VARIETAL SELECTION

The same criteria are used to evaluate varieties in no-till as in other cropping systems. High yield and suitable heat unit ratings remain important. However, disease resistance and early growth characteristics are slightly more important. The best advice is to check trial records and verify with test plots on your own property.

The following varietal selection criteria are more important for many crops in no-till.

CRITERIA	RATIONALE
SEEDLING VIGOUR	• no-till seedbed conditions are usually cooler and wetter • vigorous emergence and early growth characteristics help performance of varieties
COLD TOLERANCE	• no-till seedbed is cooler • varieties should be slightly "earlier" or demonstrate a cold germination rate of at least 80% (soybeans)
DISEASE RESISTANCE	• no-till favours those diseases that thrive in cooler, wetter conditions, e.g., eye spot in corn, (see Disease Management on page 62) phytophtora in soybeans • check for disease-resistant varieties
MOISTURE CONTENT	• corn harvest moisture content will be slightly higher (up to 2%) • choose varieties that have consistently lower moisture content
HERBICIDE TOLERANCE	• weed species will change in no-till – a change in herbicide can affect variety performance

Many successful no-till farmers test new varieties on a small scale under their own management and field conditions. They do legitimate side-by-side tests and weigh the results at harvest. That way, they can see how they stack up against current favourites. The need to do their own testing is made even more clear by the differing opinions among researchers, agrologists, and farmers. In conventional research plots, top corn and bean varieties excel, regardless of the tillage system used.

Generally, look for varieties that can withstand and perform in the tougher growing conditions afforded by no-till. No-till variety plots should be observed early in the season to evaluate emergence and early growth. Yield results are more reliable if each variety is in the plot two or three times. Yield results from more than one year for a variety are more reliable.

Evaluate varieties using production practices that are normal for the farm.

Don Lobb, Huron County

VARIETAL SELECTION

CORN AND SOYBEAN VARIETY SELECTION

CORN			SOYBEAN		
FEATURE	**CONVENTIONAL TILLAGE**	**NO-TILL**	**FEATURE**	**CONVENTIONAL TILLAGE**	**NO-TILL**
YIELD	• no difference	• no difference	YIELD	• no difference	• no difference
CORN HEAT UNITS	• no difference	• regional variations	HEAT UNITS	• no difference	• no difference
DISEASE RESISTANCE	• important	• slightly more important	ROOT ROT	• important	• more important
STANDABILITY	• slightly more important	• slightly less important	PLANT HEIGHT	• important	• slightly less
EMERGENCE	• important	• more important	LODGING	• important	• slightly less
MOISTURE PERCENT	• important	• lower moisture percentage is important	COLD TOLERANCE	• important	• more important

You can use the most recent crop variety performance reports to help you select varieties.

In cereals like winter wheat, choose disease-resistant varieties. Some producers prefer shorter heights to reduce residue problems.