



# Precision - Tine Harrows

WHAT A DIFFERENCE A TREFFLER MAKES

**TS 170 - TS 1520 SERIES**

[www.treffler.net](http://www.treffler.net)



# REVOLUTION IN HARROWING

**TINE LENGTH 500MM, DIAMETER 8MM,  
STROKE/ LINE DISTANCE 28MM**

This enables the harrowing of higher crops.

**LIMITED LATERAL PULL OF THE TINE TO A  
MAXIMUM OF 10MM DUE TO THE STABLE  
TINE MOUNTING**

Each tine is assigned its own work area. There is no so-called gyroeffect or uncontrolled lateral pull which therefore eliminates double and untreated rows.

**LARGER TINE-PRESSURE SETTING-RANGE  
OF 200-5000 G**

This enables harrowing in situations where it is not possible to do so using con-

ventional harrowing techniques, for example, shortly before or after the plants appear.

**THE TINE AGGRESSIVENESS**

The aggressiveness on the tine is altered by changing the pressure of the springs instead of decreasing the angle of the tine on the ground as is common with conventional harrows. The advantage: even with the smallest adjustment in the tine-pressure is made, the fullest clearance and work height are achieved.

**UNIQUE GROUND ALIGNMENT**

Thanks to the patented tine-suspension, the preset tine-pressure remains constant, even when the tine has different settings because of ground unevenness. When working with banked crops this is indispensable.

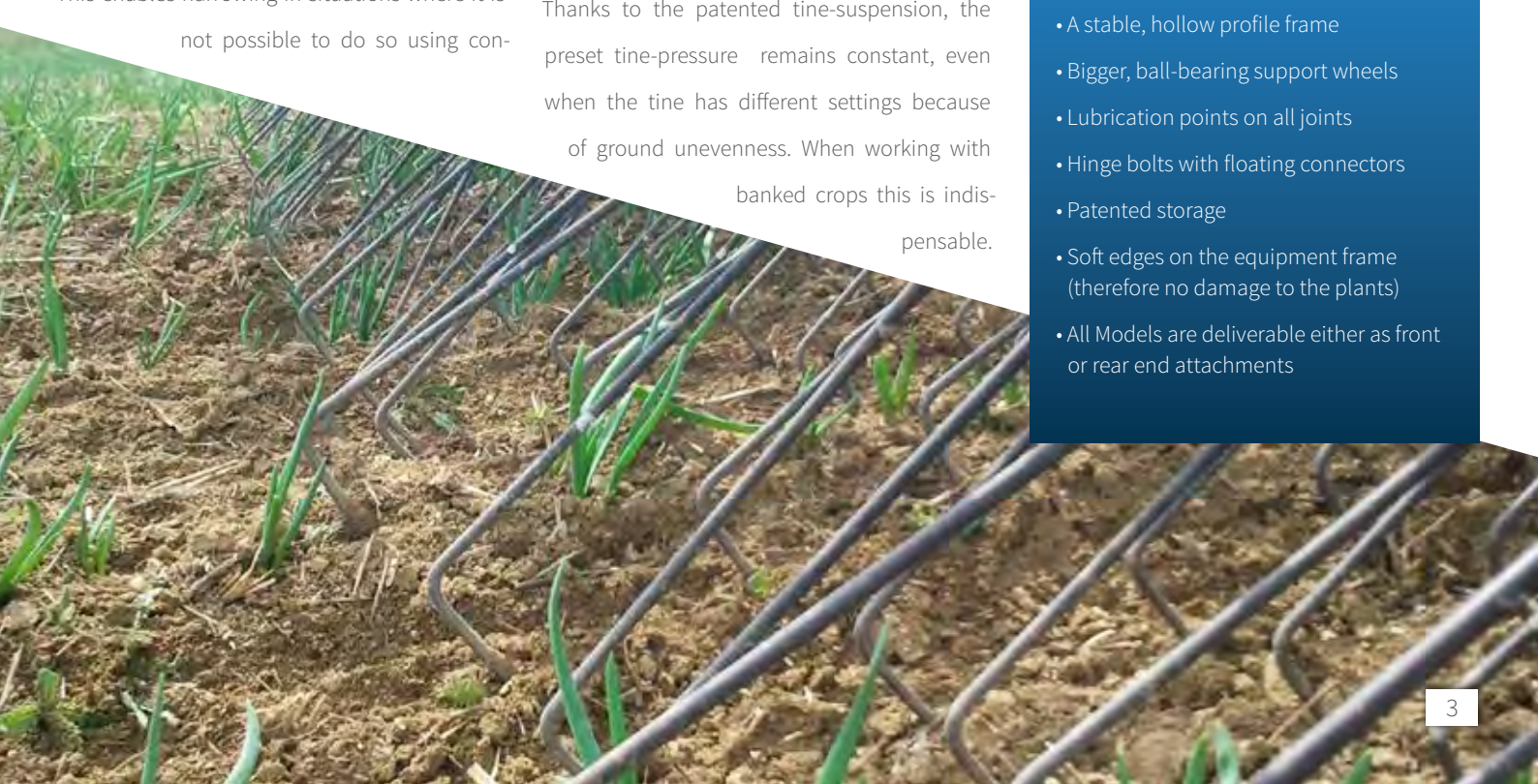
**WHY A TREFFLER PRECISION - TINE HARROW?**

It has the unique ability to adjust itself to all type of work situations. Even while working with special crops such as strawberries, onions, and vegetables it is generally problem-free.

Together with a Bio-farmer with 30 years of experience, it was developed from within his practical experience especially for the practice of farming. Only the best is good enough for fighting weeds.

**WHAT YOU CAN EXPECT FROM  
THIS TINE HARROW:**

- A stable, hollow profile frame
- Bigger, ball-bearing support wheels
- Lubrication points on all joints
- Hinge bolts with floating connectors
- Patented storage
- Soft edges on the equipment frame (therefore no damage to the plants)
- All Models are deliverable either as front or rear end attachments



TS 920M3/5 in operating position



TS 920M3 in front installation



Transporting position



Operating

### **OPERATION FOR THE MECHANICAL WEED-FIGHTER**

When driven over, the shallow-root weeds are ripped out of the ground and dry out, therefore prevented them from growing. Because of this, the growth of deep-germinating weeds is also stunted. Capillary watering disruption ( water evaporating during drought) through exact



### **EXAMPLE OF TUBEROUS CROPS (POTATOES)**

For example, set the tine pressure to 500g. The furrow crest, flank and channel will be harrowed with a constant tine-pressure of 500g, without allowing the tines to be pushed laterally off the



depth management ( breaks up the crust above the seed-grit). Because the tine -pressure does not increase at the back, there is a high guarantee of self-cleaning ( the tines don't clasp). After a certain amount of resistance the tines move into an upward position.

### **ADVANTAGES WITH THE CARE AND MAINTENANCE OF PASTURE**

In spring the multi-effect use of the harrow is particularly interesting. By harrowing the pasture and leveling the molehills, airing the turf is obtained. The effect is additionally strengthened through the use of a pasture-scrubber.

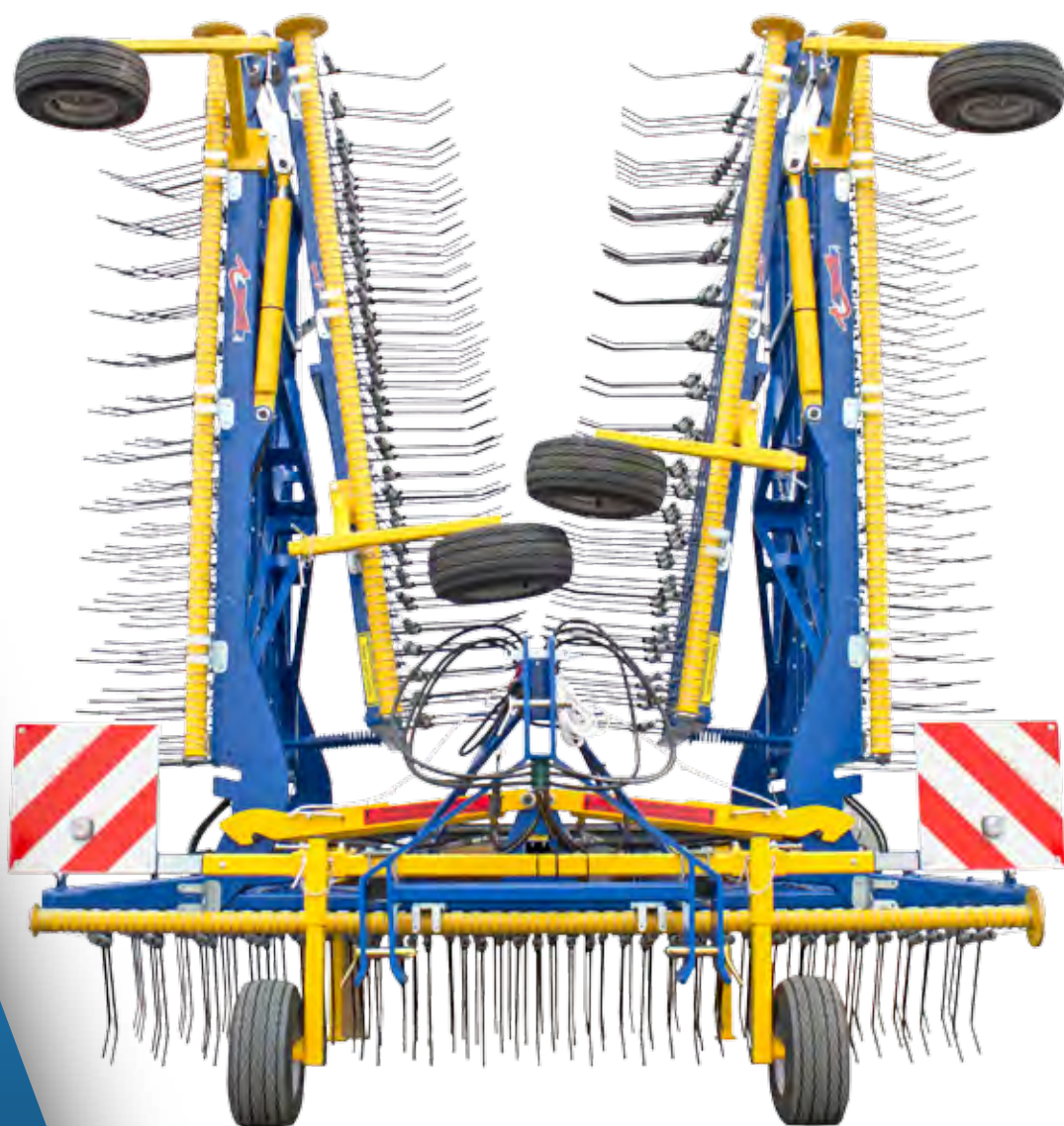
furrow flanks. This results in a consistently harrowed field without damaged or dislodged potatoes.

### **HARROWING TALL CROPS IS POSSIBLE**



Since the adjusted tine pressure remains constant regardless of the situation, there is no hooking or shaking of the equipment. High speeds, unevenness, or while working with larger operating plains don't effect the tine pressure.

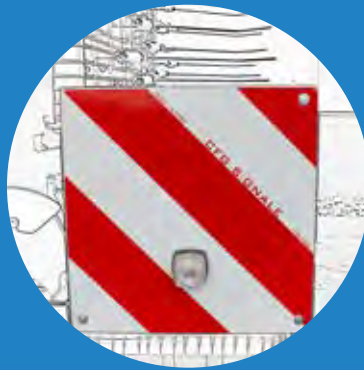




IN DETAIL



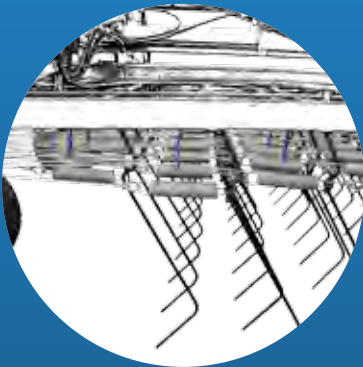
Folding system



Illuminated warning sign



Patented combi-spring



Uniform tine bearing system



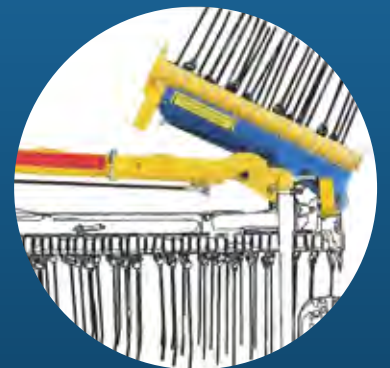
Pendulous rearwheel



Pendulous frontwheel



Transport-lock



Operation using various widths is possible



Carbide steel tine assembly



Tine pressure adjustment

**THE GROUND CONDITIONS CAN CHANGE CONSTANTLY WHILE THE FIELD IS BEING WORKED.**

Consequently, work must be stopped so that an optional adjustment can be made to the tine pressure setting. The tine pressure adjustment can reduce idle time to a minimum by using the hydraulic system of the tractor, connected with



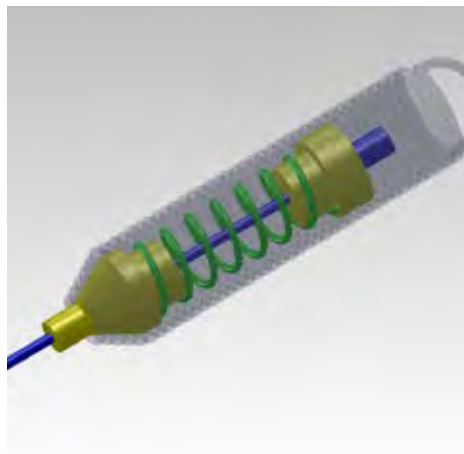
a cylinder on the harrow that regulates the tine pressure even while driving. A desired position can be read directly off a large dimension scale which is attached to the top of the machine and can be read comfortably from the driver's seat. All Treffler harrows can be delivered with this system.

The hydraulic tine-pressure adjustment unit can be retrofitted to suit each combing type. The patented, electronic tine-pressure adjustment can be retrofitted to every curry-comb type.

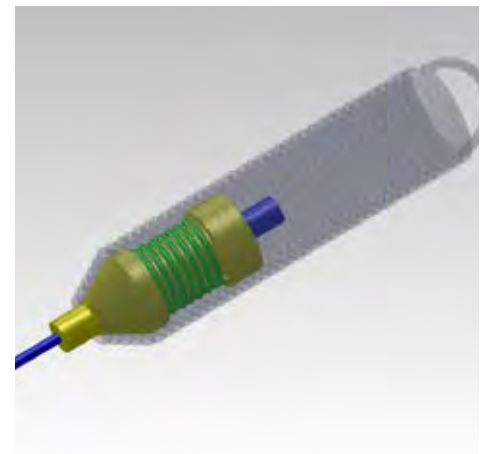


**COMBINED SPRING SYSTEM**

The recently developed combined spring system guarantees an optimal adjustment of low pressure even when the situation is very difficult. The inboard compression spring regulates the tine pressure from 200 g ( net weight of the tine) to 600 g. The external tension spring works when tine pressure from 600 to 5000 g is needed.



200 g – 600 g



600 g – 5000 g



### **THE PASTURE SCRUBBER**

These strip-rails are easy to attach to the harrow and work perfectly to flatten molehills.

### **THE SOWING EQUIPMENT**

The pneumatic sowing equipment is suitable for the sowing of all seeds in the broad seed range. A simple and exact al-

location of the dosage is obtained through the direct supply from the distribution hoses and sprinkling nozzles which are attached to the dosage shaft.

A control unit controls and operates the sowing equipment from the tractor. This pneumatic sowing equipment can be installed on all types and models TS-Series ( as well as retro-fitted).



## THE SERIES EQUIPMENT:

- Tine length: 500 mm, Tine- diameter 8 mm
- Mechanical tine pressure adjustment per area
- Tine-spring for a pressure area of 200–3000 g or 200–5000 g
- Stroke/line distance: 28 mm
- Ball-bearing support wheels with variable track adjustments
- Hydraulic closing mechanism: Two control units are necessary on the 5-piece type series.
- Storage supports
- Two-component lacquering

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## OPTIONAL EXTRAS:

- Hydraulic tine pressure settings (page 8, can be retrofitted)
- Strip-rails for pasture scrubbing (page 9, can be retrofitted)
- Separate control unit, when only a dual-operating control unit is available on the tractor
- Warning signs with lighting (page 7)
- Carbide steel
- Sowing equipment
- Combi-spring
- Pendulous rear wheels ( page 7)
- Pendulous front wheels ( page 7)

## NOTES:

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Type	Folding system	Working width	Fields	Transport width	Weight	Tractive Power
TS 170	-	1,50 m	1 x 1,70 m	1,70 m	170 kg	7 KW / 10PS
TS 300	-	2,80 m	1 x 3,00 m	3,00 m	260 kg	11 KW / 15 PS
TS 300 Front	-	2,80 m	1 x 3,00 m	3,00 m	260 kg	11 KW / 15 PS
TS 320 Front	-	3,00 m	1 x 1,70 m + 2 x 0,75 m	2,90 m	260 kg	11 KW / 15 PS
TS 320M	manual	3,00 m	1 x 1,70 m + 2 x 0,75 m	2,90 m	240 kg	11 KW / 15 PS
TS 320	hydraulic	3,00 m	1 x 1,70 m + 2 x 0,75 m	2,90 m	290 kg	11 KW / 15 PS
TS 470	hydraulic	4,50 m	1 x 1,70 m + 2 x 1,50 m	2,90 m	420 kg	18 KW / 25 PS
TS 520	hydraulic	5,00 m	1 x 1,70 m + 2 x 1,75 m	2,90 m	470 kg	18 KW / 25 PS
TS 620	hydraulic	6,00 m	1 x 1,70 m + 2 x 2,25 m	2,90 m	560 kg	29 KW / 40 PS
TS 620/M3	hydraulic	6,00 m	1 x 3,00 m + 2 x 1,60 m	3,00 m	600 kg	29 KW / 40 PS
TS 620/5	hydraulic	6,40 / 4,50 / 1,50 m	1 x 1,70 m + 2 x 1,50 m + 2 x 0,75 m	3,00 m	700 kg	37 KW / 50 PS
TS 770/3	hydraulic	7,50 m	1 x 1,70 m + 2 x 3,00 m	2,90 m	650 kg	37 KW / 50 PS
TS 770/M3	hydraulic	7,50 m	1 x 3,00 m + 2 x 2,35 m	3,00 m	700 kg	37 KW / 50 PS
TS 770	hydraulic	7,50 m / 6,00 m	1 x 1,70 m + 2 x 2,50 m + 2 x 0,75 m	2,90 m	750 kg	37 KW / 50 PS
TS 920/M3	hydraulic	9,00 m	1 x 3,00 m + 2 x 3,10 m	3,00 m	850 kg	44 KW / 60 PS
TS 920/M3/5N	hydraulic	9,00 m	1 x 3,00 m + 2 x 1,60 m + 2 x 1,50 m	3,00 m	1050 kg	44 KW / 60 PS
TS 920/M3/5	hydraulic	9,00 m	1 x 3,00 m + 2 x 2,35 m + 2 x 0,75 m	3,00 m	900 kg	44 KW / 60 PS
TS 1220/M3	hydraulic	12,00 m	1 x 3,00 m + 2 x 2,35 m + 2 x 2,25 m	3,00 m	1200 kg	59 KW / 80 PS
TS 1520 H	hydraulic	15,00 m	1 x 3,00 m + 2 x 3,10 m + 2 x 3,00 m	3,00 m	1600 kg	74 KW / 100 PS

# TECHNICAL SPECIFICATIONS



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