The Light touch

Uncleaned in three years, UT cotton yield monitor lets the light shine. — By Ken Beetches

Right from the start, University of Tennessee ag engineers set out to design an almost maintenance-free cotton yield monitor.

“A cotton picker is a high-maintenance machine. We don’t think farmers want something else to maintain on their cotton pickers,” says Henry Moody, UT research associate agricultural engineer in the cotton yield-monitor project. UT has licensed its design to AgLeader Technologies and to Case IH. The two firms supported the monitor’s research, as did Cotton Incorporated.

Sources of yield monitoring systems have light sensors with covers for PICKERS, and sensors at the heart of the UT-developed cotton yield monitor. The Ag Leader model uses the same display units that are interchangeable among harvesting and variable rate sprayers and tractors with sprayers.

“This trend in yield monitors is to have display units that are interchangeable among harvesting and variable rate controllers. As an agricultural engineer, I’m very excited about that trend,” Wilkerson says.

Cotton yield monitors and the resulting yield maps show both yield variability and magnitude of the variability, says John Wilkerson, a UT agricultural engineer who specializes in electronic devices.

Those are obvious benefits that created pent up demand for cotton yield monitors among cotton producers, some of whom have several years experience with combine yield monitors for soybeans, corn, wheat and rice.

Wilkerson says feedback from early users of the UT-designed cotton yield monitor shows they found other benefits.

“Farmers are telling us about hidden benefits of cotton yield monitors that we researchers haven’t thought of,” he adds, “for example, managing moddle builders and multiple pickers in one field. A farmer can radio the picker operators to ask which one has the right amount of cotton in the basket to finish off a module.”

Wilkerson provides this list of other potential benefits of cotton yield monitors:

- Yield variability mapping (profit/loss).
- Evaluation of site-specific management plans.
- Second pick this field
- Monitoring picker operating efficiency (future).

“We recommend that you check the calibration of your cotton yield monitor each time you change cotton varieties,” he adds.

The Ag Leader model uses the same interchangeable readout display box designed to work in cabs of cotton pickers, combines and high-clearance sprayers and tractors with sprayers.

“Two years experience with combine yield monitors for soybeans, corn, wheat and rice.

Wilkerson lists these test criteria:

- No cleaning of optics.
- Wide range of cotton flow rates.
- Wide range of load sizes.
- Wide range of moisture content.

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