Rigorous Testing For Agricultural Tire Performance

(NAPS)—To help feed a growing world population, farmers depend on having the right equipment. When they climb aboard their tractors or combines, they're counting on their agricultural tires to deliver the best possible field performance and value. Rigorous testing can play a key role in ensuring that new products will stand up to the challenging conditions that farmers experience throughout the growing season.

One major concern is soil compaction—caused by heavy farm equipment—that can harm healthy root development and reduce crop yields. The goal is to minimize compaction from these machines by designing tires that can support the load with the lowest possible air pressure required and provide a longer footprint.

That's why engineers at Michelin Agricultural Tires conduct market-specific tests to evaluate soil compaction. In one test, tires are rolled in a sand track to measure differences in the surface area of footprints and the depth of ruts. Another test involves digging a pit, which is filled with soil layers of alternate colors. After equipment passes over the pit, a trench is dug perpendicular to the tire tracks so the compaction of the soil layers can be measured.

Traction and Durability

Tire traction is another important factor tested. Poor traction results not only in wasted fuel but also excessive slippage that causes extreme wear on tires and machines. Traction force is tested by attaching a plow to a tractor that is operated on a plot with uniform soil over a predetermined distance, enabling tire spin and fuel consumption to be analyzed.

Rigorous testing helps ensure that farm equipment tires will provide good traction, durability and reduced soil compaction.

When farmers invest in ag tires, they also expect excellent durability and a long service life. The tire company conducts an accelerated wear test in which machines are operated 24 hours a day at varying speeds under different simulated field conditions. The condition of the tread, and the wear at each point on the tread, can then be evaluated.

This testing process ensures that each individual product is made to the highest quality and suited for the application for which it is designed.

"Every new size is individually tested and validated by Michelin's agriculture testing facility in an effort to ensure the new tire will fit its intended market," reports James Crouch, farm segment marketing manager. Once a new tire model has passed these tests, it is further tested and monitored in actual farmer fields. Performance criteria include resistance to sidewall damage and tread damage caused by crop stubble.

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