

SHELBY COUNTY CROP TALK

September 11, 2020

Crop Scout

Crops in the area continue to slowly march towards the fall. We could start to see some combines in the fields next week. Corn moisture percentages for early planted corn are in the high 20's. Ear moisture is affected by multiple factors including heat, humidity, the husk, and ear drop. Daily dry down rates can vary from .8%-.4% per day. If we have hot, low humidity days, we can expect to see a rapid dry down. Ears with loosely fitting, thin, and fewer husk leaves will have a more rapid dry down. Fun fact: corn kernels will lose moisture after black layer through the outer layer of the kernel. This is called the pericarp and a thinner pericarp translates to faster dry down. Soybeans at the beginning of R7 will dry down at a rate of almost 3.2% per day until it gets to around 13%. In fact, at the start of R7 soybeans are roughly 60% moisture. Temperature and humidity also affect the rate of dry down in soybeans.

Combine Pre-Harvest Check list

The cool mornings and yellowing fields have me buzzing with excitement for the fall and harvest. One thing to help fall go smoother is to do some preseason equipment inspection. Right now, is a great time to make sure everything is up to peak operating order.

- **Inside the Cab-** Start here by making sure the monitor software is up to date. Make sure that the machine is properly calibrated. Many points of calibration can be done in the shop yard without running the crop through the combine.
- **Feeder House-** Start here and look for signs of wear on the chains, drums, slats, and sprockets. Look for signs of slack on chains and check to see if you have any cupping on sprockets. I recommend replacing both if you replace either one. Check for wear on the feeder house floor which can often be caused by improper chain tensioning. Make sure everything is properly lubricated in this area.
- **Threshing and Separating-** Check the rotor to make sure all the hardware is still attached and check for signs of stress cracks. Check your rasp bars for signs of wear. Check the leading edge



LOGAN KOLB 1

Logan@greenecrop.com

(812) 550-7710

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of the bars to see if they pass the manufacturers standards. Inspect the concaves for signs of wear or failure. Be sure to also check the drive system for the rotor. Verify the belts and chains are in proper working order. Check the oil in the gear box and make sure it is the proper viscosity and it is adequately filled. Check your bearings around the machine for signs of wear. Look at all the elevators and confirm that they are tensioned correctly and all the doors are closed.

- **Safety-** Finally make sure all the safety equipment is in place and in proper working order. Inspect that the fire extinguishers are easily accessible on the machine. Make sure that all guards and hydraulic locks are in proper working order.
- **Headers**
 - Corn heads - Check the gear boxes for signs of oil leaks and check the oil level. Check the gathering chains for signs of slop and the sprockets for any sign of cupping. Look at the knife rolls for wear and any signs of freeplay. Make sure your cob savers are all in place and the gaps are manageable. Start the head and look for any issues while it is running.
 - Soybean headers - Start by making sure your drive system is in good working order. Check that the shaker arms do not wobble and that they are in good working order. Check the knives and guards for anything that needs to be replaced in the cutter bar area. Check the deck plates to make sure none are missing. Check the reel tines to see if any need replaced. If you have a draper head, check the belts for wear or any signs of debris under the belt. If you have an auger check the flighting and the fingers for anything that needs to be repaired. Finally make sure that the header height sensors work and that the head tracks the ground right and there are no issues.

The best thing to do when inspecting your combine is to consult the manuals and make sure everything is to spec. Taking a day to do this now is better than doing it when crops are ready to be harvested. Red, green, yellow, or gray... they all break down. Why not prevent it before it costs you time during harvest?

Resources

- Pre harvest inspection
 - <https://www.youtube.com/watch?v=337cKa87qlc>
 - <https://www.youtube.com/watch?v=LkCGya0oFzc>
 - <http://allstatesagparts.blogspot.com/2018/07/12-point-pre-harvest-combine.html>
- Corn Dry Down
 - <https://www.agry.purdue.edu/ext/corn/news/timeless/GrainDrying.html>
- Soybean Dry Down
 - <https://crops.extension.iastate.edu/cropnews/2017/09/how-fast-do-soybeans-dry-down-field#:~:text=Soybean%20seeds%20may%20absorb%20moisture,9%2D10%20percent%20grain%20moisture.>