The Bean Report

Your source for soybean and pulse crop agronomy and research.

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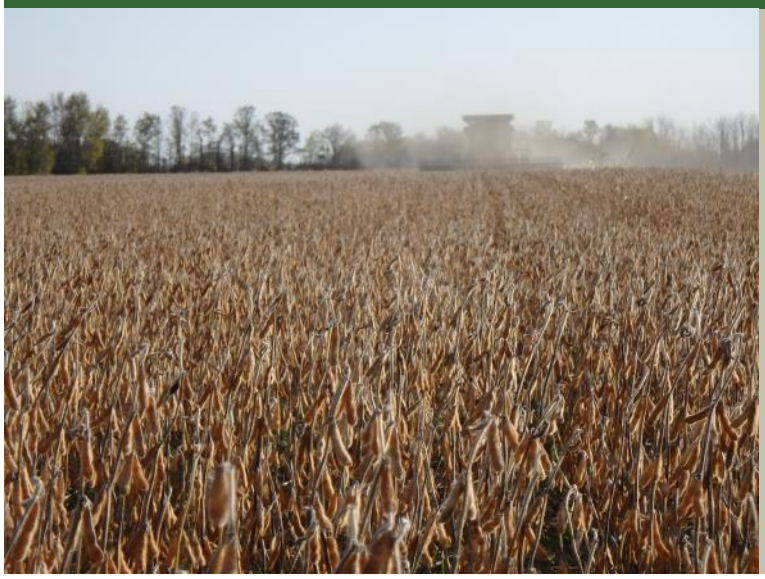

- **Harvest progress slow but steady**
- **Dry bean grower survey**
- **Phosphorus planning for next year**
- **Soybean market trends**
- **Identifying soybean seed quality factors**
- **Research on managing crop residue**
- **Did you notice green soybean plants in your field during harvest?**

Soybeans

Significant harvest progress has been made in the past 14 days and is approx. 50-60% complete. Areas with less progress include the parts of Eastern Manitoba, the Interlake and Northwest Manitoba. Shattering losses may increase with harvest delays and previous wet-dry periods. Hard, killing frosts over the long weekend helped with weed dry down and harvest ease. Yields are highly variable, ranging from 25-40 bu/ac with fewer reports of mid 40's to mid 50's. Reasons for lower yields include poor establishment due to excess moisture and then ironically, lack of moisture in mid-August. Expectations are for a slightly above average soybean crop, although it is difficult to say since there is substantial crop yet to come off.

In the unfortunate event that harvesting conditions are not ideal, it is very important to get the soybeans off this fall. When this question was posed to a storage expert, his answer was simple *"You can control the environment in the bin, not in the field".* Information on drying and storing tough beans is available here. This is a worthwhile read if dealing with soybeans >13% and you are expecting to store them for longer than a few months. The forecast looks good to get the rest of the crops off—the Farmer's Almanac is calling for sunny, mild conditions at the end of October and warmer and drier than normal November.

Dry beans

Dry bean harvest is 70-80% complete. Yields are highly variable, with lower yields from fields affected by excess moisture early in the season. Expectations are for an overall average crop. Manitoba dry bean growers who are members in good standing with Manitoba Pulse Growers Association (MPGA) will receive a **"Dry Bean Grower Survey"** in the mail. This is a new initiative by MPGA. The goal is to quantify production practices (planting, in crop and harvest management, major insect, weed and disease problems, herbicide, fungicide and desiccation use etc.). The information will be used to guide research, market development and policy initiatives by MPGA. We strongly encourage all dry bean growers to take some time to fill out this survey and we look forward to receiving them. Results will be made available (information will remain anonymous) and should serve as a point of interest for growers and industry representatives.

Thinking about phosphorus (P) fertility for next year's soybean crop

Soybeans respond better to soil P compared to added fertilizer P and are more productive on fields with medium-high (> 10 ppm) soil test levels. Soils testing < 10 ppm are more likely to show a response but the jury is still out as field studies continue in Manitoba. That being said, growers must identify a plan to replace removed phosphorus in their crop rotation to avoid depletion. When is it most strategic for you to apply P? Factors to consider are fertilizer and grain prices, rented vs. owned land, equipment capabilities and crop tolerance for seed placed P. For more on long-term soil P planning, click here.

If you are fertilizing your 2015 soybean ground this fall, banding is a superior option to broadcasting. Banding keeps the fertilizer in a concentrated zone with less exposure to soil. When in contact with soil, the P reacts and becomes tied up. There is also greater positional availability for uptake by the roots, since P is immobile. If broadcasting, incorporation is very important to minimize losses. Use the table below to determine rates.

Table 1. Phosphorous and potassium suggestions for soybeans based on soil test and yield potential (adapted from Soybean Soil Fertility, D. W. Franzen, 2013, NDSU).

	Soil test phosphorous, ppm (Olsen P)					Soil test potassium, ppm				
Yield Potential	VL 0-3	L 4-7	M 8-11	H 12-15	VH 16+	VL 0-40	L 41-80	M 81-120	H 121-160	VH 161+
(bu/ac)	(lbs P_2O_5 /ac)					(lbs K_2O /ac)				
30	40	23	10	0	0	55	33	11	0	0
40	54	31	10	0	0	73	44	15	0	0
50	67	39	11	0	0	92	55	19	0	0

Soybean Market Trends

We are entering a period of price pressure for commodities. World grain supplies bottomed out in 2012 but stocks are building and expected to be at record levels at the end of the year. For soybeans, another record crop is expected for Canada (following a record planting and relatively good growing conditions) and the US crop is also projected to be large—although harvest troubles led to some activity in the soybean market this week. In South America, a large planting of soybeans is expected due to the spread in corn and soybean prices. This spread is represented by the Soybean-Corn ratio — corn prices have fallen faster than soybean prices leading to a higher Soybean-Corn ratio than we would typically like to see (a ratio of 2.8 means that the price of soybean is 2.8 times the price of corn). Oilseed prices are slipping along with other commodities but are currently remain more attractive than corn and cereals, leading to a large shift in favor of oilseeds, especially soybeans. However, prices will likely need to react to this. Regardless, crop planning for 2015 should focus on strategic input use and minimizing or spreading out risk. Variable input costs for soybeans remain lower compared to other crops. (Source: Bruce Burnett, CWB)

Crop Residue

What's the best way to manage soybean residue before planting corn and wheat? How does managing wheat residue affect soybeans? What is strip tillage? These questions are being answered by MPGA funded research. Stay tuned for the next episode of Soybean School West for more information!

Soybean Seed Quality Factors

The following agronomic issues have been detected in Manitoba soybeans throughout September/October. These issues can lead to quality discounts, reduced test weight and reduce seed vigour.

Green seed can be a result of several factors: drought (lack of moisture reduces breakdown of chlorophyll in seed) and lack of maturity (early harvest, early desiccation). Green seed will be a grading factor if the green color penetrates the seed - this can be determined by splitting the seed in cross-section.

Frost-damaged seed can also be green, but are also shrivelled and "glossy" looking. Both green and frost-damaged soybean seeds are considered under "Total Damage" and the tolerance for grade 1 and 2 soybean is 2% and 3%, respectively.

Insect damage

Stink bugs were evident in soybean fields throughout late August and early September. These insects have piercing-sucking mouthparts that pierce the soybean pod and feed on developing seeds. Attack at early stages results in empty soybean pods (aborted seed) but late attack can result in damaged seed which is discoloured or indented.

Phomopsis is a disease that can infect all above ground parts of soybean in warm, wet weather. When soybeans mature during these conditions, the disease can infect the pods and seeds. Infected seeds have wrinkles in them, may be shrivelled and are white and chalky.

Green Soybean Plants at Harvest

Immature, green soybean plants were evident in many fields despite the field being ready for harvest. Upon closer investigation, some of these plants were podless. These are male sterile plants, which can occur naturally. Last year, we saw this due to cold temperatures during flowering. This year it may have been due to natural cross pollination from insects. The green plants with pods may be due to late germination or damage from stink bugs.