Avoid a wreck. Here's a crash course in soybean maturity ratings.

Be wary of soybean maturity ratings

by Laura Rance, Farmers' Independent Weekly

With soybean seed in short supply, it's been tempting in recent years for farmers to look south of the border for popular varieties or traits. But provincial pulse crop specialist Bruce Brolley warns the soybean maturity ranking systems between the two countries differ. Farmers need to be wary of imported varieties that haven't been tested under local growing conditions.

"Soybeans have limited North/South adaptability," Brolley says. "These varieties require extensive testing to prove suitability as they move further north."

The conditions can change dramatically in a short geographical span. "Differences exist as you move from Morden to Carman to Portage."

Brolley stresses farmers need to understand the differences in the two country's rating systems. "Every year I get a number of phone calls asking how to relate Heat Units to the U.S. Maturity Group system and why don't I just get rid of Heat Units."

The problem is, there isn't much data linking the two systems.

The U.S. Maturity Group system originally went from 1 to 9 with the earliest-maturing variety designated as 1 and the longest 9.

As time progressed and the breeders developed soybean varieties that matured earlier than MG 1, they simply came up with MG 0 and MG 00. Within each MG, the varieties are ranked from 0 to 9 and the ranking number is separated from the MG number by a decimal.

Within MG 0, the variety Traill is classified as a 0.0 while a slightly longer maturity soybean Lambert is a 0.8, a slightly longer maturity bean would be a variety rated as 1.

Canadian varieties are ranked according to the heat units they require to achieve maturity. Canadian varieties range from a low of 2350 heat units to 3400.

"In Manitoba, due to our cooler climate, the HU ratings for the varieties we can usually grow ranges from 2350 to 2650. Again the higher the number the longer it would take to get the variety to mature."

Brolley searched the literature for Canadian varieties that

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have been tested in the U.S. or U.S. varieties that have been tested in either Ontario or Manitoba. (See chart.)

"This graph puts both the U.S. system and the Canadian system in common terms through the number of days to maturity (% brown pods)."

He noted the variety OAC Vision would probably garner an MG 00 ranking in the U.S., a HU ranking of 2350 in Canada with 110 days to maturity.

But even if the ranking on a U.S. variety relates well to Manitoba HU rankings, that is no assurance that it will reach maturity in time, Brolley said. "The big problem occurs when you bring a new, untested variety into Manitoba from North Dakota or northern Minnesota," he said.

"It may be an early variety in that particular environment but when brought up to Manitoba the variety may be much later.

"In past years I have seen early maturing U.S. and European varieties mature much later than expected, simply due to the change in growing environment."

He said a company last year entered four with distinctly different maturites, ranging from very early to moderately early into the MPGA Soybean Regional trials.

"In the fall, the earliest variety came in at the middle of the pack (an average maturity), while the other three varieties did not fully mature."

This was at all four test locations — Morden, Carman, Morris and St. Adolpe. "This just goes to show the variability of a varieties performance as it is moved into different environments and the importance of local data before making a decision on a new variety."

Why the difference in performance?

"I believe that the differences are due to differences in photoperiod sensitivity, and as you go further north, photoperiod sensititivity becomes even more important to get a variety to finish off quickly," he said. "The three varieties that didn't fully mature were simply less photoperiod sensitive and this didn't show up until the varieties were moved further north."

Surprises like that are much easier to swallow in small plot variety evaluations than the Back 40.

	Maturity Group	Ranking	Heat Unit Rating	Days to Maturity
DKB005-51	00	5	2400	113
90A07	0	7	2500	116
90B11	1	1	2600	123