

## Harvest Tips for Soybeans

Soybeans begin to mature as defoliation begins. Leaves begin to dry down and fall off the main stem, while the pods turn from yellow to brown. Soybeans reach full maturity (R8) when 95 per cent of the pods are brown (Figure 1). Seeds inside the pods will rattle and all the leaves will have dropped. At maturity, it is important to consider seed moisture to determine harvest time.



**Figure 1.** Soybean field (left) and pods at full maturity (R8) stage (right).

Source: Manitoba Pulse and Soybean Growers, Soybean Maturity Guide

### Harvest Moisture

While the ideal seed moisture for harvest and storage is 13 per cent, soybean harvest can begin at seed moistures up to 20 per cent as they do dry down well under aeration. Delaying harvest until seed moisture is less than 13 per cent can result in increased shatter loss, increase seed coat damage, or splits as well as yield (weight) loss (Table 1). If stems or leaves remain green and tough, do not delay harvest until green stems mature if seed moisture is ideal. Time harvest to avoid a hot afternoon when soybeans will be at their driest and are most sensitive to mechanical damage.

**Table 1.** Potential Loss From Delivering Soybeans at Less Than 13 Per Cent Moisture

Seed Moisture Level	Potential Yield Reduction
8%	5.4%
9%	4.4%
10%	3.3%
11%	2.25%
12%	1.14%

Source: University of Nebraska-Lincoln Crop Watch *“Plan Harvest to Deliver Soybeans at the Optimum Moisture”*

### Straight Cut Soybeans

Soybeans should be straight cut at harvest. Swathing soybeans is not recommended due to increase risk of shattering losses. As well, soybeans have very little plant material to create a swath and little stubble to act as an anchor. Therefore, swaths would be susceptible to movement by wind and pick-up could be difficult (Figure 2).

### Soybeans Do Not Require Desiccation

Soybeans do not require desiccation as they are able to dry down nicely as they mature. Yield and quality are maximized if soybeans are left to mature naturally in the field. If green, weedy material is a

concern in the field, there are a number of registered pre-harvest products that can be used on soybeans.

### Setting the Combine and Harvest Speed

- Combines should be set properly.
- Concave clearance and cylinder speed should be set to avoid seed cracking.
- Reel speed should be no more than 25 to 50 per cent more than ground speed, to avoid cutter bar shatter.
- The majority of soybean seed loss at harvest occurs at the cutter bar.
- Cutting as close to the ground as possible will help capture low pods.
- Consider the use of a flex header to help reduce losses.
- Checking for seed loss is important as four seeds per square foot on the ground equals one bushel per acre of yield. Loss should ideally be no more than five per cent of the total yield.

Studies have shown that yield loss increases with increased harvest speed. Speeds of over four miles per hour (6.4 kilometres per hour) has been shown to increase the risk of harvest loss.

### Handling Soybeans

Soybeans should be handled gently at harvest. The seed coat of soybeans is susceptible to mechanical damage and the drier the soybeans, the more prone they are to splits. Using conveyors and avoiding over handling can also help avoid cracking and damaging the seeds, which can result in increased dockage. Grading factors for soybeans includes: foreign material, test weight, damage (heated, mouldy, splits), downy mildew, and mixed colours.

### Drying and Storage

If harvest occurs when soybean moisture is above 13 per cent, soybeans should be conditioned to bring moisture down. Soybeans can be dried using any drying method. If using a grain dryer, care should be taken to avoid over-drying the soybeans to prevent shrinkage. Dried grain needs to be cooled down using fans or aeration after drying. If drying soybeans using natural air in aeration system, it is best done with a full aeration floor to ensure even movement of air and drying. Bins should be temperature monitored to ensure no heating occurs.



**Figure 2.** Straight-cutting soybeans