

## **Soybean Harvest and Moisture Content**

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### **Drying Soybean in Late October**

The moisture holding capacity of air is directly related to the air temperature. The moisture holding capacity of air at 50F is twice that of the air at 30F. Therefore, it will take twice as long to dry at 30F as it would at 50F. Drying in the field or in the bin will be much slower at cooler temperatures.

Freezing grain does not result in drying. Typically when temperatures are freezing at night, the air is dry during the day. For example at 100% relative humidity at 25F will only have a relative humidity of about 38% when heated to 50F. This low humidity level with a nice breeze dries grain well. This higher humidity level along with the cool air temperatures, results in very slow drying.

### **Harvest**

Timely, careful harvesting means extra bushels of soybean. Soybean is easy to thresh, but the challenge is to get all the soybean seed into the combine. Straight combining is the most satisfactory and commonly used method of harvest. Swathing soybean can result in excessive field losses (up to 25%) due to shattering. Use of equipment like floating headers, pickup reels, Love bars and row crop headers are helpful in reducing harvest losses. Keep the combine in good repair. A cutterbar in poor condition will increase gathering losses. Be sure knife sections and ledger plates are sharp, and that wear plates, hold-down clips and guards are properly adjusted. Proper reel speed in relation to ground speed will reduce gathering losses. Use a reel speed about 25 percent faster than ground speed. Operate the cutterbar as close to the ground as possible at all times. Keep forward speeds at or below 3 miles per hour. Slow down if stubble is high and ragged, or if separating losses are high. Approximately four beans or one to two pods per square foot represent a yield loss of "one bushel" per acre.

Harvest soybean when the plants are mature and the beans have approximately 14 percent moisture. Harvest may be started at 17 to 18 percent moisture when air drying is available. Harvest as much of the crop as possible above 12 percent moisture to avoid cracking seed coats and "splits". When soybean seed is extremely dry, (8 to 10 percent moisture), harvesting will cause more shattering and seed injury. Under these conditions, combine during morning or evening hours when relative humidity is higher and adjust the combine accordingly. Adjust cylinder concave clearance according to the operator's manual. When soybean plants and pods are tough, cylinder speed may have to be increased. Decrease cylinder speed as soybean seeds dry during midday to reduce breakage. Paraquat or sodium chlorate can be applied as a desiccant to aid harvesting if green weed growth delays harvest. Do not apply a desiccant until soybean moisture is under 30 percent and 65 percent of the seed pods have reached a mature brown color.

Soybean may be stored safely for short periods during cold weather with a moisture content as high as 14 percent. For safe storage during the spring or summer, soybean should not contain more than 12 percent moisture. An air screen cleaner to remove foreign material, weed seeds and fines should be used before applying air and heat to soybean. Sound beans, free of foreign material and splits, store better and stay in condition longer. The maximum drying temperature for soybean is about 140 F. When soybean is to be used for seed, the temperature should not exceed 105 F. In drying soybean, a grower is seldom confronted with removing more than 2 or 3 points of moisture.