



## Soy4-2011 - New Ontario Soybean Maturity Map

# **CROP ADVANCES**

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## New Ontario Soybean Maturity Map

### **Purpose:**

Choosing a soybean variety in Ontario has traditionally been based on Crop Heat Units (CHU). The CHU system is used to calculate plant development based on temperature. This works well for corn, but is not accurate for predicting soybean maturity. Soybeans are unique in the way they grow. Development is effected by temperature as well as day length, or photoperiod. In order for a soybean plant to begin flowering it requires a minimum day length as well as adequate temperature, generally the higher the temperature the faster it will begin to flower. Due to photoperiod sensitivity, varieties are adapted for growth in a relatively narrow latitude range.

Most growing regions use a relative maturity (RM) system to rank soybeans. Varieties are classified into maturity groups, 00 to IX. In Northern Ontario and other parts of Canada, soybeans with a RM of 00 are considered adapted for the region while in the southern US group VIII are considered adapted. Each variety is classified with a 0 to 9 decimal number following the group (or zone) number. A variety that is 2.1 is a variety that could be grown in the northern part of the "II" relative maturity zone, while a 2.9 is a variety that can be grown in the southern part of that maturity zone.

A new map was developed for Ontario to more accurately reflect what soybean varieties can be grown in different regions of the province. This results in zones that are similar to the old CHU map, but significantly different in some regions (Figure 1.)

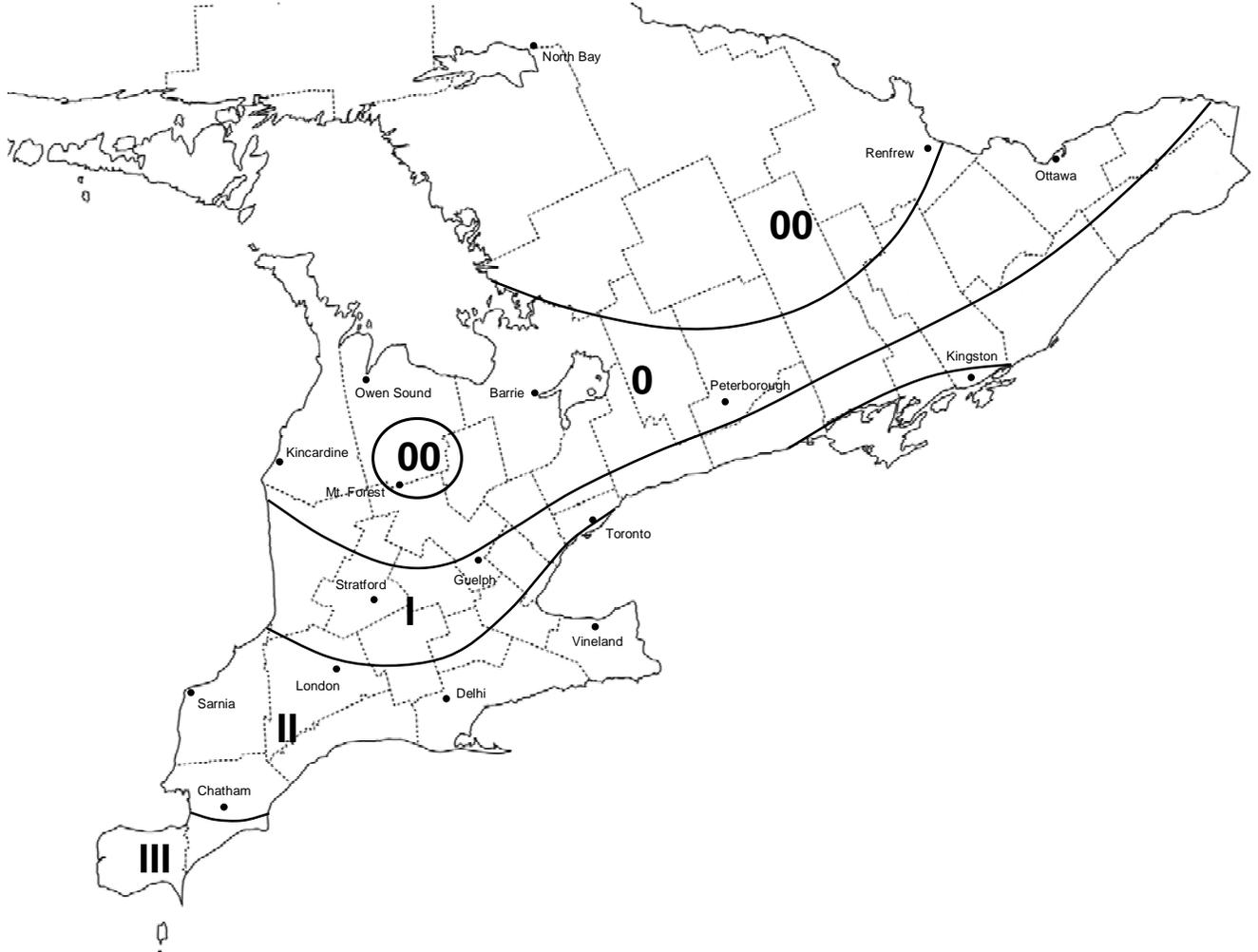
The purpose of this initiative was to provide Ontario soybean producers with an accurate tool for making variety decisions. The project was completed in cooperation with Ontario Grain Farmers, the Ontario Oil and Protein Seed Crop Committee (OOPSCC), and industry representatives.

Soybean seed companies have begun to adapt to the relative maturity system in Ontario, in some cases they were already using this US based system. The Ontario Oil and Protein Seed Crop Committee 2011 Variety Brochure now classifies varieties based on their RM rating. Many variety names have the RM of the variety embedded within the name. For instance a Syngenta soybean variety, such as S20-Z9, represents a relative maturity of 2.0. An S03-W4 variety has a RM of 0.3. For a Pioneer variety, such as 92Y30, the relative maturity is the number on either side of the letter in the middle; in this case this variety has a relative maturity of 2.3.

### **Results:**

The map, Figure 1 below, is a tool for aiding Ontario producers in choosing a soybean variety that will provide the greatest yield potential for any given region. This map does not, however, represent "hard boundaries" for each zone and should be used as a guide in the decision making process.

**Figure 1: Ontario Soybean Relative Maturity Map**



**Table 1: Relative Maturity Value**

Relative Maturity Zone	Approximate Crop Heat Unit Rating
00	2400
0	2600
I	2800
II	3000
III	3300

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