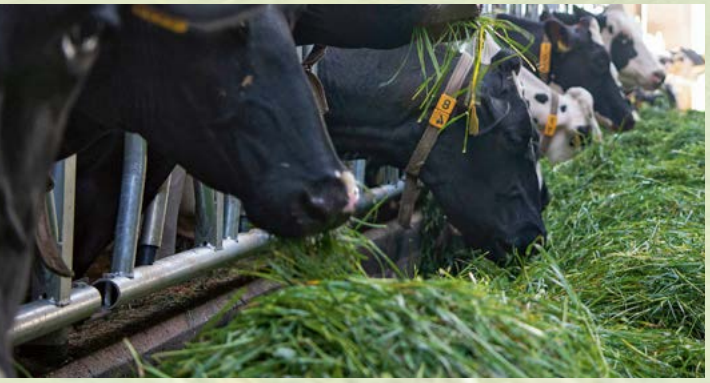
Professional kit for highest quality feed



The OptiTurn 3D tine

For higher quality feed

KRONE OptiTurn tines

- 3D effect
- Clean rake
- Optimum tedding
- Uniform wilting

...BECAUSE YOUR ANIMALS DESERVE IT.

KRONE OptiTurn tines on Vendro rotary tedders set new standards in forage processing.

Fast drying is essential for **minimising fragmentation** and **optimising energy levels**.

In the past few years, there has been a shift in focus among livestock and grassland farmers towards higher-quality forage feed. Today, farmers seek to strike the best balance between yields and nutrient levels rather than solely seeking to gain the highest yields from each cut. This new approach also involves reviewing the existing forage harvesting equipment to set up the most efficient harvest chain. The rotary tedder in particular has been assigned a more prominent position in the reshuffle, because a rotary tedder not only reduces drying times **but also optimises the process of drying, which further increases the quality of the forage.**

As an innovation leader and specialist manufacturer of forage harvesting equipment, KRONE picked up on this trend at a very early stage. Having been specifically designed to **boost the quality of forage in the ration**, the new generation of Vendro tedders does indeed deliver – courtesy of the single most important component on any rotary tedder redesigned from scratch –

the tine

The **KRONE OptiTurn rotor design** marks the beginning of a new era in rotary tedding and crop distribution. Featuring the patented KRONE OptiTurn tines with 3D effect, the new generation of rotary tedders deliver the **best possible results** and **maximum forage quality**, regardless of the conditions.

The tine with the 3D effect

Smart and effective design

The stand-out feature of the new KRONE OptiTurn tines is the new and patented 3D design. Curved transversely to the sense of rotation and the direction of travel, OptiTurn tines ensure an **optimum flow of material** through the machine.

The forward facing curvature combines with the different lengths of the two tines to create a unique lift effect that lifts the grass blades from the stubble. **This is the secret behind harvesting clean and uncontaminated forage even in arduous conditions.** Of different lengths, the tines adapt perfectly to the ground contours, minimize losses and sward damage both in flat and hilly land.

The curved and 9.5 mm thick tines coil five times around their holders, offering great strength in heavy crops and **large volumes and excellent tedding at high workrates**. The special design sees the crop moving up the shaft in small packages, ensuring an even distribution of the load on the tine and an optimum conditioning effect.

Curved in the sense of rotation, the tines direct the material to the sides for optimum and uniform distribution. It is those small packages of grass **that account for a uniform and fluffy spread** for optimum and speedy crop wilt.

Inside the fluffy mat, the air circulates easily, thereby accelerating the drying process.

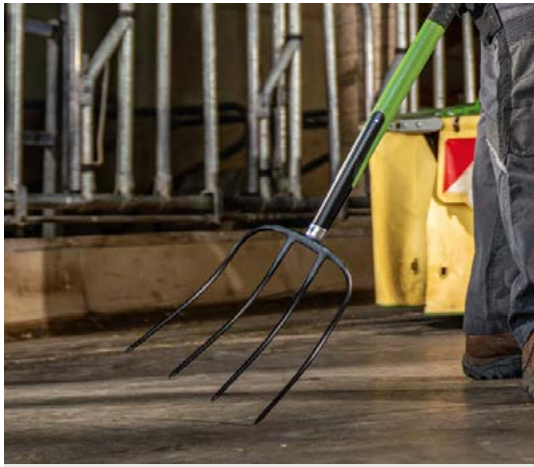
The OptiTurn tine is curved in three dimensions for optimum pick up and distribution of the crop.

In forage harvesting, rotary tedders are the indispensable link between the mower and the rake. At first glance, all tedders may look the same, because they all share the same key components – rotors with tines that pick up the crop and spread it in a wide mat for wilting. Yet when you take a closer look, you'll notice that even the smallest parts – the tines – are different on the individual makes. And these differences account for the quality of work delivered by these tedders. For example, in developing the **new generation of Vendro tedders,** the engineers at KRONE created **the 3D OptiTurn tine which produces a perfect spread and the right conditions for the best-quality forage.**

A well-proven and century-old design transferred to the modern age

Our developers have been exploring all the various forms of tines and how they work. Since 2014, they have carried out numerous field trials in which they also tested traditional hay forks – the kind of implements farmers have been using for centuries.

Working with this implement, they noticed that its tines were curved. **They also found that it was this curved design that ensured the forage was picked up cleanly from the sward and evenly distributed across the fork.** The curved design is also important for throwing the material off the fork as it ensures a uniform distribution and fluffy mat on the sward. This experience sparked off the development of the new KRONE 3D tines. As the designers continued their tests and trials in many countries and conditions, they developed the 3D design.



A hay fork with curved tines inspired KRONE for the OptiTurn tines with 3D effect.

User testimonials


(Photo: W. Prossinger)

Wolfgang Prossinger's customers are absolutely delighted with the 3D tines.

"Excellent spread"

Agricultural machinery dealer **Wolfgang Prossinger from Köstendorf in Austria** has already sold as many as six Vendro tedders this year. **"All of our customers are delighted with their new tedders and the excellent spreading pattern they produce,"** says Mr Prossinger. And this is mainly attributable to the new OptiTurn tine: "These 3D tines of unequal lengths pick up the material while leaving the sward intact, spreading the material in a uniform mat. This speeds up drying enormously – a great advantage in the Austrian Alps where dry and sunny spells can be very short indeed.

This problem is minimised by using the OptiTurn tines, because their different lengths allow operators to set the depth higher and yet pick up every single blade of grass."

Thanks to their unequal length, the 3D tines pick up the crop with minimal loss and contamination for an excellent feed.

(Photo: W. Pfeifer)

It's clear as you watch it work that tedding is very uniform.

"The feed is consistently clean"

WERNER PFEIFER, **an agricultural machinery dealer from Vorau in Styria**, was one of the first few customers who watched the OptiTurn tines in action: "The first test runs were carried out with a traditional KRONE rotary tedder where the 'regular' tines on the right-hand boom were replaced by the new 3D tines. This way, we were able to compare the performance of the previous and then new tines on the same machine."

The results were apparent after only a few passes: **"They did find a number of small lumps in the mat that had been tedded by the regular tines. By comparison, the material that was tedded with the OptiTurn tines was distributed very uniformly and there were no lumps,"** continues Mr Pfeifer. He is particularly impressed by how accurately the tines adapt to the ground contours: "Even on extremely steep slopes, the OptiTurn tines pick up the crop cleanly. And on very short cuts where the tines brush very close to the sward, the crop is lifted virtually uncontaminated."

(Photo: W. Pfeifer)

Even at low rotor speeds, the OptiTurn tine delivers an excellent spread pattern while minimising fragmentation in leafy clover by reducing the number of turning passes.

"Fragmentation is no longer an issue"

DANIEL GRUBER from Flauring in Tyrol has swapped his existing tedder for a Vendro 680 from KRONE. He uses his new acquisition not only for tedding his own 20 hectares of grassland and 10 hectares of clover and alfalfa but also for contract work on 100 hectares of his customers' fields: "Forage crops in this area are mostly clover grass and alfalfa. The Vendro is ideal for these."

"Unlike my previous tedder, it has eliminated fragmentation nearly completely so the quality of the leafy clover crops is optimal. Despite low rotor speeds, Vendro achieves an optimum and fluffy mat. **As drying is really very good now, I can skip one turning pass," says Herr Gruber.**

Moreover, the OptiTurn tines pick up the crop very cleanly, even on the steep Austrian hills, reducing raw ash levels in the forage.

“Stands up to very high loads”

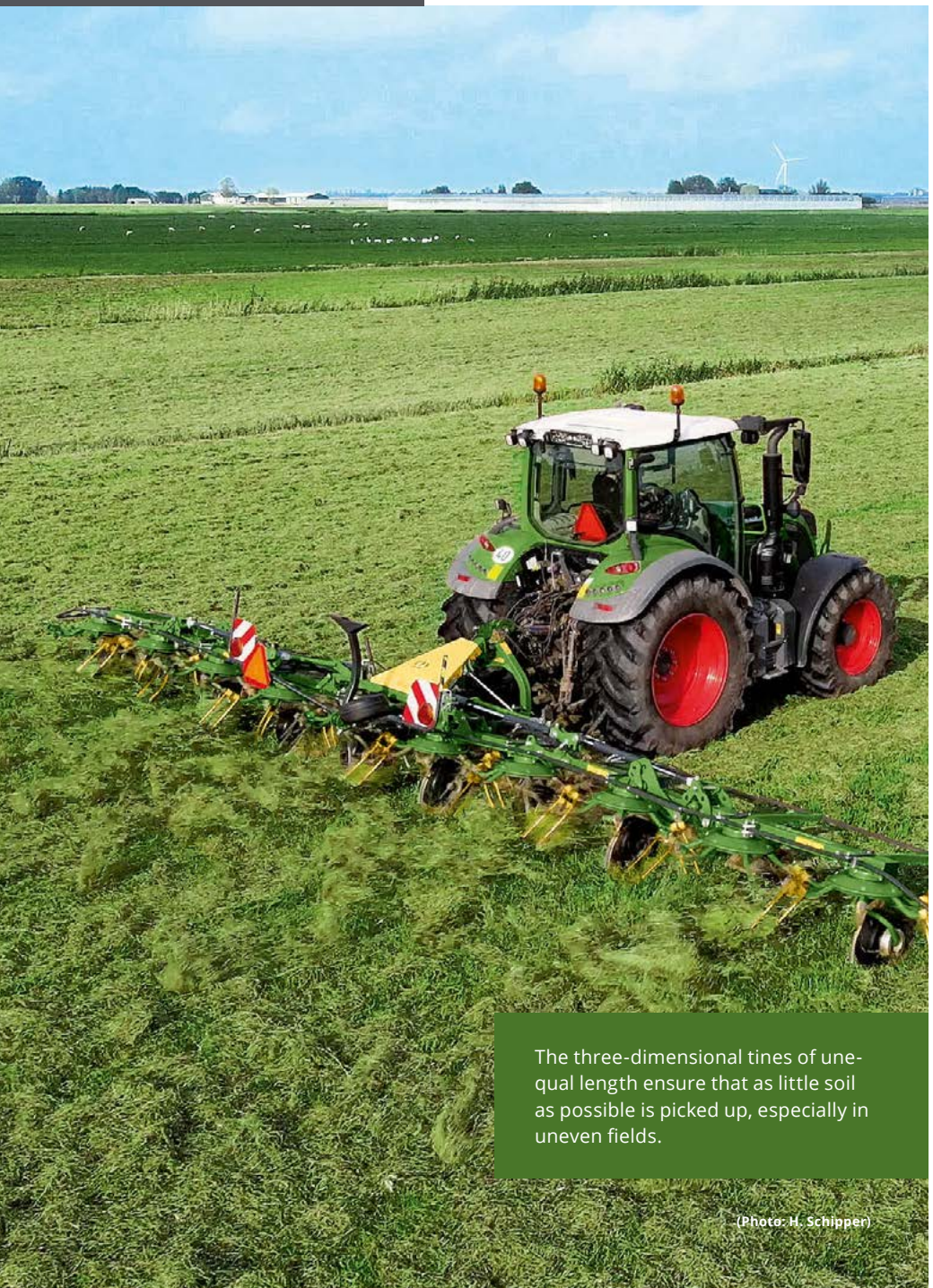
MANUEL WILCK from Lübtheen on the Baltic Sea farms 800 hectares of grassland, mainly producing hay and haylage and selling it to horse owners. Many of his fields are located in a biosphere reserve along the river Elbe.

“Making hay in a conservation area is quite a challenge, because the fields are rough and often damaged by wildlife,” he explains. So, conditions wear hard on all equipment, and the rotary tedders frequently experience broken tines.

“Not so our present rotary tedder from KRONE with OptiTurn tines. No more broken tines.” Mr Wilck attributes this to the high-strength steel which the tines are made of and the fact they adapt perfectly to the ground contours. In addition, the late cut at the end of June/beginning of July produced huge masses: “The 3D tines cope perfectly with those volumes – not only because loss is minimised but also because the spread pattern is optimal, a factor that by itself speeds up the drying process considerably.” The customers, too, are very satisfied with the quality of the hay – courtesy of the 3D tines which pick up the forage cleanly without contamination.

(Photo: M. Wilck)

The robust spring steel tine performs absolutely reliably, even in extremely large volumes, distributing the crop evenly for fast wilting.



The three-dimensional tines of unequal length ensure that as little soil as possible is picked up, especially in uneven fields.

(Photo: H. Schipper)

"Top-quality forage"

HUIB SCHIPPER, a forage feed trader from Moordrecht near Gouda in the Netherlands, has been putting his first KRONE Vendro 1120 through its paces. The Dutch farmer and his team cut and ted around 250 to 300 hectares of grassland every year. Most of the crop is baled, some is straw from grass seed propagation crops.

Foraging often takes place in difficult conditions: "Our fields tend to be rather bumpy. Working the loamy soils is quite okay, because these are firm enough to carry the equipment, but things get more difficult in marshy soils which can be soft and boggy." Schipper has briefed his employees to set up the rotary tedders with precision whenever the conditions change:

His employees have gained plenty of experience with the first Vendro. They have already ordered the second Vendro 1120. "The advantage of the OptiTurn tine over a traditional tine is best appreciated by watching how it picks up the crop," adds Mr Schipper. **"The 3D tines on the Vendro pick up the cut material very cleanly, because they follow the ground contours far more accurately. Then they spread it in a very uniform and fluffy mat.** Compared with our KWT 11.22/10 with its straight tines, Vendro can work a little faster with the OptiTurn tines and yet achieve the same results. The bottom line is that we want to keep the contamination and raw ash levels as low as possible in order to produce feed of the best quality." In this respect, the new KRONE OptiTurn solution with 3D tines is ideal. That has been the experience so far.

Technical data

HIGHLAND Model	Vendro 420 Highland	Vendro 620 Highland	Vendro 820 Highland
Work width in m	4.20	6.20	8.20
Rotor diameter in m	1.38	1.38	1.38
No. of rotors	4	6	8
Number of tine arms per rotor	5	5	5
Tractor attachment	Three-point	Three-point	Three-point
Minimum tractor input kW/hp	25 / 34	37 / 50	48 / 65
Area output approx. ha/h	4.2	6.2	8.2

Model	KWT 1300	KWT 1600	KWT 2000
Work width in m	13.10	15.30	19.60
Rotor diameter in m	1.53	1.53	1.53
No. of rotors	12	14	18
Number of tine arms per rotor	6	6	6
Tractor attachment	Trailed	Trailed models	Trailed models
Minimum tractor input kW/hp	51/70	60/80	80/110
Area output approx. ha/h	13.1	15.3	19.6

Model	Vendro 470	Vendro 560	Vendro 620	Vendro 680	Vendro 790	Vendro 820	Vendro 900	Vendro 1020	Vendro 1120
Work width in m	4.70	5.60	6.20	6.80	7.90	8.20	9.00	10.20	11.20
Rotor diameter in m	1.50	1.82	1.38	1.50	1.70	1.38	1.50	1.38	1.50
No. of rotors	4	4	6	6	6	8	8	10	10
Number of tine arms per rotor	6	7	5	6	7	5	6	5	6
Tractor attachment	Three-point	Three-point	Three-point	Three-point	Three-point	Three-point	Three-point	Three-point	Three-point
Minimum tractor input kW/hp	25/34	37/50	37/50	44/60	48/65	48/65	55/75	60/80	66/90
Area output approx. ha/h	4.7	5.6	6.2	6.8	7.9	8.2	9.0	10.2	11.2

We connect

FORAGE & QUALITY

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