

**FELLA** SANOS Hay tedders



**FELLA**


**SANOS**  
Hay tedders

Harvesting energy.









A worried glance at the horizon.  
Black clouds are drawing in.  
The clock is ticking.  
It will be pouring in less than an hour.  
The pleasant, sunny days are gone.  
And the work is done.  
For the harvest is already saved.





Harvesting energy.



There's a very small window for harvesting, and the time pressure is great. There are often only a few hours before the weather changes again. Then everything has to move quickly.

FELLA offers tedders you can rely on. Machines that run even under the most trying of conditions. Machines that are suitable for your field. And most of all, machines that can be relied on to get the harvest in the dry quickly.



GREEN FORAGE EXPERTISE FROM FRANCONIA  
Tradition, innovation and passion –  
that's the recipe for success held by the green  
forage centre of excellence in Feucht.



# Many challenges, one solution.

They can withstand the longest working days:  
FELLA tedders are stable and durable.  
And always totally reliable.

FELLA helps you achieve high-quality forage.  
Harvesting energy with FELLA.



## **SANOS tedders with three-point attachment**

### **ALPINE**

Page 14

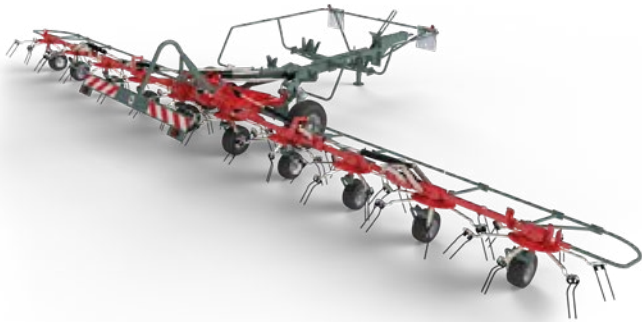
- ▶ Specialists for alpine terrain
- ▶ Lightweight construction
- ▶ Ease of handling
- ▶ Working widths 4.00–5.70 m



### **WITH FOLLOW-UP DEVICE**

Page 16

- ▶ Wide range of uses
- ▶ Standard mechanical edge spreading device
- ▶ Patented traction/compression system
- ▶ Working widths 4.50–8.60 m



## **SANOS tedders with transport chassis**

Page 20

- ▶ Wide working width
- ▶ Compact transport dimensions
- ▶ Attachment to tractor linkage drawbar or hitch
- ▶ Working widths 7.70–12.70 m

## **SANOS trailed tedders**

Page 26

- ▶ High area coverage capacity
- ▶ Tried and tested technology
- ▶ Optimum ground contour following
- ▶ Working widths 10.20–15.00 m







#### **STABILITY AND SMOOTH RUNNING**

The large-dimensioned, induction-hardened and ground tooth flanks guarantee smooth running and high break resistance.

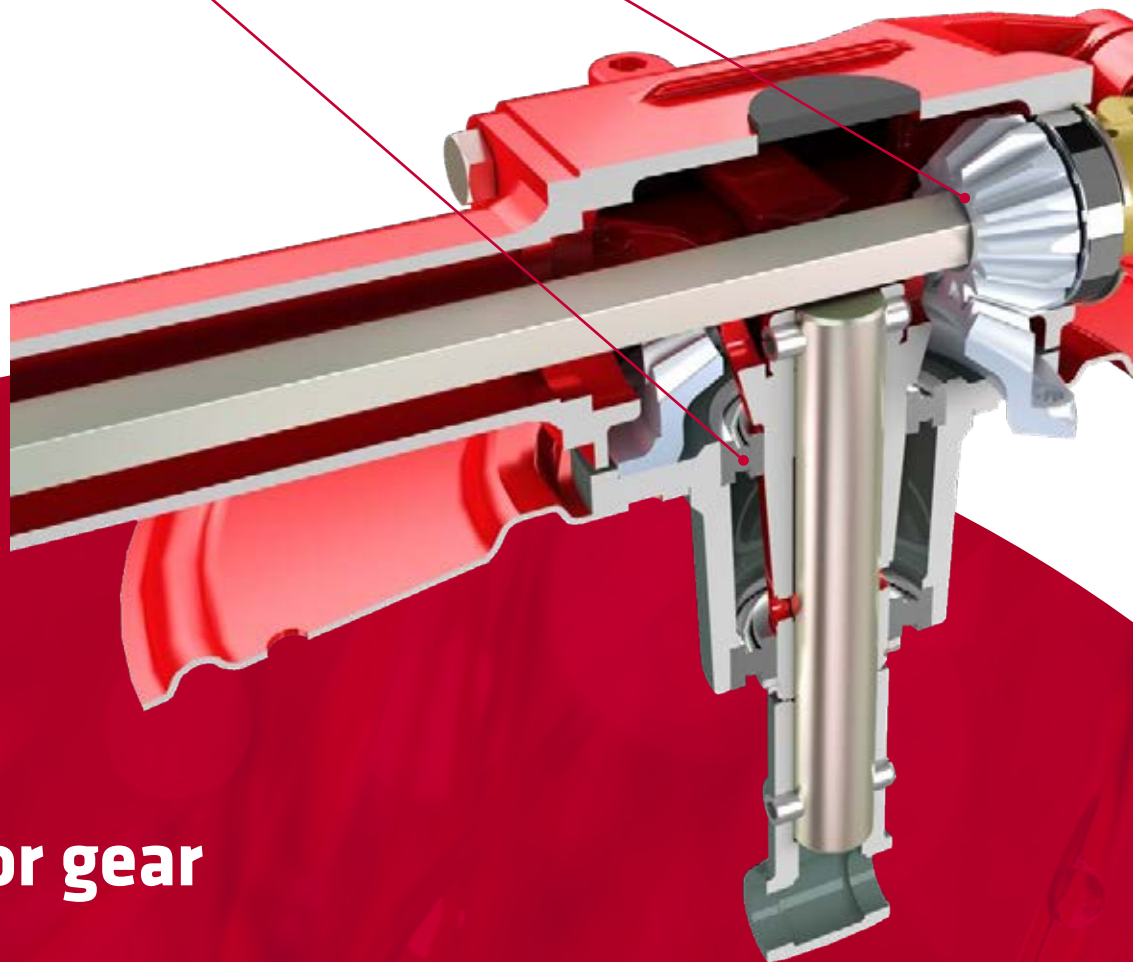
#### **HIGH ECONOMY**

Thanks to the 1:2 transmission ratio between the rotor head and the hinge head, the tine speed can be reached even with low engine power.

- ▶ Lower fuel consumption
- ▶ Reduced wear

#### **RELIABILITY**

The rotor hub bearing has large bearings and a significant distance between them. This provides robustness of the rotor head for reliable use.

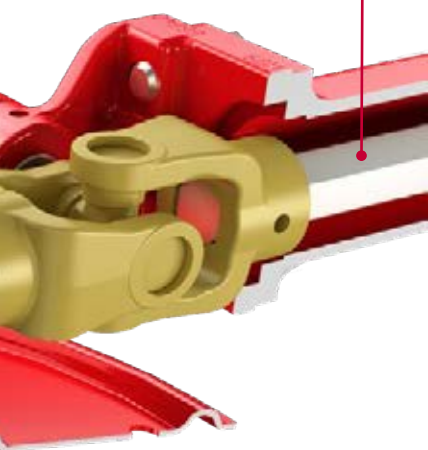


## **SANOS rotor gear**

Durability meets stability.

FELLA rotor heads are of an enclosed design which reliably protects all important components from dirt and dust. This design ensures a long service life and makes it a very attractive proposition due to the low maintenance effort required.



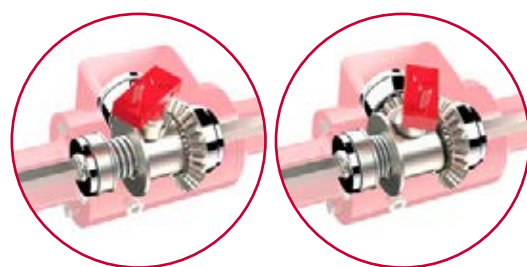


### OPTIMISED POWER TRANSMISSION

The individual rotors are driven via a large hexagonal shaft and robust, maintenance-free universal joints. This type of power transmission is free from backlash, smooth and reliable, and has proven itself time and time again, both in Fella tedders and Fella Drum Mowers, under harsh working conditions.

### SWINGING INTO ACTION

When the machine is folded to the transport position, the automatic safety disconnection is activated, with the rotors merely freewheeling. Damage to the drive is therefore reliably prevented.



### MAINTENANCE-FRIENDLY

The elements are bolted on individually and are easily accessible, thus enabling quick, cost-effective replacement of individual components.



### LONG-LASTING FUNCTIONALITY

The individual rotor frames are connected via sturdy frame joints with special flange sleeves and hardened pins. All joints are generously dimensioned and can be lubricated. This ensures optimum ground following even after many years of service.



### SOLID STRUCTURE

All hay tedders are equipped with thick-walled, strongly heavy-duty square frame tubes which ensure excellent rigidity and a very long service life.



# FELLA character

Typical features of FELLA tedders.



## **SUPER C TINES:**

### **HIGH-PERFORMANCE FLEXIBLE TINES**

The Super C quality feature guarantees an extremely high level of quality together with an extra-long service life. As early as the manufacturing stage, special process steps are used to design the tines for toughness, flexibility and durability.

- ▶ 6 windings
- ▶ 70 mm winding diameter
- ▶ Test cycle with 200,000 impacts
- ▶ 9.5 mm tine diameter



The SANOS tedders are equipped as standard with a new tine saver; you can choose to add this feature on the alpine variant. This tine saver protects machines that are following behind throughout the entire harvesting chain from downtimes.

## **SANOS TINE ARM:**

### **FLEXIBILITY MAKES ALL THE DIFFERENCE**

At FELLA, the tines are secured under the tine arm. On the one hand, this arrangement has the advantage that the upper side is smooth and, as a result, no forage can be left hanging. On the other hand, it allows the tine greater freedom of movement, which contributes to optimal processing of your high-quality forage.



The tine arms are made of tough, galvanised flat steel bar, which allows a wide contact surface between tine and rotor plate. This ensures very good power transmission even under the harshest of working conditions. The forces are optimally absorbed whenever the ground is uneven.





### **SPREADING ANGLE ADJUSTMENT: ADJUSTABLE FOR YOUR NEEDS**

In order to meet the varying requirements for basic foraging, the FELLA SANOS is equipped as standard with a spreading angle adjustment system. This allows the spreading angle to be set to one of three positions.

### **COMB EFFECT FOR OPTIMUM DRYING PROCESS**

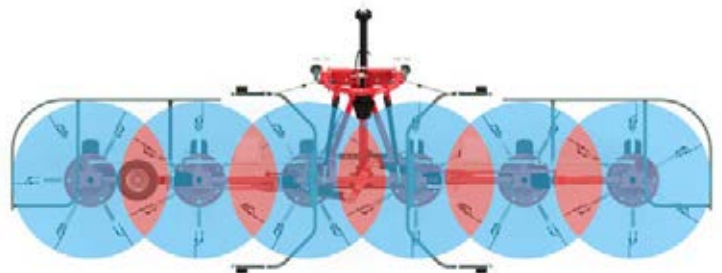
Only equal-sided tines allow you to achieve an optimum mixing of your high-quality forage. This is known as the comb effect since, during the tedding process, the different layers of forage are perfectly mixed together and turned, providing the optimum production of high-quality forage.

Another advantage of using tines with sides of equal length is the consistent load and wear. Furthermore, only one sort of tine is required.



### **EASY TURNING**

A prerequisite for a perfect spread pattern is making sure the entire foraged amount is gathered. Thanks to the optimised, high degree of overlapping of the rotors in combination with an optimised ground adaptation, the forage is all picked up and spread in an even layer of forage.



### **ADJUSTED TO SUIT THE GROUND**

For the best ground contour following, the perfect combination of chassis, running wheel and tines is of paramount importance. The short distance enables precise guidance of the tines along the ground contours, thus guaranteeing optimum forage pick-up. The sward and ground are protected, and the forage is collected in the best possible manner.



# **SANOS TEDDERS WITH THREE-POINT ATTACHMENT**







**The all-round genius  
for flexible use.**



# Three-point attachment, alpine

The obvious specialists for alpine terrain.

- ▶ Working widths 4.00–5.70 m
- ▶ Standard edge spreading device on both sides
- ▶ Low weight, sturdy design
- ▶ Automatic locking device on the three-point headstock (SANOS DN models)



## **SANOS 401 DS**

Three-point headstock, rigid – specifically for attachment to mountain tractors

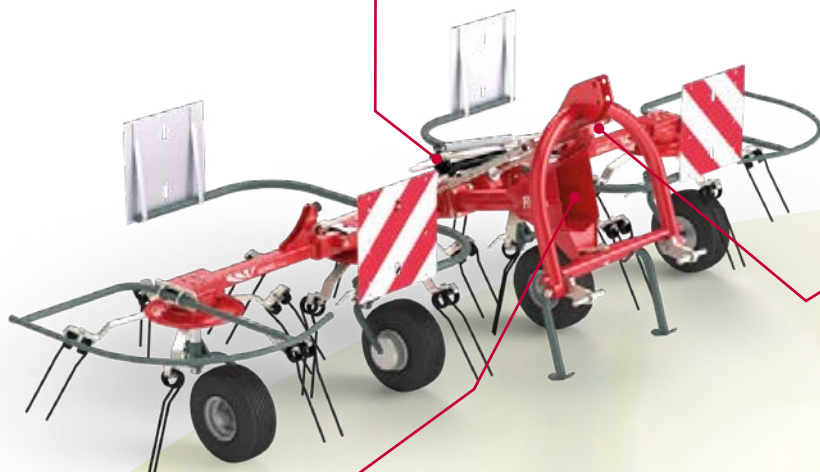
## **SANOS 401 DN**

## **SANOS 431 DN**

## **SANOS 601 DN**

Three-point headstock, follow-up device

FELLA has developed four very light yet robust tedders specifically for alpine terrain. Maximum safety is ensured even on extreme slopes thanks to the low centre of gravity and the compact transport position.



### **ACCESSORIES:**

- ▶ Contact wheel for improved ground adaptation
- ▶ Tine saver



### **DRIVING AND TRANSPORT STABILITY**

Due to the short, compact attachment, the centre of gravity lies close to the tractor. This leads to excellent track stability on sloping terrain and on roads.





#### STEADY ON SLOPING TERRAIN

The synchronised lifting facility prevents adverse weight distribution during folding operations and gives the machine stability even on sloping terrain.



#### SAFETY ON SLOPING TERRAIN

The automatic locking device prevents the machine from swinging in the direction of travel when it is being raised and ensures stability on sloping terrain (DN models).



#### OPTIMUM GROUND CONTOUR FOLLOWING ON SLOPING TERRAIN

The patented, low-lying towing point guarantees excellent trailing behaviour and prevents downhill travelling.

#### LIGHTWEIGHT 6-ROTOR MACHINE

The SANOS 601 DN with its 6 rotors is ideally suited for small alpine tractors. Despite its large working width of 5.70 m, it weighs less than 500 kg.





# Three-point attachment with follow-up device

The all-rounder.

- ▶ Working widths 4.50–8.60 m
- ▶ Optimum ground contour following – excellent trailing behaviour
- ▶ Close attachment to the tractor
- ▶ Robust D-shaped three-point attachment
- ▶ Standard edge spreading device on both sides
- ▶ KENNFIXX® connector (SANOS 8608 DN)



**SANOS 4504 DN**  
**SANOS 5204 DN**  
**SANOS 6606 DN**  
**SANOS 7706 DN**  
**SANOS 8608 DN**

## Three-point headstock, follow-up device

The classic allrounders in the FELLA range of hay tedders, with which you can produce high-quality forage in any region and under an extremely wide range of different operating conditions, are designed for a three-point attachment and equipped with a follow-up device. These models attract buyers thanks to their sturdy construction and compact transportation dimensions and thanks to their flexibility in regard to cost-effectiveness and work output.



## ACCURATE DETECTION OF THE GROUND CONTOURS

The contact wheel with balloon tyre ensures optimum ground adaptation (special equipment).

## ACCESSORIES

- ▶ Night swathing gear box
- ▶ Hydraulic edge spreading device

## SWING-FREE TRAVEL

The three-point hay tedders are equipped with an integrated, adjustable swing brake. The brake reliably prevents the tedder from rocking where there are heavy deposits of forage or if the tractor and machine are travelling at relatively high speeds (SANOS 8608 DN also with shock absorbing struts).







#### BEST FORAGE - ACCURATE RUNNING CHARACTERISTICS

In order to work as effectively as possible, the three-point machines are equipped with the patented traction/compression system.

- ▶ Consistent ground adaptation in any situation prevents the tines from penetrating into the ground, reduces forage contamination and protects the sward.
- ▶ Smooth run of the tedder in any situation
- ▶ Excellent trailing behaviour on bends and when travelling downhill thanks to the low-lying towing point
- ▶ Direct transmission of the machine weight onto the lower link – no bending moment and no wear on the three-point headstock



#### OPTIMUM BOUNDARY CONDITIONS

The central, double-sided edge spreading device helps to also prevent loss of forage at the field edge or when working in hillside lines. It can be easily adjusted from the tractor seat.



#### SAFE YET COMFORTABLE

- ▶ The rotors are easily folded in and out hydraulically in a synchronised operation directly from the tractor seat. Safe operation is also possible when working on hillsides thanks to the synchronised lifting facility.
- ▶ When the machine is folded to the transport position, the automatic safety disconnection is activated, with the rotors merely freewheeling. This reliably protects the machines from the consequences of incorrect operation and guarantees safe travel out on the road.



# SANOS TEDDERS WITH TRANSPORT CHASSIS







**Compact on the road,  
big in action.**



# Transport chassis

Big performance for lightweight tractors.

- ▶ Working widths of 7.70 m and 8.60 m
- ▶ Automatic follow-up device
- ▶ High level of cost-effectiveness and convenience of operation
- ▶ Transport speed of up to 40 km/h (country-specific) possible
- ▶ Optimum weight distribution
- ▶ Standard edge spreading device on both sides
- ▶ KENNFIXX® connector (SANOS 901 Trans)



## SANOS 800 Trans

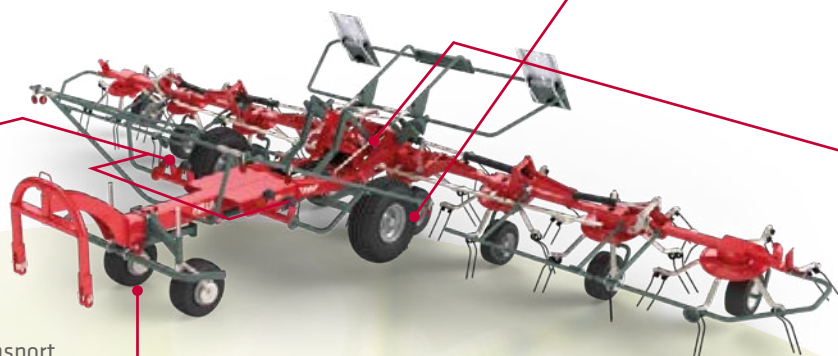
### Transport chassis

On the SANOS 800 Trans, attachment is made via a tractor linkage drawbar or a hitch. As a result, maximum flexibility and a high level of cost-effectiveness are guaranteed because this machine can be operated with a tractor power output from as low as 40 hp at a working width of 7.70 m.

## SANOS 901 Trans

### Transport chassis

The SANOS 901 Trans is conveniently hitched via the tractor lower link. With a working width of 8.6 m, you can easily ted any area of ground, no matter how big.



### RELIEF

The rotors are positioned on large rubber dampers during transport, thus relieving the load on the machine.

### ACCESSORIES

- ▶ Night swathing gear box
- ▶ Contact wheels with hyper-balloon tyre for improved ground adaptation
- ▶ Hydraulic edge spreading device



### ADJUSTED TO SUIT THE GROUND

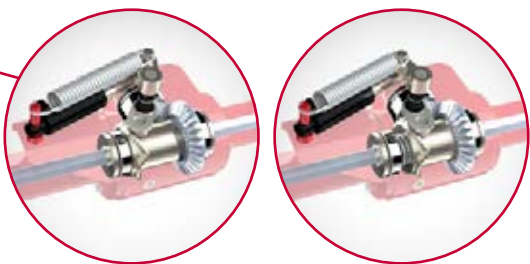
The movable contact wheels (available as an option) optimise ground sensing and ensure tidy raking and protection of the sward.





### UNCOMPROMISING TRANSPORT CHASSIS

- The transport chassis is raised to working position in front of the rotors and is not therefore in the forage throw path. Furthermore, the weight is evenly distributed on the rotor chassis and tractor, so loading on the centre rotors is therefore lower than with the chassis folded to the rear.
- The wide track with large-dimensioned tyres ensures peaceful driving behaviour and secure footing on the slope.



### SAFETY COMES FIRST

SLS (Security Lock System) is an automatic, hydraulically activated switch-off and positioning system with integrated freewheel, which interrupts the flow of power to the rotors when the halves of the machine are folded up. As a result, a high degree of safety is ensured in the transport position as well as during maintenance work. The possibility of damage to the power train is also excluded in the event of incorrect operation.



### OPERATION AND TRANSPORT COMFORT

The rotors are easily folded in and out by a hydraulic sequential control system directly from the tractor seat. Safe operation is also possible when working on hillsides thanks to the synchronised lifting facility. When the machine is folded to the transport position, the automatic safety disconnection of the rotors is activated. This reliably protects the machines from the consequences of incorrect operation and guarantees safe travel out on the road.



# Transport chassis

Narrow on the road – wide out in the field.

- ▶ Working widths of 10.20 m and 12.70 m
- ▶ Synchronised lifting facility of the rotors for high level of stability
- ▶ Automatic follow-up device
- ▶ Transport speed of up to 40 km/h (country-specific) possible
- ▶ KENNFIXX® connector



## SANOS 11008 Trans SANOS 13010 Trans

### Transport chassis

The SANOS 11008 Trans and SANOS 13010 Trans tedders stand out from the crowd thanks to their compact design, low transport length and superb agility. Despite the compact transport dimensions, these tedders have impressive working widths of 10.20 m or 12.70 m.

### RELIEF

The rotors are stored in special pockets during transport and thus relieve the load on the hinge points and support arms.

### ACCESSORIES

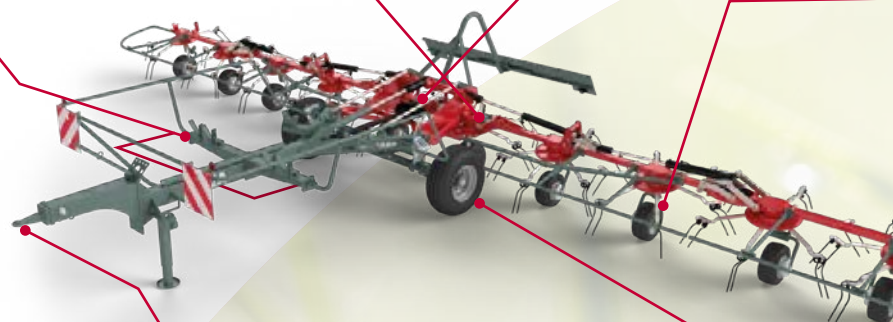
- ▶ Night swathing gear box
- ▶ Mechanical edge spreading device
- ▶ Hitch variants: Drawbar eye, rigid/drawbar eye, turnable/hitch hook

### ALWAYS AT THE RIGHT HEIGHT

The working height can be adjusted centrally using a crank.

### FLEXIBLE

Attachment to the tractor can be made at the top or bottom. There are also different attachment variants available.







#### **SAFETY COMES FIRST**

SLS (Security Lock System) is an automatic, hydraulically activated switch-off and positioning system with integrated freewheel, which interrupts the flow of power to the rotors when the halves of the machine are folded up. As a result, a high degree of safety is ensured in the transport position as well as during maintenance work. The possibility of damage to the power train is also excluded in the event of incorrect operation.



#### **GROUND PROTECTION AND FORAGE QUALITY**

The large contact area of the balloon tyres results in smooth and stable machine operation. The sward enjoys lasting protection and the raw ash content in the crop flow is reduced.



#### **BEST GROUND ADAPTATION AND CLEAN SPREAD PATTERN**

In the working position, the transport chassis is used for ground sensing, which promotes optimum ground contour following thanks to the large size of the tyres. Thanks to the short distance from the chassis, the tines follow the ground contour directly. Uneven surfaces are driven over evenly and the wheels are not in the forage throw path – resulting in an optimum spread pattern.



#### **BETTER TURNING**

With the headland position as standard, areas that have already been tilled or raked, are passed over. The transport wheels remain on the ground, which makes manoeuvring and driving on even very small plots of land significantly easier.



#### **FAST, COMPACT AND COMFORTABLE, FROM PLACE TO PLACE**

- The rotors are easily folded in and out by a hydraulic sequential control system directly from the tractor seat.
- When the machine is folded to the transport position, the automatic safety disconnection of the rotors is activated.
- The wide-track transport chassis ensures smooth driving behaviour on the roads.
- A transport speed of up to 40 km/h (country-specific) is possible.





**The classic with proven technology.**



# **SANOS TRAILED TEDDERS**





# Trailed hay tedders

Proven technology and optimum ground adaptation.

- ▶ Working widths of 10.20-15.00 m
- ▶ Very smooth running thanks to trailing wheels that can be centred
- ▶ Double-sided edge spreading device as standard (not on SANOS 1550 Hydro)
- ▶ Adjustable working height as standard (hydraulic on the SANOS 1550 Hydro)
- ▶ Hydraulic conversion to transport position
- ▶ Automatic transport lock
- ▶ KENNFIXX® connector (SANOS 1550 Hydro)



## SANOS 1100 Hydro SANOS 1300 Hydro

### Hydraulic actuation

The classics among trailed tedders. With the SANOS 1100 Hydro/1300 Hydro models, FELLA offers two fully developed machines for a wide range of applications, which can also be particularly recommended for use behind smaller tractors. Despite their enormous working width, these machines adapt well to uneven and hilly terrain.



### EASY AND FLEXIBLE

The attachment can be made quickly in either the tractor linkage drawbar, towing hitch or hitch hook.

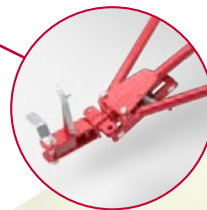
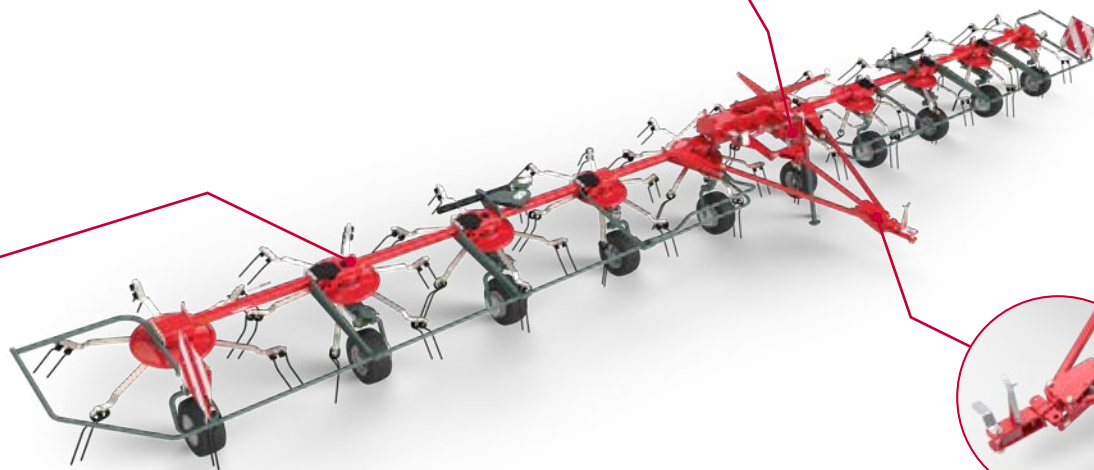
### ACCESSORIES

- ▶ Night swathing gear box
- ▶ Spare wheel 16/6.50-8 10PR with super-balloon tyre
- ▶ 1 set of mechanical locking axles



### ALWAYS AT THE RIGHT HEIGHT

The working height can be adjusted centrally using a spindle.



### EASE OF OPERATION

Conversion to transport position is made using hydraulic cylinders synchronously and without having to climb off.





## SANOS 1550 Hydro

### Hydraulic actuation

The SANOS 1550 Hydro tedder offers its own dimensions regarding surface area capacity. This trailed tedder is characterised by its large working width. Attachment on this model is via the lower links.

### SAFE ON SLOPING TERRAIN

The option to lock the two centre axles reduces drifting when working on sloping terrain.

### ALWAYS AT THE RIGHT HEIGHT

The working height can be infinitely and easily adjusted from the tractor seat to suit different circumstances.

### ACCESSORIES

- Spare wheel 16/6.50-8 10PR with super-balloon tyre
- 1 set of mechanical locking axles



### SAFE TRANSPORT

The automatic transport lock provides greater safety on the roads.



### OPTIMUM ADJUSTMENT TO THE GROUND

With the two height-adjustable contact wheels, the machines always allow perfect ground adaptation – forage contamination and damage to the ground are reliably avoided.

### OPTIMALLY TRANSPORTED

Because of the raised horizontal position of the tines, they are prevented from sinking into the ground and unintentionally collecting up forage during the switchover.





# Technical data

## SANOS

	401 DS	401 DN	431 DN	601 DN	4504 DN
Dimensions and weight					
Working width approx. in m	4.00	4.00	4.30	5.70	4.50
Transport width approx. in m	2.33	2.33	2.44	2.55	2.65
Parking height approx. in m	2.13	2.07	2.36	3.00	2.40
Transport length approx. in m	1.57	1.73	1.88	2.10	2.10
Weight approx. in kg	305	365	385	498	574
Hitching					
Three-point	CAT I + II	CAT I + II	CAT I + II	CAT I + II	CAT I + II
Two-point lower links	-	-	-	-	-
Tractor linkage drawbar	-	-	-	-	-
Towing jaw	-	-	-	-	-
Power requirement					
Power demand approx. in kW/hp	20/27	20/27	22/30	25/34	22/30
Rotors/tine arms					
Number of rotors	4	4	4	6	4
Number of tine arms per rotor	5	5	6	5	6
Anti-tine loss protective device	□	□	□	□	■
Edge spreading device	-	■	■	■	■
Spreading angle adjustment	■	■	■	■	■
Overload protection	■	■	■	■	■
Hydraulic control units					
Required hydraulic connections	1 x SAV	1 x SAV	1 x SAV	1 x SAV	1 x SAV
Tyres, lighting					
Tyres of rotor chassis	4 x 13/6.50-6	4 x 15/6.00-6	4 x 15/6.00-6	6 x 15/6.00-6	4 x 16/6.50-8
Tyres of transport chassis	-	-	-	-	-
Lighting equipment	□	□	□	□	□
Warning signs	■	■	■	■	■
KENNFIXX®	-	-	-	-	-

■ Series □ Equipment variant - not available

\* Floating position absolutely necessary

## MACHINE DESIGNATIONS AND ABBREVIATIONS

- **DS:** Three-point headstock, rigid
- **DN:** Three-point headstock with follow-up device
- **Trans:** Transport chassis



Super C tines



Standard spreading angle adjustment into 3 positions

Illustrations show some of the special equipment. The right to technical revision is reserved. Some machines available in selected countries only. The images provided do not necessarily correspond to the most recent version of standard equipment.



5204 DN	6606 DN	7706 DN	8608 DN	800 Trans	901 Trans	11008 Trans	13010 Trans
5.20	6.60	7.70	8.60	7.70	8.60	10.20	12.70
3.00	2.90	3.00	2.90	3.00	3.00	2.94	2.94
2.60	3.30	3.65	3.30	2.90	2.90	2.56	2.56
2.25	2.10	2.45	2.25	4.48	4.40	5.70	5.70
606	822	946	1172	1237	1660	1860	2160
CAT I + II	CAT I + II	CAT I + II	CAT I + II	-	-	-	-
-	-	-	-	-	CAT II	-	-
-	-	-	-	■	-	-	-
-	-	-	-	-	-	■	■
22/30	30/41	60/82	70/95	30/41	40/54	40/54	66/90
4	6	6	8	6	8	8	10
6	6	6	6	6	6	6	6
■	■	■	■	■	■	■	■
■	■	■	■	■	■	□	□
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
1 x SAV	1 x SAV	1 x SAV	1xSAV, 1xDAV*	1 x SAV	1 x DAV*	1xSAV, 1xDAV*	1xSAV, 1xDAV*
4 x 16/6.50-8	6 x 16/6.50-8	6 x 16/6.50-8	6 x 16/6.50-8 2 x 18.5/8.50-8	4 x 16/6.50-8 2 x 18/8.50-8	6 x 16/6.50-8 2 x 18.5/8.50-8	6 x 16/6.50-8 2 x 18.5/8.50-8	8 x 16/6.50-8 2 x 18.5/8.50-8
-	-	-	-	215/65-15	10.0/80-12	10.0/75-15.3	10.0/75-15.3
□	□	□	□	■	■	■	■
■	■	■	■	■	■	■	■
-	-	-	■	-	■	■	■





# Technical data

SANOS	1100 Hydro	1300 Hydro	1550 Hydro
Dimensions and weight			
Working width approx. in m	10.20	12.70	15.00
Transport width approx. in m	2.78	2.78	2.80
Parking height approx. in m	-	-	-
Transport length approx. in m	6.83	8.07	9.05
Weight approx. in kg	1090	1305	1800
Hitching			
Three-point	-	-	-
Two-point lower links	-	-	CAT II
Tractor linkage drawbar	■	■	-
Towing jaw	-	-	-
Power requirement			
Power demand approx. in kW/hp	35/48	45/61	58/79
Rotors/tine arms			
Number of rotors	8	10	12
Number of tine arms per rotor	6	6	6
Anti-tine loss protective device	■	■	■
Edge spreading device	■	■	-
Spreading angle adjustment	■	■	■
Overload protection	■	■	■
Hydraulic control units			
Required hydraulic connections	1 x SAV	1 x SAV	2 x DAV
Tyres, lighting			
Tyres of rotor chassis	8 x 16/6.50-8	10 x 16/6.50-8	12 x 16/6.50-8 10PR
Tyres of transport chassis	-	-	-
Lighting equipment	□	□	■
Warning signs	□	□	■
KENNFIXX®	-	-	■

■ Series □ Equipment variant - not available

\* Floating position absolutely necessary

## MACHINE DESIGNATIONS AND ABBREVIATIONS

► **Hydro:** Hydraulic actuation

Illustrations show some of the special equipment. The right to technical revision is reserved. Some machines available in selected countries only. The images provided do not necessarily correspond to the most recent version of standard equipment.









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**Your FELLA quality partner**