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Technology Update

Issue 002

Combine settings in wet conditions

Key points

1. Lower initial rotor/cylinder speed with wider concave settings in very wet conditions.
2. Increased sieve opening and careful fan speed adjustments.
3. Frequent cleaning of the cleaning shoes, stone traps, header, and feeder systems.
4. Daily inspections and lubrication to counter wet-induced wear.

Introduction

Sometimes, the only way to bring in a crop is to harvest in conditions that are less than ideal. If you find yourself in this situation, it's a good idea to think about your combine settings to help reduce losses and prevent unnecessary breakdowns.

Headers and feeding

- Make sure knife sections are sharp, and the finger (finger-guards) have a sharp edge.
- For wet and laid crops, raising the cutterbar slightly and ensuring a correct knife-to-finger gap helps reduce soil pickup and feeding problems.
- Avoid going *too low*; soil sticking to the cutterbar increases dirt in the combine and loads the cleaning system.
- Lifters don't work well when it's very wet. They just plough, so the reel has to be in perfect condition because it's going to have a lot of work to do.
- Poly skids are better than metal. Make sure they are in good condition, so they don't push up mud.

Threshing and separation

- APS may plug in a Claas as they all have 12 mm grates, especially if de-awning bars are engaged. When disengaged, they will need to be checked and, if necessary, taken out and cleaned frequently.
- In wet grain, start with a lower cylinder/rotor speed and wider concave clearance; this reduces grain damage and blockages because moist kernels are harder to thresh cleanly.
- Be careful, as greener material will tend to wrap, and if you plug it, you will have a difficult time getting it clear again.
- With Lexion, New Holland CX or John Deere, the drum speed needs to be maintained, or you will jam it.
- But there's *no universal rule that rotor speed *must always be reduced*; some crops (e.g. very heavy wet maize cobs) may require slightly more aggressive action, so check crop samples behind the combine and adjust accordingly.
- Check for blocked concave, i.e., plugging. Check for blocked separation grates from the wet crop.

- Slots, round bars, concaves and very open grates (70 mm+ gap) are less likely to plug.

- Check feeder chain tension, and clean the grain elevator too.
- Have spare shear bolts of the correct tension for the unloading auger.
- Check if the returns are cleaned out and are not gummed up.
- The unload auger will build up soil. One option is to run a garden hose in the hopper when not harvesting and let it run with the auger on to clean it out.

Sieves and fan

- Check if the sieves are getting gummed up.
- Run with the pre-sieve open more than usual to let more material through to stop the sieves from plugging.
- Operating with larger sieve openings and careful airflow control helps manage wet, sticky grain. Setting too high a fan speed or a tight sieve can blow out wet grain and increase losses.
- Automatic systems on modern combines (e.g., Combine Advisor, Harvest Command) can help maintain optimal settings as conditions change, without constant manual adjustment.
- Potentially run with the return door open to let mud out, this also helps prevent the return plugging up. Obviously, the returns will be dropped in the field and not go through the system again!

Maintenance and clearing in wet conditions

Cleaning and blockage prevention

- Wet harvesting increases the chance that mud, crop residue, and soil will build up in the threshing and cleaning systems. Regular cleaning of the stone trap, preparation pan, and sieves is important to maintain efficiency.
- Check and clean the return system. They plug with mud and may slip the slip clutch or burn the belt off.

Daily inspections

- Daily checks for **belts, chains, bearings, and lubrication** are standard best practices and become even more critical in wet conditions because moisture accelerates wear and corrosion.

Header and feeding maintenance

Inspect and clean knives, reel tines, and auger flighting often; wet crops stick and cause build-up that reduces feeder performance.

Traction and ground conditions

While not strictly about settings, it is wise to check tyres/tracks and be cautious about bogging in wet fields, as traction problems compound challenges.

If you do get bogged

KONDININ Group research engineers, Ben White and Josh Giumelli compiled a great video for GrainGrowers on how to safely recover bogged combines using straps. Click here to view and read more.

Other things to be aware of

Rotor speed isn't always lower

- Contrary to some simple rules of thumb, sometimes in wet crop situations you may need more aggressive threshing (higher speed or narrower gap), e.g., for spongy corn cobs, but adjust carefully.

Automated systems can help, but you still need monitoring

- Auto-adjust tech can maintain settings, but you should still validate grain loss and sample quality manually, especially in highly variable wet conditions.

Context matters

- Recommendations vary by crop type and moisture level: what works for wet wheat may differ from wet maize or clover, and manufacturer manuals and dealer guidance are valuable sources for machine-specific settings.

Areas that require judgment/adjustment:

Rotor/concave adjustments may sometimes go the other way, depending on the specific crop and moisture.

Automated combine settings are helpful but not a substitute for operator checks.

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