period of time after harvest, continue to be developed.

Richard P. Parvel, vegetable and flower seed business manager for Agway, indicates that conventional sweet corns retain their sugar levels for a period of no more than 10 hours. If maturity is allowed to proceed, the sugars are quickly converted to starch, as is the case with field corn.

The discovery of several superior “sweetness” or starch-defective genes has allowed plant breeders to develop a new class-known as high-sugar or super-sweet corns.

Parvel says there are basically four important types of high-sugar sweet corns: AOX, shrunken-2, sugar enhancer and synergistic, or “sweet-gene” hybrids. To date, only one AOX hybrid sweet corn has been released - Pennfresh AOX, jointly developed and produced by Penn State and Agway.

Unlike normal sweet corn, Pennfresh is characterized by three distinctive genes labeled as (amylose extender), (dull), and (waxy). This unique combination inhibits starch formation and elevates sugar levels two to three times that of conventional sweet corn and enables the corn to retain its high sugar content at elevated levels for up to 72 hours after harvest.

In regional consumer tests comparing Pennfresh AOX to other leading varieties, the response was unanimously in favor of Pennfresh's flavor, tenderness, creamy texture, and freezing quality.

For full expression of the AOX genes, Pennfresh must be isolated from normal sweet corn. Varieties must be separated by 200 feet or planted beside varieties with maturities of 1 to 10 days different.

The newest class of high-sugar sweet corns is characterized by a single gene labeled as (amylose extender). Sugar levels are elevated to about 20 percent over normal varieties. The higher sugar levels are also retained for up to 48 hours with the maintenance of a creamy texture and exceptional tenderness.

Unlike many other high-sugar sweet corns, the sugar enhancer hybrids germinate extremely well in the cold soils of the Northeast, and isolation is not required.

Agway currently offers one brand and four white sugar enhancer hybrids. The white sweet corns are Scarlett (19 days), SunRip (26 days), Silver Treat (30 days), and White Lightning (48 days). The bicolor sugar enhancer hybrid is Honeycomb (78 days).

Shrunken-2 sweet corns have been in existence longer than any of the other high-sugar sweet corns. They are characterized by having elevated sugar contents almost to the point of being too sweet, and very tender. Most shrunken-2 hybrids have not been received very enthusiastically in this country.

The synergistic or “sweet-gene” hybrids received their name as a result of crossing a normal sweet corn parent (sugar-y) and a shrunken-2 parent, giving a product that exhibits many of the properties of normal sweet corn, but with elevated sugar levels and excellent sugar retention.

Parvel indicates Agway is continuously searching for new super-sweet varieties through its breeding and testing programs at six vegetable research farm located at Prospect, Pa.

New logo

The new logo of the National Fertilizer Solutions Association is the initial phase of a $1.2 million communication campaign to promote the expanding technology of fluid fertilizers. The NFSA logo later will be available to the industry as a generic symbol of the fluid concept. The logo will be utilized in industry advertising and other forms of communication.

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