

Special Bulletin— Harvest

Hints and reminders for harvesting Sunflowers

Sunflower harvest for some producers could be starting in the next couple of weeks, so here are some things to think about as the time comes near for you.

Combine headers: Platform (wheat), row-crop, and corn headers have all been used successfully with sunflower. Row-crop heads are perhaps the best choice because they can be used without modification. Corn heads need to be modified with a stationary cutting knife before use with sunflower. Combines used for threshing small grains can be adapted to harvest sunflower with a variety of header attachments available with many operating on a head stripper principle. Platform heads can be used without modification, but often have a higher amount of seed and head loss than a row head. Adding pans to the front of the platform, and/or modifying the reel can improve efficiency. Twelve-inch pans are best for 30-inch row spacings; 9-inch better for other row sizes and solid seeding.

Threshing goal: Have the header platform raised high enough to take in the heads, minimizing stalks as much as possible. The over-all goal of the threshing process should be passing the head nearly intact through the combine, or in a few large pieces, with all developed seed removed from the head. If the head is being ground up into small pieces, there will be excessive trash in the grain.

Air speed: Air speed should be lower, due to the lighter weight of sunflowers (oils weigh about 28 to 32 lbs/bu, confection 22 to 26 lbs/bu). Excessive wind may blow seed over the chaffer and sieve, and seed forced over the sieve and into the tailings auger will be returned to the cylinder and may be dehulled. Set the fan so only enough air flow is created to keep trash floating across the screen/sieve. The concave should generally be run wide open (on a rotary combine, a rotor-to-concave setting of 3/4 to 1 inch is appropriate). A bottom screen or lower sieve of 3/8 inch, and a top screen/upper sieve of 1/2 to 5/8 inch is typical.



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Forward speed: Combine forward speed should usually average between 3 and 5 miles per hour. Forward speed should be decreased as moisture content of the seed decreases to reduce shatter loss as heads feed into the combine. Faster forward speeds are possible with seed moisture between 12 and 15%.

Cylinder/rotor speed: Slow cylinder/rotor speed to 250 to 400 rpm. Combines with smaller cylinders will require a faster speed and combines with a larger cylinder diameter will require a slower speed.

Concave clearance: When crop moisture is at 10% or less, conventional machines should be set open to give a cylinder to concave spacing of about 1" at the front of the cylinder and about 0.75" at the rear. A smaller concave clearance should be used only if some seed is left in the heads after passing through the cylinder. If seed moisture exceeds 15 to 20%, a higher cylinder speed and a closer concave setting may be necessary, even though foreign material in the seed may increase. Seed breakage and dehulling may be a problem with close concave settings. Make initial adjustments

as recommended in the operator's manual. Final adjustments should be made based on crop conditions.

Rule of thumb for acceptable harvest loss: 10 seeds per square foot (don't forget heads that have seed left in them) represents a loss of 100 pounds per acre.. Adjust seed counts taken directly behind the combine discharge for the concentrating effect from the width of cut down to the separator width. Do this by dividing the number of seeds found by 4. In other words, in the discharge area, 40 seeds per square foot represent a loss of 100 pounds per acre.

*Remember that these are starting guidelines. Adjustments may be needed.

Sources: North Dakota State University Extension Service, Kansas State University Extension Service, University of Missouri Extension Service

