



# Competitive Comparison

## CLAAS AXION 900 TERRA TRAC: Less Compaction, Higher Yields, More Profit

In this competitive study a third-party agronomic company, Antara Research, cultivated and planted a test plot using an CLAAS AXION 930 TERRA TRAC, John Deere 8RT and John Deere 8RX to see how each would fare against each other regarding compaction and crop yields.

### Key outcomes.

- The AXION 930 TERRA TRAC out-yielded the competition in 5 test replicates.
- An average of two more bushels per acre was harvested where the AXION 930 TERRA TRAC had planted canola.

## Comparison Process

**Location:** South-Central, Manitoba, Canada

### Machines compared:

- CLAAS AXION 930 TT (350 HP)
- John Deere 8RT 310 (310 HP)
- John Deere 8RX 370 (370 HP)

### Our approach.

All tractors in similar horsepower classes cultivated and planted in a Randomized Complete Block Design (RCBD), consisting of three treatments and six replications for a total of 18 treatment strips. One 40' Horsch Joker was used for cultivating with all three tractors. The same single disc drill on 10" spacing was used for seeding. Antara Research led the project from the point of cultivating in November 2021 to harvest in September 2022.

NOVEMBER 8, 2021

### Cultivation.

On November 8, 2021 the trial plot was cultivated using a 40' Horsch Joker. The Horsch Joker was used for 3 treatments and 6 replicates for a total of 18 treatment strips. The three tractors set tram lines for each treatment while pulling the implement. Every pass was then recorded for compaction with a penetrometer by Antara Research. *The field was already cultivated once prior to this date because previous crop was corn and residue had to be incorporated.*

FALL 2021 / SPRING 2022

### Compaction and plant emergence.

Compaction readings from the fall and spring showed no major compaction occurring in the top 4" of ground level. Compaction started to occur below the 4", but nothing that would inhibit plant growth. There was no major difference inside or outside the tracks when looking at plant emergence.

JUNE 11, 2022

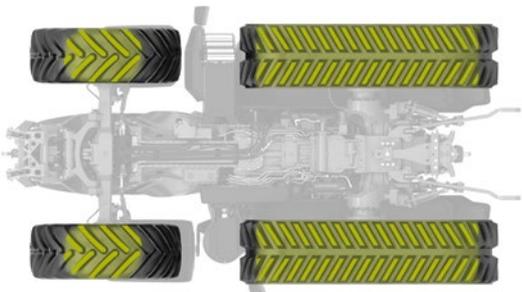
SUMMER 2022

SEPTEMBER 30, 2022

**INFLUENCE OF TRACTOR COMPACTION ON YIELD IN CANOLA\***  
 [p-value = 0.9% at a 95% confidence interval]

	AXION 930 TT	JD 8RT	JD 8RX
Rep 1	52.1 bu	50.1 bu	48.9 bu
Rep 2	50.4 bu	49.2 bu	48.9 bu
Rep 4	51.5 bu	50.5 bu	50.7 bu
Rep 5	53.8 bu	51.5 bu	51.5 bu
Rep 6	54.2 bu	51.7 bu	50.5 bu
<b>Average</b>	<b>52.4 bu/ac</b>	<b>50.6 bu/ac</b>	<b>50.1 bu/ac</b>

\*Test Replicate #3 was eliminated from the statistical analysis due to high weed pressure and a parallel location to a drainage ditch, leading to poor plant performance.



The tractor's 35/65 static weight split and the implement's drawbar load have no effect on the behavior of the TERRA TRAC units. Hydraulic cylinders in the tracks continuously work together to either smile or frown in order to keep in constant contact with the ground and provide less soil pressure.

**Planting.**

On June 11, 2022 canola was seeded using a single disc drill on 10" spacing. The three tractors seeded the same treatment strips they had previously cultivated and the penetrometer was used again to record any compaction. Seeding rate was 3.5 lb/ac at a depth of 1". A fertilizer blend consisting of 160-40-0-20 and 1 Zinc was applied prior to seeding.

**Rainfall and weed pressure.**

Approximately .2" of rain fell the day before seeding and then another 1" 72 hours after seeding. Overall accumulation of rain between the day before planting and harvest was 11.75". Weed pressure was relatively moderate along the headlands for most Test Replicates, excluding Test Replicate #3 (see chart notes).

**Yield results and profit increase.**

The field was harvested on September 30th, 2022 with all replications being measured separately for each tractor. The AXION 930 TERRA TRAC out-yielded the other tractors in all 5 replicates. An average of two more bushels per acre were harvested where the AXION 930 TERRA TRAC planted.

**\$30,000 PROFIT**  
 with the **CLAAS AXION 930TT**  
 at 1,000 acres | \$15/bu



**Why?** Even during tight headland turns, the front wheels pull the rear tracks smoothly so soil remains level with minimal berming or disturbance for evenly distributed ground pressure - ultimately increasing yield. Plus, standard on every AXION TERRA TRAC tractor, automatic brake assisted steering is integrated into the existing machine brakes for a seamless turning experience.