

Producers Should Analyze Corn Test Plots, Take Notes

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than they would be if the industry standard where that producers were more scientific in selecting a variety.

For several years, Craig has been working with Penn State University corn variety researchers and county landowners who allow the university to set up corn variety trials. These "university trials" occur all over the state and the results compiled and published annually.

However, Craig said he thinks the value of the information may be lost on a lot of pro-

ducers, unless they understand the differences between the different types of trials and how they are conducted.

According to Craig, the greatest value is not necessarily in the compiled and compared data; the greatest value comes to those who actually visit test sites, use a systematic and recorded analysis, and ask questions of the actual person who planted the crop.

Yield data alone is not sufficient for a producer to make a decision on selecting a new variety for his farm, Craig said.

A producer must consider his

needs for the corn, such as whether he plans to use it for silage or grain, high moisture, left in the field to sell as silage, etc., instead of deciding the best use of a crop after it is planted.

Also, the producer should consider all the other characteristics of a plant which are important to him in his operation.

Craig said there is much information available on each variety's resistance to disease and pests, apparent suitability to local climate, germination rate and yield. However, before being sold on a new variety, other characteristics and growing specifics should be looked at.

Such specifics as soil type best suited for the variety, seeding rate, ease of harvest, strength of stalk, number of barren plants, hardiness, the range of variability in a corn variety's mature plants, are just a few which may be considered.

Therefore, according to Craig, while much data can and should be gained about plant variety potential through commercial company reports, and private test plots planted by seed company representatives, the producer has to know his fields and specific climate in order to use that information.

Craig said one of the first things that producers should realize is the difference built into corn variety trials.

There are basically three types of corn variety trials typically available for examination by Pennsylvania-area producers — "university" trials, commercial seed company trials, and owner-producer trials.

University trials are the most objective and should be considered the best for getting the actual data for a specific growing season.

However, that doesn't mean the commercial test plots are not objective or useful.

Craig said that producers should use seed company data for information on a variety's potential.

Seed companies are constantly trying varieties in comparison to lines already known. While the conditions under which those trials are conducted may not apply to a specific farm, the information the seed companies provide should be considered to be of high quality, Craig said.

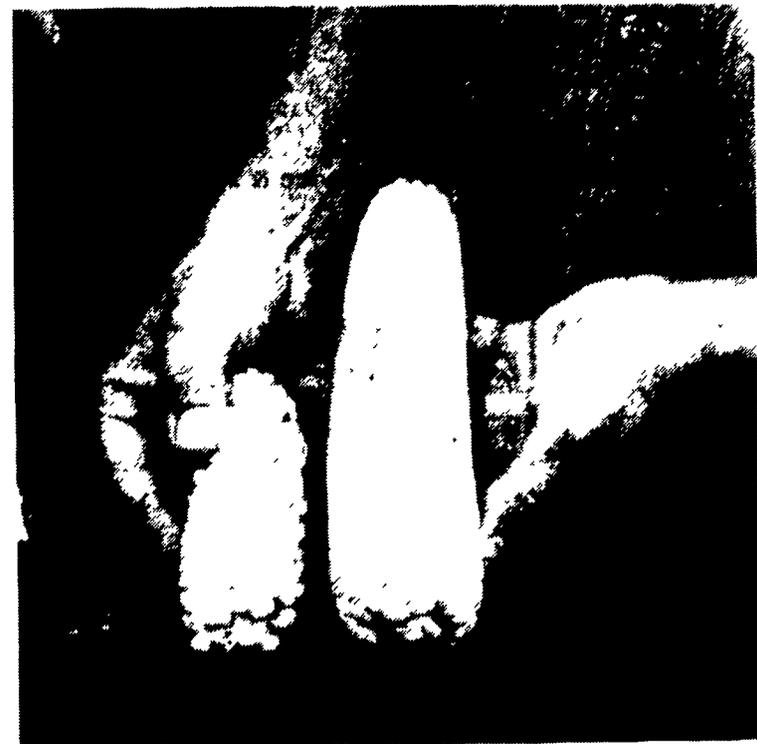
If that information isn't available, Craig said producers should request it, and use it.

Data derived from university trials (done throughout the state every year with the cooperation of seed companies) are considered more objective because all varieties are planted on the same day, at the same time, with the same amount of nutrients in the same field, and the test plot is designed to eliminate the influence of soil variability which can be great over a very small distance even in a small field.

Also, all harvesting is done on the same day so maturity and



Paul Craig, Dauphin County Extension agent, pushes back on the top end of a corn plant to test the stalk strength, an important consideration in variety selection.



The ear on the right comes from a corn plant at the end of a test row, where competition from other plants for light and water and nutrients is not as great as further back into the field. The ear on the left is the same variety, only from a plant about 15 feet into a row. What the large ear shows the observer is the genetic potential of the variety, given good to optimum conditions. The ear on the left apparently shows what happens when the same genetics are stressed from certain competition. In a variety test plot, comparing each variety's differences between end-row ears and in-row ears in the same field, under the same conditions, can indicate the ability of one variety over another to withstand competition, under specific, but identical conditions.

yield differences under specific conditions are actual.

The producer-owner trials are done by the producer for himself on his own farm. These trials are not necessarily open to public scrutiny, but are used by a producer in keeping track of each variety's success under real farm conditions.

While this may seem as excessive data collection, Craig said it can mean the difference between staying in farming or failing.

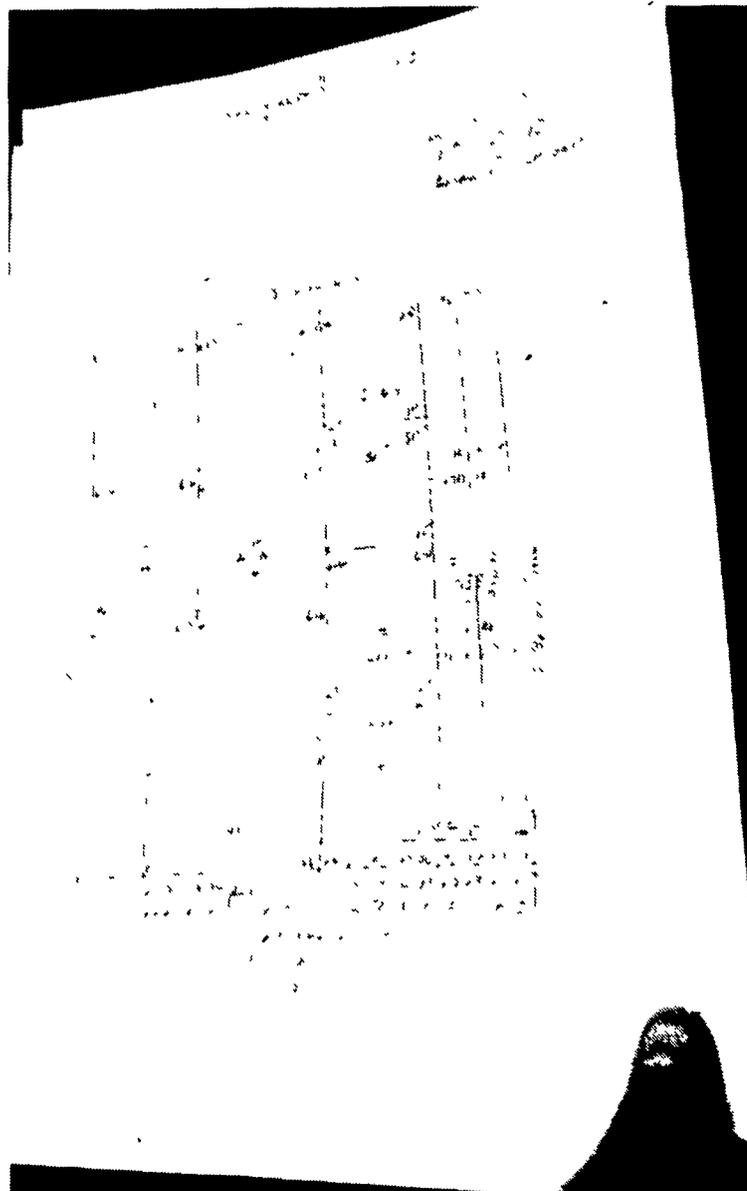
First of all, according to

Craig, it must be considered that even on one small farm a great range of crop-growing conditions can occur. The range of conditions in a county can be extreme.

In fact, the hatchet-shaped Dauphin County in which Craig works contains a wide range of growing conditions — the more temperate valley lands of southwestern Dauphin County are much different from the Lykens Valley fields; and in the Lykens Valley there is a sig-



These offending larva can do great damage to a corn field. They are present in many, but some plants have been bred for resistance. To determine apparent resistance at a variety test plot, visually inspect each variety. An underdeveloped husk can allow infestation and bird damage.



This graph is the layout of a university corn variety field trial located in upper Dauphin County on a cooperating farm.