

IOWA STATE UNIVERSITY

Extension and Outreach

Integrated Crop Management

Key Tips to Prepare for a Variable Crop Harvest

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Harvest is quickly approaching and most are anticipating a highly variable corn and soybean crop. Below are some reminders for regular maintenance, adjustments, and final checks to make sure your combine is ready to hit the fields soon.

Pre-harvest preparation of combines

- **Sensor checks.** Many combines are equipped with capacity, loss, and yield sensors. Prior to harvest, confirm all the sensors are performing properly by performing a computer check for accurate readouts.
- **Inspect for wear and proper mechanical operation.** This involves checking the deck plates, cutter bar, and threshing unit (specifically the condition of the rotor and concave), and cleaning shoe sieves. Repair or replace all worn, broken, or rusted parts.

Making adjustments

- **Combine head adjustments.** A malfunctioning combine head results in excessive header loss.
 - For corn, set the deck plates so they are tapered from front to back. The top opening should be set 1/8 inch narrower than the bottom gap. With adjustable deck plates, initial settings can be as per the operating manual. However, stalk conditions may require some adjustments. Ideally, the gap between the plates should be narrow enough to avoid shelling kernels, but not so narrow as to cause stalk wedging.
 - For soybeans, it will likely be necessary to keep the header low in fields with shorter plants. Additionally, shorter plants require narrower clearances between

the reel, cutter bar, auger, and the feed conveyor chain, to ensure stems are feeding through the platform and into the feeder house. Reel height should be set so there is at least a two-inch gap between the reel finger tips and the flexible cutter bar when it's at the highest position.

- **Threshing and separation unit adjustments.** For the threshing and separation unit, refer to your operator's manual when adjusting the clearance between the rotor and the concave. When adjusting this clearance, pay attention to the condition of the crop being harvested and make adjustments accordingly. Narrow or widen the rotor-concave clearance in increments until it is narrow enough to thresh out the grain without causing damage. Clearance may need to be increased when faced with taller soybean plants or regular to larger-sized corn ears.
- **Fan speed and sieve adjustments.** Obtaining good separation between the grain and chaff in the cleaning shoe is a function of the cleaning fan air speed and sieve adjustments. When making pre-harvest adjustments, ensure the cleaning fan is functioning well at different speeds. The intent is to be able to match air speed with the crop throughput coming into the cleaning shoe for separation during harvest. Also, ensure that airflow across the cleaning shoe is as uniform as possible for all fan speeds. Sieve adjustments will depend on the kernel sizes passing through the cleaning shoe during harvest. Smaller soybean or corn kernels will require narrower sieve openings; however this can increase the number of larger kernels going back to the threshing unit as part of the tailings.

While variability in both the corn and soybean crop will be a challenge this fall, the above tips should help farmers better prepare for the conditions and minimize grain loss, damage, and harvest delays.

Category: Grain Handling and Storage

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Crops:

Corn Soybean

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Author:

Kapil Arora