

Getting The Most Out Of Corn Demonstration Plots

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Corn test plots offer all sorts of information to growers, only part of which is reflected in the yield results book that is handed out at the conclusion of the growing season.

Observations made in season give you a chance to look over other characteristics important to your variety selection decisions. Compare the relative heights (both plant and ear) among corn hybrids. High ear placement increases the risk of stalk lodging later because of the higher center of gravity. Check the relative stalk size among corn hybrids.

Thicker stalks are generally correlated with better standability later on. Split a few stalks and check the thickness

of the rind. If you walk variety test plots closer to harvest, you can also compare hybrids for their relative stalk health and integrity.

By late August or so, you can pinch lower stalk internodes and check for stalk rot development. Hybrid differences for stalk rot development often reflect differences for tolerance to stresses in general. Look at the relative leaf health among corn hybrids.

This year in particular has been favorable for a number of leaf diseases to get started. If you plant a lot of no-till acreage, try to find plots that are also no-till. In no-till test plots, pay particular attention for hybrid differences for gray leaf spot infestation. If you find a disease you are not fa-

miliar with, ask your extension agent, crop consultant, or sales agronomist to identify it for you.

Another facet of leaf health is the so-called "stay-green" characteristic that reflects a hybrid's ability to simply remain viable longer than others. Generally speaking, "stay-green" hybrids have a higher tolerance to stress factors than others.

If little leaf disease is visible, yet some hybrids' leaves are "shutting down" while those of comparable hybrid maturities are remaining green, the latter are likely "stay-green" hybrids. Shuck a few ears and compare the relative ear size among corn hybrids. Kernel row number is strongly determined by a hybrid's genetics. Number of



kernels per row (ear length) is more influenced by environmental factors and can indicate a hybrid's tolerance to various stress factors.

We would all like to shell 30,000 ears with 22 kernel rows each and 40 kernels long. Genetically, kernel row number may vary from as few as 12 to as many as 22. Numbers of kernels per row may vary from the low 20s to the mid-40s, some of which is genetically determined, some of which reflects a hybrid's response to growing conditions.

Later on, as ears fill out more completely, compare the relative "tightness" of the

husk leaves. Fewer husk leaves, thinner husk leaves, and looser husk leaves are all conducive to faster grain moisture loss during field dry down.

Compare the relative uniformity of plant appearance among corn hybrids. Given some of the early season stresses this year on initial stand establishment in many corn fields, hybrids in a test plot whose plants appear more uniform one to another may indicate better early season vigor.

'Beer Can' Ears Make An Appearance

**Greg Roth
Professor Of Agronomy
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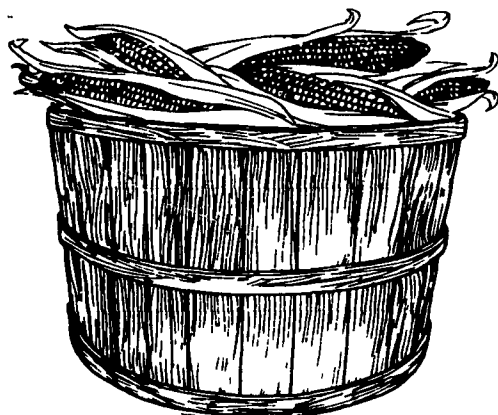
Recently, Extension Agent Del Voight has reported two separate fields showing the blunt-ear syndrome or "beer can" ears in Lebanon County.

These are ears that are characterized by a relatively normal husk covering, some silk-balling, and noticeably stunted cob development. The result is a short ear with maybe 10 rows of kernels instead of the normal 35-40 rows and usually a short segment of cob that has not been pollinated because of the failure of some silks to emerge.

We don't really know what causes the problem, but it appears to be more prevalent following springs that had some cool temperatures that may have caused some chilling stress to the plants. I expect we'll see more of these this year following the cool spring we had.

In some of the past years where I've seen this, there has been a weak relationship with some hybrids. In some cases it's scattered in the field, but in a few cases nearly the whole field can be affected, with serious effects on yield.

Dr. Bob Nielsen, my counterpart at Purdue University, has a graduate student who is studying this problem and is trying to document the situations where the problem has occurred. Bob and his student have prepared a downloadable survey form, www.kingcorn.org/research/beercan/FieldInfoform.pdf, for folks who are willing to share the background on a field showing these symptoms. If you find a field, please consider sharing the data on it with Bob.



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