



Wide, very-high flexion tires on the in-line tandem central transport wheels of the Fendt Momentum planter [Wide Shot]

AGCO Crop Tour Field Report: Tractor and Planter Compaction

Penetrometer readings show how tractor and planter tires compact the soil

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DULUTH, GA – [AGCO Corporation](#) (NYSE:AGCO), a global leader in the design, manufacture and distribution of agricultural machinery and solutions, has released the first 2020 Crop Tour™ field update.

Soil compacted at planting can reduce yields by restricting root growth and reducing nutrient and water availability. Soil compaction caused by wheel traffic has become an increasing concern among farmers, especially due to the weight of high-capacity, central-fill planters on the center transport wheels. Demonstrating just how much compaction can occur, how it impacts yield and how to minimize compaction at planting are goals of the AGCO Crop Tour program in 2020.

AGCO agronomists will be observing crop development and measuring yield at Fendt Momentum Crop Tour plots throughout the Corn Belt this summer. In one of their first observations, the agronomists used a soil penetrometer to measure compaction caused by the tractor/planter compared to compaction in areas where the planter did not run (see Figure 1). Penetrometers measure resistance in pounds per square inch as the device is slowly pushed into the ground, simulating a root penetrating soil. The more resistance to the penetrometer, the harder it will be for roots to grow and penetrate soil. Readings were collected in five locations in Illinois, Ohio and South Dakota.

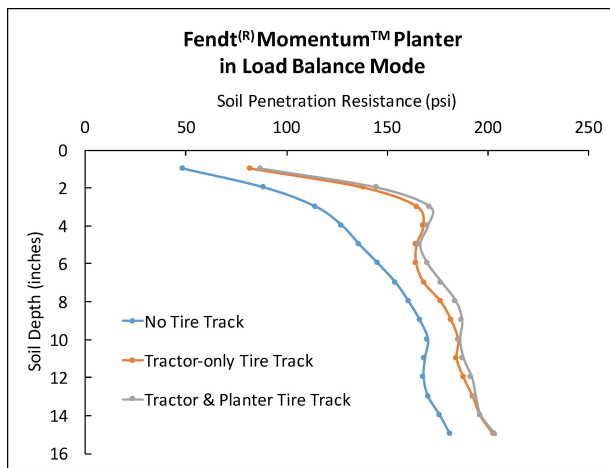


Figure 1. Soil penetrometers provide an indication of soil compaction by measuring the resistance of the soil to the probe in pounds per square inch as the probe is slowly pushed into the ground. The plotted points represent the average of 15 readings in each track across plots located at Chillicothe, OH; Gridley and Pontiac, IL; and two plots in Baltic, SD. The tractor-only tire track was made by the inside dual wheel of the tractor, while the tractor-and-planter track was made by the outside tractor dual followed by the in-line tandem center transport wheels of a Fendt Momentum planter.

The plots were planted with a Fendt® Momentum™ planter equipped with the Load Logic™ system to distribute the weight of the planter, seed and liquid fertilizer across all the planter's tires to lessen the load on the center transport wheels and reduce compaction near the center rows. The planter's in-line tandem center transport wheels were equipped with very-high flexion tires and an auto tire inflation system that constantly adjusts tire PSI, depending on planter weight to minimize pressure on the soil.

The chart shows that the planter added little to no extra compaction to that caused by the tractor tires. Many studies have shown that the first pass of equipment, such as the planter tractor, produces most of the soil compaction that occurs.

"These initial results support our goal of not causing added compaction with the planter in order to give corn and soybean plants their best shot at optimum yields," says Jason Lee, AGCO agronomist and farm solutions specialist. "We will be taking plant measurements and hand-harvest estimates as the season progresses, along with harvest yield results this fall, to tell the full story."

Past research verifies yield loss due to compaction at planting

Yield losses from compaction created at planting due to interrow wheel traffic from the tractor and planter can be substantial. In 2011, [Pioneer on-farm trials](#) determined average corn yields of rows planted by the outside wing sections of the planter were significantly greater than yields from the rows planted by the center planter segment in nine of 12 locations. In fact, the rows planted by the outside wing segments yielded an average of 11.3 bu/ac more than rows planted by the center section of the planter, due to interrow wheel traffic from the tractor and planter.

AGCO will continue to report AGCO Crop Tour plot progress, event updates and harvest results through farm media outlets, as well as via social media and online at www.fendt.com/us/planters/crop-tour; on Facebook at [Fendt Global](#) and on Twitter [@Fendt_NA](#). Follow the hashtags #AGCOCropTour and #FendtMomentum. The Fendt Momentum planter will be on display at select dealer events and locations. For more information, visit Fendt.com or contact your local dealer.

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