



# WHEN FARMING MEANS BUSINESS

Realising the full potential of farming is about growing and developing your business, not only your crop or livestock, but also your profit. Improve productivity and profitability by focusing on the positives and minimising disadvantageous aspects, through strong, dedicated management.

Success springs from determination and clear targets, from laying down the appropriate strategy and allocating correct investments for the future. Quality results require the right ideas and equipment. When there is work to be done, you need the optimal setup and smart solutions that support you towards an easier, more profitable way of working. You need solutions that make tough and demanding conditions less complicated.





## TILLAGE

Preparing and cultivating your soil in order to achieve the highest possible yield is about choosing the correct tillage system.



TURBO COULTERS

ROLLING SPIKES

REAR REEL

## EFFECTIVE VERTICAL TILLAGE TO PREPARE THE PERFECT SEEDBED

### **Turbo Coulter**

Exclusive to Great Plains vertical tillage and seeding products, the 432mm-diameter blade enters the soil perpendicular to the ground, cleanly cutting the residue. As the blade rotates further, it fractures the surrounding soil. As it leaves the ground, it throws soil on top of the residue, lacing it to the ground. Because it never moves soil sideways, there is never any ridging.

### **Rolling Spike**

The rolling spike works the ground vertically between turbo blades, creating a smooth, level surface on top and at seeding depth to ensure even emergence.

### **Rear Reel**

The rear reel leaves the surface planter-ready by firming the soil, removing air pockets, and eliminating clods.

## OVERVIEW

# DURABILITY, FLEXIBILITY & PERFORMANCE

True vertical tillage has become the standard for yield-boosting seedbed preparation. The Turbo-Max offers agronomic benefits of both spring vertical tillage and autumn residue management.

Turbo-Max blades are spaced 19cm apart on two rows of coulters gangs. Rear gangs offset the front gangs, splitting the blade spacing to 9.5cm for superior residue sizing in one pass. Gang angles adjust hydraulically on-the-go from 0° to 6°, offering greater flexibility to match changing field conditions. The Turbo-Max brings many benefits any time of year — all with one machine!



3M TRANSPORT



### ① Superb Contour-Following

The wings of the frame can flex down as much as 10° and up as high as you need to go. Coupled with the constant hydraulic down pressure applied to the wings, this feature allows the Turbo-Max to precisely follow undulating ground conditions from side to side. Weight per blade of down-pressure is between 114 and 132kg.

### ② Hydraulically Adjustable Gangs

Turbo-Max allows you to change the gang angle on-the-go to match it to field conditions. Adjustments can be from 0° to 6°. In the spring, keep gangs straight to produce the smoothest sub-surface ahead of planting. Set the angle at 6° when you want to bury more residue in the autumn.

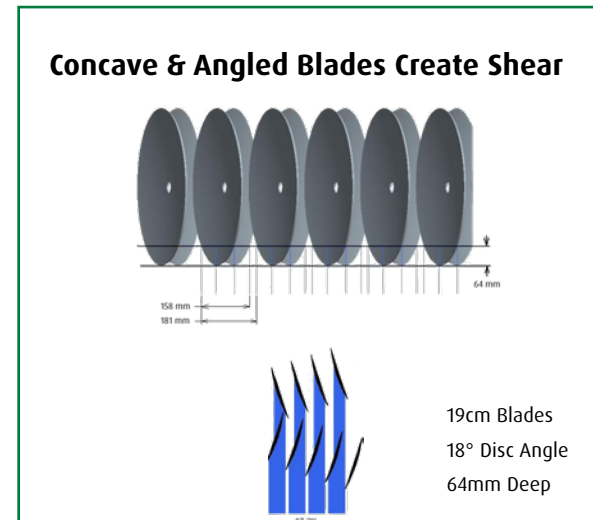
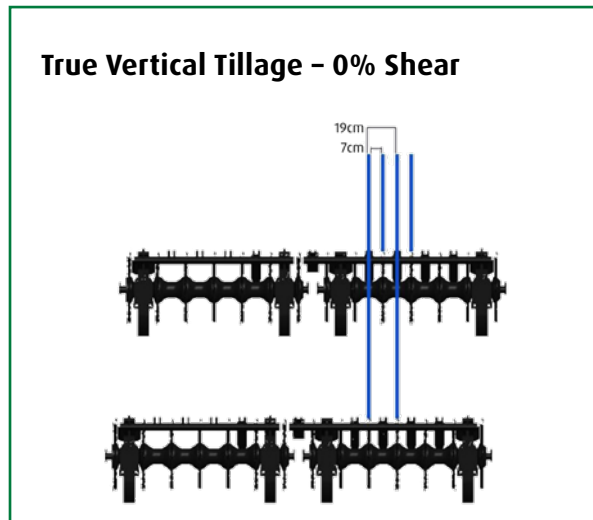
### ③ Blade Spacing

Two gangs, each with 190mm spacing between coulters, are split with the rear gang offset from the front gang. The gangs work together to size residue down to just 95mm.

# VERTICAL TILLAGE SPRING

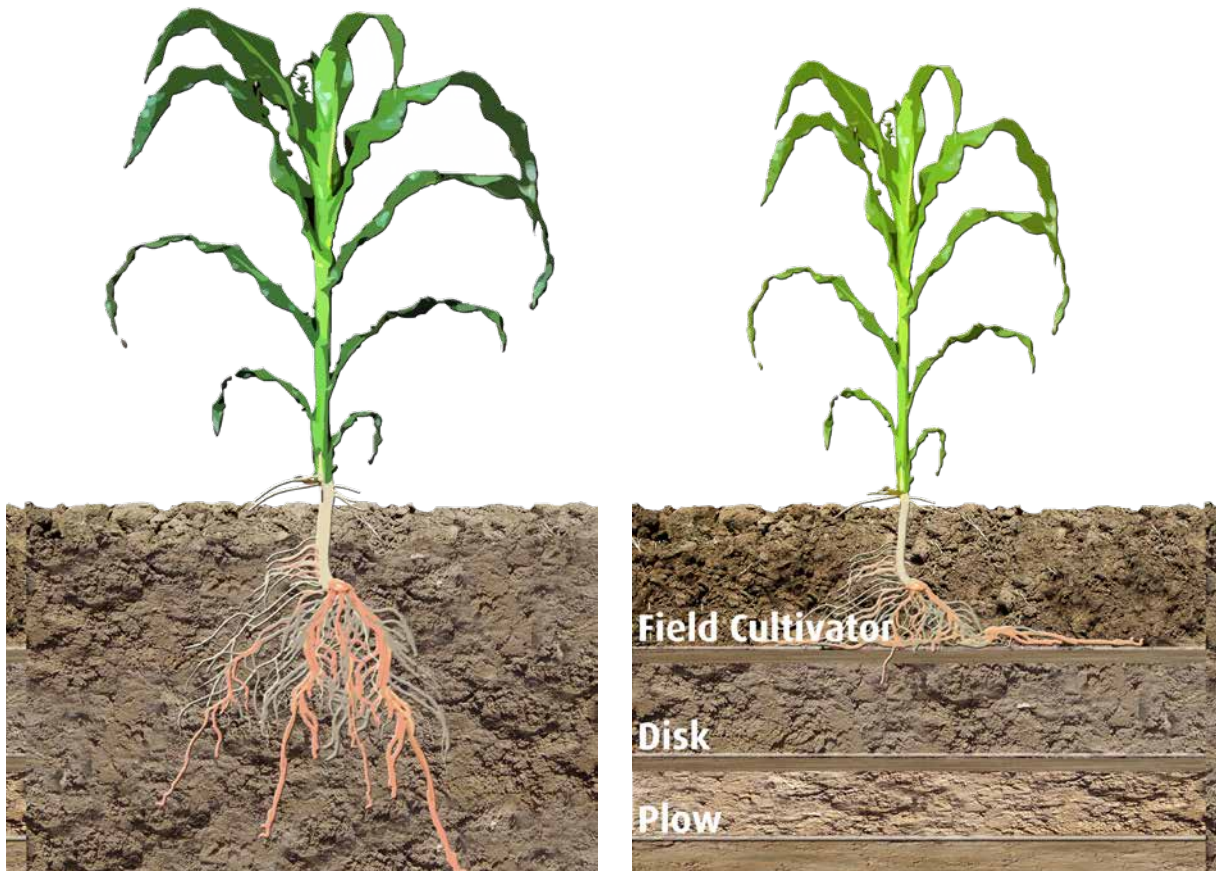
## Avoid density changes in soil

Vertical tillage is a system of guiding principles that maximizes yields by increasing water infiltration, root development, and nutrient take-up. "True" vertical tillage works the soil vertically, without disc concavity or gang angle, to avoid the addition of horizontal layers or density changes. It is important to avoid the creation of density changes because they create a barrier for the plant, which impedes root growth and water infiltration. The plants' roots dictate the overall health of the plant, as they deliver nutrients and water throughout, contributing to a higher yield. Without a strong set of roots, the plant becomes more susceptible to threats like wind and drought.





## VERTICAL VS. CONVENTIONAL TILLAGE



*"We use a Turbo-Max in the fall to tear up corn stalks and also use it to plant our wheat real lightly. In the spring, we run one pass ahead of planting. When we're finishing, we usually run the gang angle at one or two degrees. If we have a lot of weedy spots, we'll go to the six-degree angle. With vertical tillage, we've improved saturation and how the water goes into the ground. The ground holds water better, and it holds the moisture there longer. Vertical tillage allows water to soak down all the way through instead of just hitting the hardpan and stopping. If we're trying to air out ground so we can plant, we can run Turbo-Max lightly to dry the ground out on top so we can plant without disturbing much moisture below the surface."*

Richard & Chuck Sutherland

## CREATE THE IDEAL SEEDBED

### AVOID TOOLS THAT LEAVE AN UNLEVEL SUBSURFACE

For spring vertical tillage, the tillage tool should manage residue, maintain density, and create the ideal seedbed for planting. When managing residue, the tool should chop plant matter into pieces that can be easily moved with a row cleaner and can flow through a planter. To maintain soil density, the tool should enter the soil perpendicular to the ground and cleanly cut through the residue.

Vertical tillage equipment, such as those with a rolling spike harrow and reel combination, can help prepare an ideal seedbed by working the ground vertically to create a smooth, level surface, as well as at seeding depth. The smooth and level consistency of the soil will help your planter navigate the field for precise seed placement and it will help ensure even emergence of your crops.

*Create the ideal seedbed for planting.*

Be wary of some tools marketed as “vertical tillage.” Often, they are retrofitted disks with low-concavity fluted disc blades, meaning they are essentially high-speed disks that create density layers and ridges. Products that have straight coulters on coil springs do work the soil vertically, but they also create an inconsistent seedbed because they are forced up in denser soil and tough stalks and work deeper in light soil.

**Concave Blades**





X

*Rumble Strip*

**Individual Spring Coulters**





X

*Rumble Strip*

**True Vertical Tillage**





✓

*Smooth*

**Great Plains Vertical Tillage**

Tools create a smooth, level surface on top and at the optimum seeding depth, eliminating seed bounce and ensuring even emergence.



✓

*Ground Leveling*

## WHY TURBO-MAX? FOUR REASONS ...

There is a reason Turbo-Max is the most popular Great Plains tillage implement in the United States. Its performance and versatility to accomplish many tasks has been proven around the world in multiple crop and climate conditions.

- ① Running as an autumn primary tillage tool, **the Turbo-Max runs after the combine to allow the field to weather over the winter.** By chopping maize residue and mixing it into the tilled soil surface, you can reduce corn borer infestation.
- ② Running as a spring finish tool, **the Turbo-Max creates the perfect seedbed for your planter or drill.** A last pass can also be done prior to seeding for the simple purpose of warming up and drying out cool, wet soils for quick emergence. The Turbo-Max is also the perfect tool to chit wheat and oilseed rape volunteers or weeds such as black grass.
- ③ Turbo-Max is a great pasture or hay field renovation tool. **Running Turbo-Max causes grass to sprig and rebranch,** growing back stronger. While taking out surface compaction, the Turbo-Max also smooths out hoofprints, tire tracks, washouts, and damage from animal pests. After running Turbo-Max, hay producers can run over 3 km/h faster. Turbo-Max is also used to incorporate seed, dry fertilizer, or manure.
- ④ Vertical tillage, including the Turbo-Max, works with no-till, not against it. In no-till conditions, straw and residue bind nitrogen, delaying it from becoming accessible to the crop. This “carbon penalty” is a big reason for yield reductions in direct seeding environments. **The Turbo-Max sizes residue and laces it to the ground to hasten decay while mechanically maintaining a uniform soil profile.** No-till farmers will appreciate the amount of residue the Turbo-Max leaves after one pass.

*"We produce a little bit of everything from annual crops like oats and sorghum Sudan, all the way to Bermuda grass and native prairie grasses. I didn't really believe what people were claiming about the Turbo-Max until I got a chance to actually run one and see it in person. The draw for me on this machine was being able to adjust the angle and to use it, not just to chop residue up, but to actually turn some soil with it. We use it for everything from primary tillage to secondary—all the way through our finishing pass. I was able to trade in a couple of disks and a field cultivator on it and I haven't missed any of them because this thing is just so versatile. We use it when we are renovating hay fields, putting a new crop in for the next year, as well as some pasture maintenance. If the cows rut it up really bad, we can go in there and smooth it up, as well as use it to establish some cover crops and/or some winter grazing. We are able to run it in wet soils and our dry soils and a range of different conditions where we wouldn't have been able to run at all. That allows me to get some tillage done that just wouldn't have gotten done before."*

**Troy McDonald**



# TECHNICAL DATA

Model	Turbo-Max	
Working width (m)	6.0	8.0
Hydraulic Weight Transfer	●	●
High-Tensile Tubing	●	●
0° to 6° Hydraulic Gang-Angle (Front and Rear)	●	●
20" x .256" (508 x 6.5mm) Turbo Blades on 7.5" (19cm) Spacing	●	●
Maintenance-Free Bearings	●	●
Heavy-Duty C-Shanks	●	●
Nickel Chrome Cylinder Rods	●	●
Tractor Hydraulic Bypass System* (Folding Models)	●	●
Wing Flex: 10° down; unlimited up	●	●
Dual Wing Tires (8.0TM)	-	●
Single Wing Tires (6.0TM)	●	-
Constant Level Hitch	●	●
Scharmüller Cat. III or Cat. IV Hitch	●	●
Heavy-Duty Jack	●	●
Single-Point Depth Adjustment	●	●
LED Safety Lighting	●	●
EU Light and Safety Package	●	●
Color-Coded Hydraulic Hoses	●	●
Track Removers	●	●
Rolling Harrow and Reels	●	●
Weight Package	○	○
Brakes	○	○

\*These units incorporate the Hydraulic Bypass Kit (STD) for load-sensing and pressure-compensating tractor systems.

- Standard equipment
- Option

Model	Turbo-Max	
Working width (m)	6.0	8.0
Recommended Use	Primary Tillage, Secondary Tillage, and Seedbed Preparation	
Blade Spacing	9.5cm (2 offset gangs at (19cm) spacing per gang)	
Transport Width	3.0m	3.0m
Transport Height	3.1m	4.0m
Horsepower Requirements (PTO)	200+	275+
Weight (kg)*	7,900	9,800
Center Section	3.0m	3.0m
Wing (Inner)	1.5m	2.5m
Number of Coulters	65	85
Gang Angle	Hydraulically Adjustable from 0° to 6°	
Length (w/attachment)	8.7m	8.7m
Tire Size (Center)	550/4.5-22.5 20 PR	550/4.5-22.5 20 PR
Tire Size (Wing)	15.0/55-17 14 PR	15.0/55-17 14 PR

\*Approximate weight with attachments

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