Sweet Corn: What you should consider before selecting the right hybrid for your farm

by Jim Anderson *CCA-ON*

There are hundreds of hybrids to choose from as you browse through seed catalogues. Before choosing this year's star performer, here's a quick review of the basics.

Sweet corn differs from field corn due to a recessive gene mutation that allows the kernels to accumulate two to three times more sugar and have significantly less starch. There have been three historic breakthroughs in breeding for taste resulting in three genotypes of sweet corn. These are categorized as sugary (SU), sugar enhanced (SE), and supersweet or shrunken (SH2) types. Each have unique qualities and are still combined in hybrid selection today. Maturity dates as well as disease tolerance are also key factors in hybrid selection.

The first hybrids of sweet corn were the SU hybrids with modest amounts of sugar in the kernels.

These are usually your early first to market hybrids, as they have strong plant vigor for those cool wet soils in the spring. The other types can really struggle to uniformly establish if you have a backward spring. SU types have a fast conversion of sugar to starch giving them a short harvest window of only a few days. Remember also that SU genes are recessive, so you must avoid cross-pollination from field corn and popcorn. You must isolate plantings of SU from the supersweet (SH2) types as well.

The sugar enhanced hybrids (SE) are noted for better eating quality over the SU types.

The sugar levels are higher and more diverse in flavour. The pericarp is more tender, making them a fresh market or roadside stand favourite. The harvest window is just slightly longer. SE types can be grown beside SU types, but require isolation from supersweet or field corn.

The supersweets have gained popularity due to their ability to hold their sweetness by slowing the conversion of sugar to starch. This allows for a longer harvest window and shelf life of a full week in a grocery store. The amount of sugar is increased in the endosperm, hence the name supersweet. Kernels are sweet and crunchy but may lack that creamy taste preference from a SU or SE type. The seeds have much less starch in them, so the seed itself is lighter in weight over other types and looks shrivelled or shrunken (SH2). SH2 hybrids must be isolated from field corn or they become starchy and tough to chew. SU and SE types must be grown away from SH2 types or they will be affected in flavour from cross pollination. SH2 hybrids tend to have poor plant vigour for early plantings, so it is recommended to stagger the planting dates.

Hybrid isolation can be handled by either planting at least 500 feet from other corn types or planting at least two weeks earlier from tasseling dates of other types to prevent cross pollination.

What about colour you ask?

White, yellow or bi-colour are surprisingly a strong visual buying trigger amongst consumers. These personal choices are usually determined from what part of the country you are from, or what your parents preferred to eat. In fact, colour has no effect on taste. It does have direct importance on the amount of beta carotene in the kernel, giving it that bright yellow colour. Beta carotene breaks down to vitamin A, important for your immune system, healthy skin and eyes. All three corn types may have bi-colour hybrids depending on breeding.

Genetically modified sweet corn is also available in Canada, bred for insect control of lepidopteran insects or weed control using glyphosate. Seed is more expensive and in limited quantity. Consult your buyer on any restrictions and seed supplier for best fit to your farm.

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This industry driven program helps ensure that Ontario crop producers are well served by those providing their crop production advice. This article was written by one of those CCA's.