

Corn Myths

Dr. Peter Thomison, OSU Extension Corn Specialist gave an interesting presentation on several popular corn production practices. Some are myths, some are not. Take the quiz and see how you fare.

Does fall applied nitrogen (N) breakdown corn stalks faster? Actually, due to a lack of heat and moisture, fall applied N may not be that helpful. Tillage does not really help either until next spring when the temperatures warm up and the microbes start working. Most corn varieties are planted at a higher plant population now to increase yields and they have more lignin in them to resist lodging. One solution is to plant earlier maturing corn varieties because they are harvested earlier and the soil should be warmer when they are harvested. Most corn stalks are broken down by fungus which grows better under warm moist soil conditions.

Bt (GMO) corn residues breakdown slower than conventional non GMO corn? Universities studies for several years have found no difference because they break down at the same rate. Due to higher corn populations, it may appear that stalks are breaking down slower but there may be just more corn residue on these fields.

Fixed corn varieties (racehorse, high yielding, determinate) and flexible (workhorse, stable yields, indeterminate) respond differently to environmental stresses? Uncertain. Flexible corn varieties were thought to produce a good yield each year no matter what the environmental conditions while fixed varieties were thought to have superior corn genes for optimal production. Researchers can sort corn varieties based on these characteristics but the environment changes so much from year to year, the varieties respond differently (even if conditions are somewhat similar), so yield production is complicated. Fixed and flexible corn varieties do exist, but we are not sure under what environmental conditions. About 70% of corn hybrids are considered flexible and not necessarily fixed according to one study.

Corn hybrids differ in their response to nitrogen? The answer is there is not much research to support that statement. The earliest studies compared 100 day corn to 114 day maturing corn and did find a slight difference but that was related more to plant maturity, timing of summer precipitation, and overall plant health. Most research shows the majority of the corn hybrids need the same amount of nitrogen.

Full season corn or late maturing corn yields more than short season or early maturing corn? Not really because it depends on summer rainfall and environmental conditions. In fact, the last three out of five years, early maturing did just as well or better than late maturing corn varieties. However, there may be a limit. Corn varieties less than 100 days maturity and over 114 days do not do as well as varieties that are between 100-114 days, which may be the optimal range for Ohio environmental conditions. However, short season or early maturing corn may be more profitable because they have 3-5 points less moisture, they dry down easier and they are cheaper

to dry in early fall because the air temperature is warmer, and there may be premiums for early harvest.

Higher corn plant populations require more nitrogen? No not really again, they just require more moisture to produce higher yields. Optimal nitrogen rate is the same for both low and high populations according to numerous research trials. *Picket fence corn stands improve corn yields?* Maybe somewhat but optimal stands is not as important as uniform germination. Again, uneven corn spacing (1-3% yield loss) is not as important as uneven emergence (5-7% yield loss).

Narrow rows increase yields? In Wisconsin, Minnesota, North Dakota, and Canada the answer is yes but not so much in Ohio due to day length. Thirty inch rows produce as much as 15 inch corn rows and even twin rows until the corn population gets above 50K. *Does increased seeding rate based on spatial variability (difference in soil type or soil conditions) increase corn profits?* The answer is uncertain because we do not know yet. About 74% of time, the optimal corn populations was achieved between 28K and 35K corn plants per acre (K = 1,000 corn plants).

Plant shallow (<1.0 inch) for early corn planting? No, do not plant shallower than 1.5 inches deep. The optimal depth is 1.5 to 3.0 inches for optimal corn root growth. If you plant shallow, corn tends to lodge, be shorter, and tends to emerge much later if a dry spell occurs and yields much less.

January 22nd, Putnam County Agronomy Night from 6:30-9:30PM at the Kalida KC Hall.