


# The Bean Report

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V-2 : two sets of unfolded trifoliate leaves

**July 2, 2013**

## ***This week....***

- Statistics Canada Report
- Assessing nodulation in soybeans & peas
- Soybeans and Phosphorus
- Diseases to keep an eye out for in edible beans, soybeans and peas
- Keeping track of heat units

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## ***In Every Issue....*** Crop Conditions

The bean crop continues to advance with the heat, staging from V-2 to V-4 with the 5th trifoliate visible in many fields. The first bloom has also been observed on some plants (R-1). Soybeans will have 4-7 fully developed trifoliate leaves before they reach flowering, depending on a number of factors (OMAFRA 2009). Uneven emergence in edible bean fields as a result of poor seeding conditions may be a problem come harvest time. Some reports of poor emergence in soybeans have been received which could be related to dry seed lots from last fall. Peas are starting to flower and fungicide applications are being considered.

The majority of herbicide applications were completed before last week's rain, 2nd applications are being planned and underway if necessary. Isolated reports of spraying for cutworms have been received, as well as for grasshoppers in fields adjacent to grassed waterways. Green cloverworms have also been spotted in bean fields but no concerns at this point.

Saturated soil conditions and hail damage are a concern for some farmers. Soybeans are one of the most tolerant annual crops of wet soil conditions. Plants can generally tolerate 3-7 days of wet soil conditions but only 36-48 hours of flooded conditions. Survivability of plants in saturated soils decreases with increasing temperature as respiration and demand for oxygen increases. Reports of localized hail damage continue in areas affected by last week's storms in Western Manitoba.

## Statistics Canada pegs Manitoba soybean acres at 1.1 million

A 35.6% increase from 2012 (850,000 acres) is what farmers in Manitoba reported to Stats Can in June. This may be slightly optimistic given the wet spring and changes to seeding plans, but we are in the sixth consecutive year of increase for soybean acres in Manitoba. The increase in Manitoba soybean acres is also driving the national increase where 4.6 million acres are to be planted in Canada. A slight decrease in acres is expected in Ontario and Quebec. For the full report on principal field crops, [click here](#).

## Assessing nodulation—was your inoculation technique effective?

Part of what makes soybeans (and other legumes) an attractive crop to grow is that they do not require nitrogen fertilizer inputs. With proper inoculation and subsequent nodulation by the plant, biological nitrogen fixation will take place and provide 50-75% of the total nitrogen requirement for soybeans.

Seeding this spring was busy and delayed by rainfall events; some producers are worried that seed with liquid/peat inoculant sat too long during planting. It's time well spent for all producers to take the time to assess their soybean plants for nodulation.

It is good to assess nodulation in soybeans starting at the third trifoliate stage (V-3), although nodules could appear sooner. **To assess nodulation**, take a shovel and pail of water out to the field. Dig up plants in representative areas and place them in water to wash away the soil. Pulling the plants out of the soil may tear off roots and nodules.



The placement, number and size of nodules can vary depending on the type of inoculant used. These factors are not as important as simply determining that nodules are present and healthy, although 7-14 nodules is considered adequate nodulation for soybeans at first flower according to the Ontario Ministry of Agriculture and Food. Healthy nodules will appear bright pink to reddish when cut open. Immature or non-functioning nodules may appear small and whitish (check again in a week).

Having healthy, functioning nodules is important as we head into early flower and N demand increases. In soybeans, you can expect to reach R-1 (beginning bloom) in approx. 8-16 days from V-3. If nodulation failure occurs and plants appear N-deficient, rescue treatments are possible at early flower. Reasons for nodulation failure include non viable inoculant, high residual N and stressful environmental conditions.

A great video on assessing nodulation in **field peas** is available [here](#) from RealAgriculture.com





[Did you apply phosphorus with \(or before\) your soybeans this year? \(Click to answer\)](#)

Soybean phosphorus fertility has been a hot topic as soybean production increases in Manitoba. A joint effort by MAFRI and the University of Manitoba is investigating the effect of seed placed, side band and broadcast P at rates of 0, 20, 40 and 80 lbs/ac at various locations across Manitoba. The picture to the right shows visible stand reduction from a high rate of seed placed P (right) compared to side band (left). We look forward to these results and to future studies in Manitoba.



### Pulse Crop Diseases to keep an eye out for

**Ascochyta Blight Complex** (right, middle) commonly infects field pea in warm, humid conditions. Leaf spotting has been observed in fields in Western Manitoba and some fungicide spraying has started. If warranted, applications should be done at early flower *before* canopy closure for good coverage. Symptoms appear as small, purplish-brown irregular spots that enlarge and may join. A decision support tool used in Alberta is available [here](#).



Photo Credit: Lionel Kaskiw, MAFRI

**Bacterial blight** can affect edible bean, soybean and pea crops. It is favored by cool, wet conditions and commonly shows up after heavy rain and hail. Bruised, torn leaves provide a good infection site for the bacteria. Symptoms appear on leaves as black lesions with a yellow halo. As temperatures increase and conditions dry, disease spread will slow. This disease is caused by a bacteria, not a fungi, therefore fungicides are not a management option.

**Phytophthora rot** is a disease that may start increasing with the expansion of soybean acres in Manitoba. It can affect soybean plants from emergence to early maturity and is favored by warm, wet soil. *Rhizoctonia* is also favored by warm, moist soil and symptoms of both diseases often show up as wilted or dead plants (right, bottom).



### Tracking heat units and rainfall accumulation

If you haven't discovered it yet, the Manitoba Ag-Weather Program is a great tool to track accumulated growing degree days, corn heat units and rainfall amounts. You can also compare this year to "normal" and look up previous years weather conditions. [Check it out!](#)