

# Fendt FOCUS

THE MAGAZINE FOR PROFESSIONALS

## A true great. The new Fendt 200 Vario

- ▶ Why the smallest Vario is now even smarter

## A warrior in iron and steel

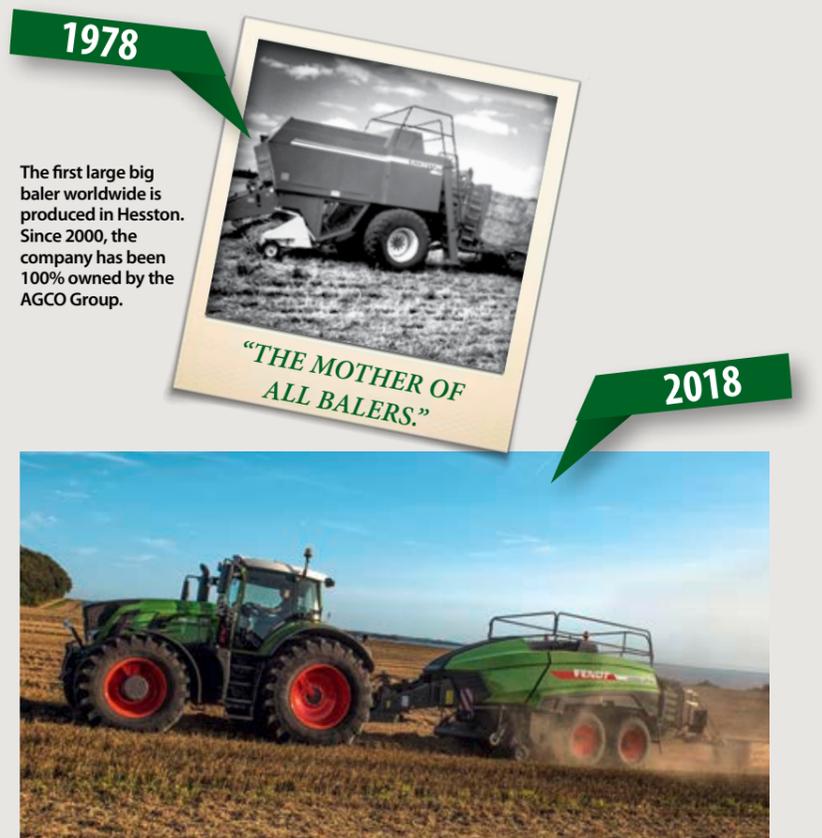
- ▶ Three Fendt 900 Varios and a 1000 are in frequent use in Denmark

## Forage harvesting Special

- ▶ Fendt tractors in combination: Genuine Fendt Nature Green quality for grassland



Fendt at Agritechnica  
Greatness in every field.



The first large big baler worldwide is produced in Hesston. Since 2000, the company has been 100% owned by the AGCO Group.

“THE MOTHER OF ALL BALERS.”

In 2018, the big baler from Hesston celebrates its 40th anniversary, and right on cue, there's a new big baler model for the harvest. The new Fendt Squadra 1290 UD will allow Fendt customers in future to produce the highest bale weight on the market.

The Hesston Manufacturing Company was founded 60 years ago in Hesston, USA (Kansas). From the start, the company has always specialised in development and production of agricultural implements. The first big baler worldwide was developed and produced here in 1978, also known as the “Mother of all balers.”

**New generation baler**

The new Fendt Squadra 1290 UD (Ultra Density) generates a unique press force of 760 kN, which produces straw baling densities of up to 245 kg/m<sup>3</sup>. The key to producing such high densities is the new ultra main gearbox with drive train, which makes power transmission even more efficient. The tractor's PTO speed is increased to 1,500 rpm via an intermediate gearbox on the baler. In the ultra main gearbox itself, the driving torque is distributed in an intermediate step to two gears of equal speed, and then combined again in the large drive gear of the plunger. This torque distribution in the main gearbox allows double the power to be transmitted at a virtually constant main gearbox weight and dimension in comparison to the 1290 XD.

# 2020

## DIE FENDT STRATEGIE

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**QUALITY**  
Quality is paramount for any product where Fendt is involved. Quality defines our everyday activity, including whenever we talk to customers.
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**PARTNER NETWORKS**  
Whether you are a sales agent, supplier or development partner – we can only succeed in serving our customers by working together.
- 

**FULL LINE RANGE**  
At the end of the day, farmers and contractors as well as dealers must be able to concentrate on their work. This is why we provide technology, service and training from a single source.
- 

**INNOVATION**  
What would Fendt be without technical innovation? Whether it's Vario transmission or e-tractors, Fendt engineers develop innovative technology for practical applications.
- 

**THE FENDT SPIRIT**  
What is a company without dedicated employees, who provide each other with support and spur each other on to do even more? Nothing! We don't call it a “super working atmosphere”, we have the Fendt Spirit.
- 

**GROWTH**  
Growth is reflected in rising sales, market share or expanding markets. We want to grow. Our goal: In 2020, we want to build 20,000 Varios in Marktoberdorf, for we want to deliver even more quality.



◀ Peter-Josef Paffen at Agritechnica 2017. The Chairman of the AGCO/Fendt Executive Board stands in front of the “2018 Machine of the Year” (XXL tractor category), the Fendt 900 Vario MT.

### DEAR READERS,

I guess you're thinking “Wow, the year is almost over!” Another year gone in a flash! It was only in November that we presented our full line range for the first time at Agritechnica. If we met you at our stand, then thank you for coming.

Back in the spring of 2017, Fendt analysed our entire operation and found 6 key points which we had to address to continue being successful in future. The 6 points on the left are familiar to all Fendt employees under the “Fendt 2020 Strategy”. They define our everyday activity,

and link in with our guiding principles. I invite you to realize the “Fendt 2020 Strategy” with us, because together we can do more. Thank you for your trust, your loyalty, and your support in 2017.

We look forward to welcoming you all personally next year at Fendt Forum, at a trade fair, or a field day.

**I wish both you and family a very happy and blessed Christmas, a relaxing break and a great start to the New Year.**

Kind  
Regards

Peter-Josef Paffen  
Chairman of the AGCO/Fendt Executive Board





More on the new Fendt Xaver field robot can be found on page 11. All the latest on new "Fendt Fahrer Weizen" (Fendt Driver's Wheat Beer) can be found on page 68.



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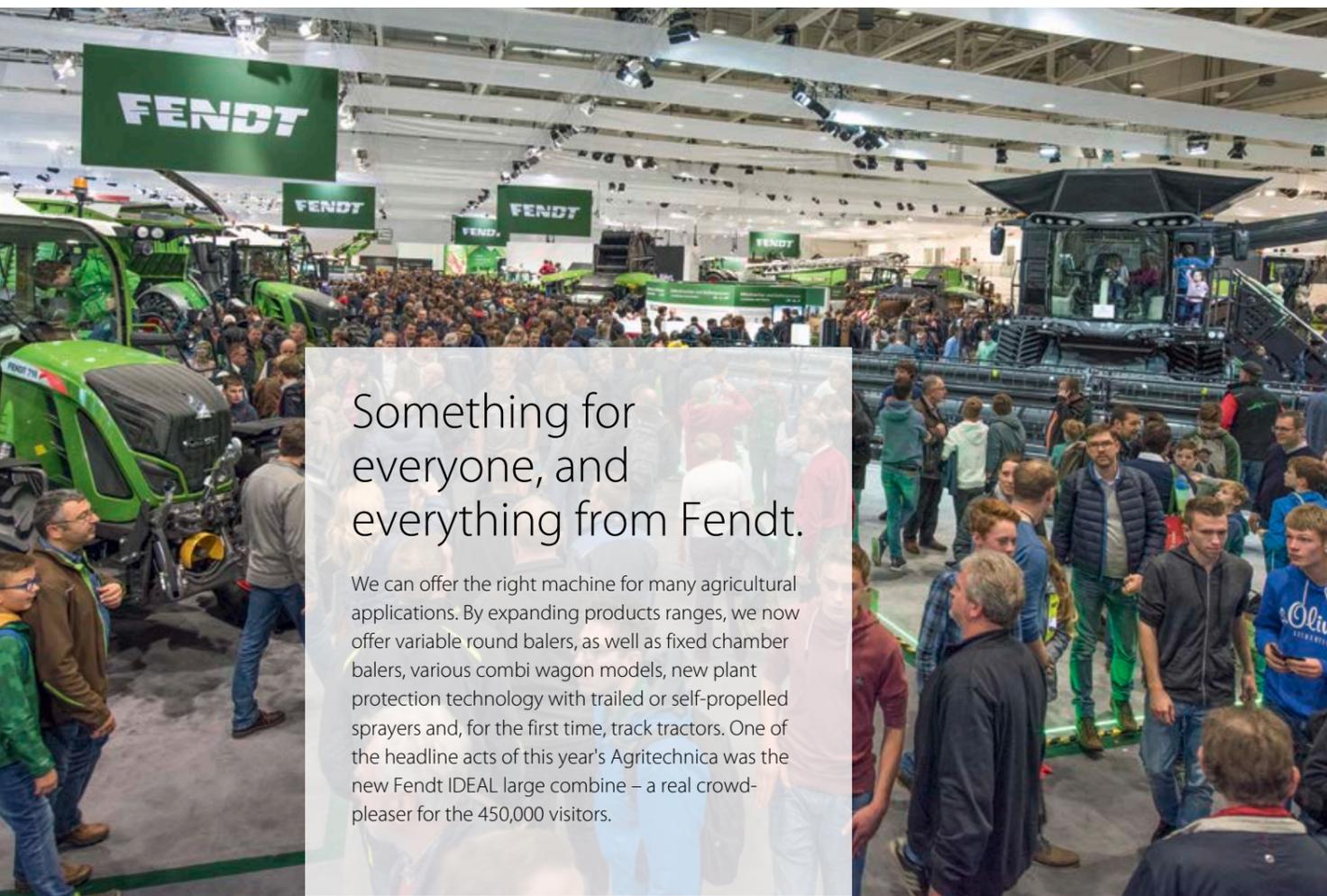
# Fendt at Agritechnica. Greatness in every field.

"Greatness in every field" – that was the Fendt slogan for Agritechnica 2017. We want to live up to this maxim in more than one respect: Through a much expanded product range with new features and innovations, through a straightforward and large trade fair stand, and not least through an expert, broad-based and friendly trade fair team ready to talk to our customers.

3,000 m<sup>2</sup> Fendt stand and 450,000 fair visitors



6,381 HP in total on the Fendt stand



Something for everyone, and everything from Fendt.

We can offer the right machine for many agricultural applications. By expanding products ranges, we now offer variable round balers, as well as fixed chamber balers, various combi wagon models, new plant protection technology with trailed or self-propelled sprayers and, for the first time, track tractors. One of the headline acts of this year's Agritechnica was the new Fendt IDEAL large combine – a real crowd-pleaser for the 450,000 visitors.



The Fendt Team with around 200 employees

“Agritechnica 2017 was an **outstanding** trade fair for **Fendt**. Our main goal was to **have good conversations** with visitors. The **leading trade fair** for agriculture is **mainly for farmers and contractors**. We want to **engage** with visitors and discuss issues with them – but also to convince them of our **Fendt quality standards**.”

Peter-Josef Paffen, Chairman of the AGCO/Fendt Executive Board

Opening tour of the DLG. Roland Schmidt, Vice President of Fendt Marketing, presents the new Fendt products.



28 runs of the Fendt e100 Vario on the stage

## Electrified and autonomous. Fendt Innovations

Alongside the new Fendt IDEAL large combine, there were just two machines which attracted the same level of attention: The Fendt Xaver field robot, and the battery-powered Fendt e100 Vario tractor.



## Fendt e100 Vario

The reduction of CO2 emissions is central to all our futures, and agriculture is no exception. Many agricultural enterprises generate power from renewable sources, which is financially attractive if used on the farm itself. The Fendt e100 Vario was presented as the first practical, battery-powered tractor with 50 kW drive power which can be used in normal operation for five hours without the need to recharge.

The energy source is a 650 V high-capacity lithium-ion battery with a capacity of around 100 kWh. The battery is charged either with 400 V and up to 22 kW via a standard CEE outdoor socket, or by a supercharging option with direct voltage. With a standard CCS type 2 plug, the battery can be recharged up to 80% in just 40 minutes. In addition, energy can be recovered thanks to the use of an electric motor. For local councils, there really is no better option than this battery-powered compact tractor. Thanks to its quiet and emissions-free operation, the Fendt e100 Vario can be used for a wide variety of applications in urban developments and residential areas.



The Fendt Xaver field robot was a star attraction throughout the week. Here we see a delegation from the Embassy of Kazakhstan.



20,000 red maize kernels for Fendt Xaver



## Fendt Xaver

The Fendt robot system, Fendt Xaver uses small robots operating in swarms and a cloud-based solution to plan, monitor and accurately document the precise planting of corn. Satellite navigation and data management in the cloud allows operations to be conducted round the clock, with permanent access to all data. The position and planting time of each seed is accurately recorded. A key element of the Xaver project is intelligent management of the deployed robots. For example, a Fendt robot system consists of 6–12 units, and can therefore attain an area coverage of around 1 ha/h. Each robot is in constant communication with the controller. Data buffering and redundant communication helps cover breaks in network coverage.



## Agricultural Economics Development award

Thiemo Buchner (r.), Project Manager at Fendt Robotics and Development Engineer at Fendt, was delighted to receive a special award from the agricultural journal. He was given the Agricultural Incentive Award in recognition of his dedicated service to the development of the robotics system, Fendt Xaver. With his fascination for robotics, use of neuronal networks and artificial intelligence, as well as for miniaturising agricultural processes, he was the project manager who made the Fendt Xaver field robot a practical reality.



1,200 spotlights lit up the machines and the building



5 DLG silver medals

This was our medal haul on the very first day of the fair. The medals were awarded for the new large combine Fendt IDEAL, the VarioPull system with its perfect tractor/implement weight distribution, the Fendt e100 Vario all-electric tractor and the Fendt Xaver, which uses field robots in swarms of all sizes for sowing. The fifth silver medal was awarded for DKE's agrirouter™, a data exchange platform between machines and implements from different manufacturers. AGCO is a founding member of the DKE consortium.



## Recognition from DLG

"Recognise approved quality easier" is the key message of the DLG test mark. At Agritechnica, Fendt was the proud recipient of 3 test marks – for the Fendt 828 Vario in the overall test and for the Fendt 514 Vario and Fendt 312 Vario in the DLG PowerMix Test. A new camera system for driving safety was also awarded with the seal, presented to the Fendt 828 Vario.

## Machine of the Year

The Fendt 900 Vario MT was recognised in the dlv publishing house "XXL Tractors" category. The new high-power Fendt IDEAL won two "2018 Machine of the Year" awards. Winning in the "Combine harvester" category, it also gathered most votes among readers to scoop the "Readers' Award".

## Tractor of the year 2018

The 24 judges on the international panel for Tractor Of The Year were impressed with the New Fendt 211 V Vario in the specialty tractor category, with its outstanding 3-cylinder AGCO power engine drive and stepless Vario transmission.



“It’s a very impressive machine. The developers have simply taken everything up a notch, and it is just fascinating to watch.”

Martin Bauer

“The size of the Fendt IDEAL is what hits you, as well as the wide table. It’s just amazing what can be done now with regard to the technology. In comparison with older technology it’s like day and night!”

Anton Sandbiller

from left: Martin Bauer, farmer from Geiselhöringen, Hubert Schweiger and Anton Sandbiller



from left: Justus Kaulingrecks, who works for a training facility in Münster, and his friend Lars Halsband, also from an agricultural enterprise in Münster

1,500 t of threshed grain of 200 ha on the Fendt IDEAL combine simulator

“I think the simulator is great because it’s so realistic. You really feel as though you’re sitting in an actual harvester cab. The thing I really like about the IDEALharvesting app is that there are thousands of options for setting the harvester, from corn cracking to rotor speed.”

Lars Halsband

“The IDEAL simulator is really exciting because the combine is so new. I’ve never operated a Fendt combine myself, so this gives you the chance to try things out: how best to sit in the cab, or getting the feel of the joystick. The cab design is really superb. Above all, the app is interesting, with all the things you can set there.”

Justus Kaulingrecks



“I’m open to looking at different manufacturers. We actually drive two different combines ourselves. I’m very interested in what Fendt has to offer with regard to smart systems, and the IDEAL design really catches the eye. The track tractor, the discharge capacity and the grain tank also interest me a lot. The time frame over which the machines can operate during the harvest is always important, especially if you don’t have a grain cart.”

Kai Ritzmann

40 t of Fendt machines and 50,000 bags for our customers



“I’m convinced by the power and quality of cut of the Fendt Katana, and we know from the Kemper table that it works wonderfully well.”

from left Joachim Lukas, Stefan Wagner, Mirko Hart

“What impressed me above all was the hydraulic bulkhead. We always had the problem that it was never quite full at the back, and if it was well compacted at the front, you couldn’t get it out again. The Tigo technology allows us to use all the loading space. The electric self-steering axle is also great as is the hydraulic chassis which always keeps the machine stable and safe on slopes. We would go for a Fendt 724, and I think we would have a really good combination there.”

Andreas Wittmann

“We want to change over from soya to lucerne in our rations. The plant’s small leaves need to be harvested very carefully though, because otherwise you lose too much of the protein. I think the wide contact surface of the rotor tines would be beneficial here. We’re also mowing around 250 hectares at a time, and so good run-out figures are important. Actually, I wanted to buy a loading wagon from a competitor, but now I’d like to take a closer look at the Fendt Tigo.”

Jan-Willem Mulder





Walter Wagner (right), Head of Fendt Tractor Development celebrates the "Tractor of the Year 2018" Award in the specialty tractor category, together with Christoph Mayer, Project Manager for the Fendt 200 Vario, and Roland Schmidt (left), Vice-President of Fendt Marketing. At Agritechnica, the new 200 series convinced a panel of 24 international industry journalists.

# THE NEW FENDT 200 VARIO. A TRUE GREAT. ANYTIME, ANYWHERE.

The 200 series has been available to Fendt customers since 1974. Since 2009, the smallest Fendt has also been equipped with a Vario transmission. The continuously-variable gearbox was followed by the automatic guidance system. Find out more about the highlights of the new Fendt 200 Vario and Fendt 200 V/F/P Vario Speciality tractor.



### The little ones come of age

"The new Fendt 200 Vario and Fendt 200 V/F/P Vario now offer farms involved in fruit growing, hop cultivation or wine growing the chance to benefit from the economic and environmental benefits of the guidance system," explains

### » FENDT COMPACT TRACTORS ARE EXTREMELY ECONOMICAL

Walter Wagner, Head of Fendt Tractor Development, discussing the new feature of the 200 series. "Fendt compact tractors are extremely efficient. The reduced engine speed and hightorque allows a transport speed of 40 km/h at just 1,750 rpm."

### Real guidance quality

On the Fendt 200 Vario, the customer has a choice between two systems: a wayline-guided ultrasonic system, or position-guided system via GPS. With the wayline-guided system, the tractor maintains the exact specified distance to the crops when working with implement combinations. This takes the strain off the driver, who can now concentrate fully on the implement.



### Accuracy of up to 2 cm

For farms which grow vegetables, for example, the GPS guidance system is absolutely ideal. With the help of the satellite technology, the tractor can be steered with an accuracy of +/- 2 cm, even in adverse weather conditions. "Flying blind with cockpit instruments" in farming – that's the mark of a true great. The benefits come in a single package: The full tractor capacity is utilised, and there's no overlapping in the field.

### » THE SET-UP MODULE FOR THE GUIDANCE SYSTEM IS SIMPLY THE BEST

*"I think the Fendt 200 is just great, because it is such a compact and manoeuvrable machine. The front-end loader is also perfect for loading crates and pallets. Up to now, we used our Fendt 700 for this, but now we can use it for other work. In future we hope to plant leeks with the Fendt 200, and this is where the set-up module for the guidance system really comes into its own."*

*Klaus Michels, vegetable farmer from Westphalia*

### VarioActive – turn around with just one turn of the wheel

The VarioActive steering system from the Fendt high-horsepower tractors is now included. This means fewer steering wheel turns to lock the wheels. At a low speed of less than 8 km/h, maximum wheel lock is achieved by just one turn of the steering wheel.

### » SMALL, MANOEUVRABLE, COMPACT AND NIPPY

*"Small, manoeuvrable, compact and nippy. That's how I would describe the Fendt 200 Vario. I also think it's a really good idea to fit the 200 series with a dongle for the guidance system, because not all farms are big enough to use just a Fendt 700 or Fendt 800."*

*Thomas Lobermeier, contractor and forestry manager from Eschlkam*

The effect of the automatic steering system is reduced from 8 km/h to 18 km. "You can use the VarioActive steering system to activate a larger guidance speed ratio. It adjusts the steering motion and road speed. The farmer benefits from the quicker steering reaction. The result makes it easier to operate the front-end loader, in small yards or on headlands," explains Walter Wagner, highlighting the benefits of VarioActive.

### Fendt = Progress

Other innovations for the compact tractors from 70 to 110 HP include the reversible fan. The air flow direction switches when the fan blades are turned. This results in permanently clean fan grills, so increasing the performance and efficiency of the tractor and creating a huge time saving, as well as taking over the time-consuming driver's job of manually cleaning the fan grill. An air braking system with an electronically-controlled air dryer is available for the trailer



## TECHNOLOGY

- 3-cylinder AGCO Power Engine
- 3.3 l cubic capacity
- Emissions stage 3b (Tier 4 interim) maintenance-free with EGRex (external exhaust gas recirculation) and DOC (diesel oxidation catalyst)
- 500, 540E/750 and 1000 rpm available in the rear
- New: 540 E or 1000 front PTO



system, ensuring less maintenance work and even better reliability.

### Huge ride comfort and safety

The continuously-variable Vario transmission guarantees high levels of ride comfort and potential savings from 0.02 km/h (20 m per hour) to a maximum speed of 40 km/h with constant traction without shifting gears. Even on extreme slopes, you can progressively slow down to a stop, park securely on the slope using the active stop control, and then accelerate smoothly away again. This

### » POTENTIAL SAVINGS FROM 0.02 KM/H (20 M PER HOUR).

protects the soil and keeps the operator safe.

### Warm feet, cool head

"Discussions with municipal contractors confirmed that the Fendt 200 Vario also needs floor heating as an option," reports Walter Wagner. "We have integrated the electrical heating unit directly into the cab floor – cleanly and without causing a trip hazard, just as you'd expect from a Vario."



▲ Schematic temperature distribution in the cab. Cooler temperature in the top section, warmer temperature in the lower section.

# MODELS

The Fendt 200 Vario scores highly across the board when it comes to compact standard tractors. Experience the unbeatable Fendt Vario technology in the following performance range:

Fendt 200 Vario	kW	PS
Fendt 207 Vario	53	72
Fendt 208 Vario	60	82
Fendt 209 Vario	67	91
Fendt 210 Vario	73	99
Fendt 211 Vario	74	101

Rated power according to ECE R 120

Since 2009, Fendt has set the standard with the Fendt 200 V/F/P Vario models when it comes to specialty tractors. Experience productivity, efficiency and safety coupled with the best ride comfort in the performance range:

Fendt 200 V/F/P Vario	kW	PS
Fendt 207 V/F Vario	53	72
Fendt 208 V/F Vario	60	82
Fendt 209 V/F/P Vario	67	91
Fendt 210 V/F/P Vario	73	99
Fendt 211 V/F/P Vario	74	101

Rated power ECE R 120



Together with temperature sensors for control, this warms up the footwell quickly and efficiently. The operator's feet are always kept warm. A safety switch prevents overheating.

## Innovations for the Fendt 200 Vario

Modern implements require increasing flexibility and power from the tractor hydraulics. The new hydraulic concept will give the Fendt 200 Vario an outstanding pump capacity of 104 l/min thanks to the use of a load sensing pump (LS control pump). This allows drivers to operate the front loader quickly at low engine speed. A high level of operator comfort is provided by the electrical valves for front loading.

## » MANOEUVRABLE AND COMPACT ALL-ROUNDER FOR THE YARD

*"We are looking to replace our implement plate. The machine has really done us proud, but its now got 18,000 operating hours under its belt. We're looking for a manoeuvrable and*

*compact all-rounder for the yard, and the Fendt 200 would be ideal, even though Lorenz prefers the Fendt 1050, of course."* Patrick Indlekofer and son Lorenz, owner of a stable complex with 40 retired horses from Bohrheim

A power-beyond connection (pressure and control line, return) is also available as an option to increase the efficiency of implements, e.g. forage wagons.

## A heavy-duty machine with a view

The front linkage in the Fendt 200 Vario has also been revamped. A new cast metal lower link frame with diagonally folding lower links creates additional clearance to the front loader. Further to this, the cast metal front plate and stroke cylinder have been reworked for more undercut. "To retain good visibility even at dawn and dusk, we have fitted new LED work lights onto the cab roof at the front and back, and onto the A-pillar. That means better ride safety, as does the new automatic disengagement of the differential lock and 4WD, which is now linked to the steering angle." explains Walter Wagner, discussing the highlights of the Fendt 200 Vario. **F**



# “RIDING WAS LIKE LEARNING TO WALK”



◀ Isabell Werth has three horses in the top 10 of the world rankings. Here she is riding the Westfalen, Emilio.

There are no signposts in the road, or horseshoes at the entrance, or horses' heads and chandeliers in the stable area or the arena. No fireworks or razzamatazz. For the world's most successful dressage rider of all time, her world clearly revolves around working with the horses in the training yard and competition stable.

In the dressage arena, you can hear the dull thud of hammer coming from the stable area. There's a faint smell of burnt hoof, as the blacksmith is visiting. But it's all just background noise to Isabell Werth, as all her focus is on her gelding, Emilio. She rides up to 8 horses a day. "For me, there's nothing better than training horses," replies the 48-year old to the question of how she finds the energy for all this after decades in the saddle.

Horses have been her passion for as long as she can remember. "My parents were always involved with horses, so I grew up around them. Riding was like learning to

walk. Horses are still a huge part of my parents' lives." Isabell Werth grew up here in the yard in Rheinsberg, a town of around 30,000 residents. Previously, the farm had been a classic mix of arable and dairy. 25 years ago, it was gradually given over to horses – firstly as a stud farm, then as a purely breeding farm. When Isabell took over the farm from her parents in 2003, she created a training facility and competition stable.

Today, 15 employees look after 100 horses, from foals to retirees. Around 45 of these horses are "saddled", in other words they are trained and schooled. Alongside training

the animals, Isabell Werth also continues to breed them. "Breeding is kind of a side line for the stables, but a great passion of mine. We breed with four to five mares a year, and this year we've had four

**“BREEDING IS KIND OF A SIDE LINE FOR THE STABLES, BUT A GREAT PASSION OF MINE.”**

foals in the yard. It is really fascinating to see something special in the young horses, and to see how we can interpret that and how we can develop the foals. By that I mean, how they'll look later when they're saddled," smiles





Isabell Werth is a six-time Olympic champion with a total of ten Olympic medals (six gold and four silver) seven-time World champion, fourteen-time European champion and fourteen-time German champion

the successful dressage rider. The whole thing wouldn't work though without passion. "German breeders are world leaders, no question about it. But breeding is becoming financial less viable. In the last five to seven years, the industry has suffered a near collapse. The market demand is not bad, especially abroad, but for breeders here in Germany, who first need to find start-up finance, things are difficult just now," says Isabell Werth.

She doesn't have the gift of the gab, and nor is she a dreamer, but she's very solid with her feet firmly on the ground, as people from the Lower Rhine tend to be. But she also knows that she couldn't achieve any of this without support from outside. "We riders rely very heavily on our patrons and sponsors. Our main support comes from horse owners. It's normally more a case of patronage here, due to the fact that some

owners tend to sell a successful horse because they can't resist a lucrative offer. Personally, I'm lucky with my patron in that she is able to resist these offers and so I feel quite secure," she says describing her close relationship with her patron, Madeleine Winter-Schulze. "The rest of the riding team and I are also very happy and grateful to have a very loyal sponsor, who supports the whole team which allows us to travel to competitions," stresses Isabell Werth, discussing the sponsorship ploughed into the German national equestrian team by Fendt over more than 7 years to support the Olympic disciplines of dressage, three-day eventing and show jumping.

This support gives them the piece of mind to concentrate on the actual task at hand: Training world class horses,

and not only those which have been brought to the riding school. Isabell Werth is bringing new horses into the sport all the time. She recognises the various qualities of the horses and painstakingly nurtures their talent over years. That's why she has three horses in the top 10 of the world rankings.

The farm in Rheinberg still covers 23 hectares. The arable land has long been given over to pasture, because the land is used for stud and as grazing. "We make our own hay, and can largely cover our needs," explains Isabell Werth. Since the spring, they have also been using a Fendt 208 Vario in the yard. "Our 200 is the main yard tractor, and is used for all general work, so its the real engine room of the farm. It's used for everything from stacking straw bales and transporting work, to mucking out," explained the

dressage rider in a very down-to-earth way. The operator is normally Isabell's father, Heinrich Werth. And at weekends, her 7-year old son Frederik sits on the tractor and likes to drive around the stables with grandpa.

### "FARMING IS STILL AT THE HEART OF OUR BUSINESS".

In the meantime, Isabell tries to persuade her "sensitive little boy" Emilio to have shoes fitted by the blacksmith. "With Emilio, we have to make sure that he's never in a situation which might cause him stress." It took Isabell and her groom over a year simply to be able to climb onto the stallion. "It always depends on his mood as to how it goes at the blacksmith. He knows the blacksmith is there even before he even gets to the stable area. There are also days on which the blacksmith can only do two shoes, so he has to come back again a week later." **F**

Tractor handover in Rheinsberg: Isabell Werth with Markus Lange of RWZ Agrartechnik Zentrum in Geldern (left) and Frank von Ameln, Managing Director of the Rommerskirchen Agricultural Technology Group (right)



The tractor is used to pull out the dead grass from the paddock.





## WARRANTY

Comprehensive cover for Fendt product groups:

						
<b>Max. hours</b>	8,000	3,000	3,000		10,000	6,000
<b>Max. years</b>	1+7	1+4	1+4	1+4	1+7	1+4
<b>Cover (excluding wear and tear)</b>	full cover					
<b>Excess</b>	€0.-	€0.-	€0.-	-	€0.-	€0.-
	€190.-	€190.-	€190.-	€190.-	€190.-	€190.-
	€490.-	€490.-	€490.-	-	€490.-	-



## WHEN SOMETHING HAPPENS ...

Fendt has set new and flexible extended warranty premiums to offer its customers a even more comprehensive product to cover the repair risk of new machines. This has been designed to meet the needs of customers with especially long mileage and many operating hours, and is a significant addition to the portfolio overall.

To meet the need of customers for predictable machine costs, as well as their need to minimise the risk of breakdown by regular servicing and maintenance, Fendt will provide tailored cover against unwelcome surprises. Fendt's manufacturer's extended warranty offers complete cost control and reliable planning for all customers who are looking to retain the value of their machines and minimise risk. Thanks to policy periods and long-term premiums – according to the vehicle – premiums are available with and without excess. Fendt's new extended warranty now offers an effective total package for the entire full line programme.

**An example:** With long-term cover of up to 8 years and 8,000 machine hours in the tractor category, Fendt offers the most comprehensive cover and term in the industry. AGCO Original Parts are also covered. These include headers or front loaders. Thanks to the new premiums, other risks such as breakdown recovery and towing, vehicle diagnostics incl. PTO dynamometers can also be covered from 2018 in a complete package alongside the normal repair costs.



# IN THE END, WE'RE SELLING THE MACHINE'S OPERATING TIME

Boris Schöppl is a member of the AGCO Board of Directors in Neuhausen, and is Vice-President of Global Parts and EME Aftersales & Services.

**Mr Schöppl, in your role as Vice-President of Global Parts & EME Aftersales and Services, you are mainly responsible for the global AGCO spare parts business. How is your division involved in the issue of "Farming 4.0"?**

Alongside the spare part and customer service business, I'm also responsible for the newly established "Services" division. In other words: How can we offer extensive

services along with our machines and spare parts, which ensure that our products work and are optimised, and which enhance their functionality? This division is very closely involved in digitisation.

For example, at present we only react if a problem occurs on a machine. The owner informs his dealer and he then tries to identify and correct the problem. If necessary, Fendt Customer Service becomes involved. All this

uses up valuable time. Using telemetry solutions, we can connect to the machine – provided that the customer gives us permission to do so –, read and analyse its parameters, and quickly and pro-actively resolve the machine's problems. The aim is to guarantee that machines run without problems occurring.

**The AGCO centre of expertise for digitisation is currently in development in Marktobendorf. Please give us an impression of what we can expect at the end of this process?**

Well, firstly, our innovative "Uptime & Machine Monitoring Centre" in Marktobendorf is our latest project. From here we want to support our dealers in taking the necessary action to maintain customers' machines pro-actively, and to increase the operating time of the machines. Hence the name: Uptime Centre. By doing this, we are taking the needs of our customers into account, because they need their machines to be fully reliable at all times, and want a guarantee that this will be the case. The Uptime & Machine Monitoring Centre is therefore part of the global centre of expertise for digitisation which is currently under development Marktobendorf.

The issue of digitisation is a complex one. It involves optimising the way in which several factors and areas intertwine. Firstly, the digitisation of our machines in terms of expanding the functionality of the machine, helped along by the use of smart technologies: Telemetry solutions or the networking of machines to communicate within the harvesting process, just to name a couple of examples.

*"By doing this, we are taking the needs of our customers into account, because they need their machines to be fully reliable at all times."*

Secondly: More and more farmers are turning to software solutions to manage their operations. Operational decision-making is increasingly data-driven, because this helps optimise processes and achieve the best possible result. In other words: Machines

must be integrated into this decision-making process, or to use a very modern expression, they must be "connected".

Thirdly – and this is right at the core of our project in Marktobendorf – the realignment of our own company processes to take account of digitisation, with the aim of giving the farmer as perfect a customer experience as possible when it comes to communication and collaboration with ourselves and our dealers.

**Can you give an example of how we are adapting to these new structures at AGCO and Fendt?**

The benefit to the customer increases through the consistent reliability of our machines, which is enhanced when we combine support from our dealers and support from Fendt. Customer service, spare parts division, etc. largely retain their own processes and systems. In future, these departments will work together even closer, as digital products and service require different, more closely integrated processes. By the same token, we must extend our

support processes to our dealers, to be able to offer additional services for the machine to suit the customer. For in the end, it's about the customer optimising his supply chain on his farm, i.e. optimising total costs and yields.

*“We are making good use of Fendt’s expertise and their close customer relations,*

**How is the Fendt brand being integrated into the new processes, what is Fendt’s role?**

As a technology and innovation leader in the AGCO Group, Fendt will of course be very closely integrated into this digitisation process, which is why the global centre of expertise for digitisation is being created in Marktoberdorf. We are making good use of Fendt’s expertise and their close customer relations, since this something that Fendt focuses on very sharply. Fendt understands the needs of farmers and turns them into

innovative products. Above all, we want to focus squarely on the customer when it comes to smart services, and to be innovative with it.

**Which employees or skills will play an even greater role in the agricultural machinery industry in future?**

Employees in this sector represent a very wide pool of talent. Firstly of course, we need experts, as we have in our company, who know the farmer and our products – these include Fendt experts from Marktoberdorf and colleagues from the Valtra and Massey Ferguson brands. We also have employees from North America and South America in the team, for this is a global project with an international team. Having said that, we also need new employees with a whole range of other skills such as data analysts to examine machine data, e-commerce specialists, user experience designers, etc. I would foresee a really good blend of around 100 employees, consisting of digitisation specialists and Fendt experts, for Fendt will also be one of the main drivers. We’ve also therefore established a new centre of expertise in Marktoberdorf.

**Tell us a little about the “connected services” so that the readers can get an idea of the service they will be able to use in future.**

To date, we have offered traditional services, warranty extensions for example. But of course we are looking beyond these to offer machine monitoring through “connected services”, if the customer requests that. The aim of this service is to help ensure that machines operate flawlessly and to optimise them in their respective application. The Fendt 1000 Vario or Fendt IDEAL are fitted with an ACM box (AGCO Connectivity Modules). By exporting the machine data, we can monitor the machine and forward recommendations to the operator, in order that it provides optimum performance, at maximum capacity with low fuel consumption. In the end, the benefit to the customer is high productivity and excellent yields, but it’s also about providing the best possible customer experience. These are all goals we are working towards with “connected services”.

**How are you going to square the circle of data security, privacy and data sovereignty, because in the end this is data from a customer’s machine.**

That’s very true. The data belongs exclusively to the customer. He determines how this data may be handled, by whom and when. We distinguish between agronomic data and machine data. The former is of no interest to us, and before we are allowed to do anything with the machine data, it is very important for us that the dealer discusses this with the customer, and obtains his consent.

*but it’s also about providing the best possible customer experience.”*

**The last question is personal, but we have to ask because it’s Christmas. Are you giving digital presents this year?**

No, we’re far too conservative for that. *(laughs)*

**So it’s socks and ties?**

No, not that either. For us, Christmas isn’t really about big presents. The time I get to spend together with the family is far more precious. We give each other small gifts, nothing very big..

**Many thanks for the interview!**

**Interview was conducted by Manja Morawitz and Sepp Nuscheler.**



**ABOUT THE PERSON**

Boris Schöppllein is a member of the AGCO Board of Directors in Neuhausen, and is Vice-President of Global Parts and EME Aftersales & Services. He has been working for AGCO for the past 11 years.

The Business Management graduate previously worked as a consultant, mainly in the automotive sector. Boris Schöppllein is married, has two sons and enjoys going hunting in the little spare time he can find.



# VIKINGS IN IRON AND STEEL-VARIOS IN DENMARK

Denmark means Vikings, Lego and Hygge (cosiness), but also mathematical geniuses, with the Scandinavian country occupying top spot in PISA test results. Why the Norseman are so good with numbers, but still enjoy their creature comforts.



▶ **Mattias Skotte (l),** new managing director of Svenstrup og Giesegaard Landbrug taking possession of three Fendt 936 Varios from Henrik Severin (r).



Following a detailed analysis of the benefits and drawbacks of various tractor brands, he decided to go for the Fendt in 2013: he ordered three identical Fendt 936 Varios. “Back then, we spent quite a lot of time looking at the financial profile of three tractor brands before we decided on the Fendt tractors,” says the operations manager of the 2,153 hectare farm. “I can tell you now that the tractors met all our expectations, not least with regard to fuel efficiency. Measured over the four years and more than 10,000 operating hours, their consumption is actually 26% less than we calculated,” says Henrik Severin.

**Raw figures and hard facts**

Svenstrup and Giesegaard Landbrug I/S normally works with data such as consumption or maintenance. It is carefully measured and recorded. Whenever the tractor is refuelled, it is inspected and

serviced, and so the figures reflect the actual consumption: In the period from March 2013 to March 2017, 202,302 litres of fuel were consumed in the 10,363 running hours. Even though the machines were operating for different lengths of time, the overall costs for fuel and maintenance, including lubrication and insurance, were roughly the same.

**“THE 900 USES 16 L, WHICH IS FAR LESS THAN THE OTHERS WHICH USE AROUND 21 L/H.”**

That mainly lies in the fact that the fuel consumption of the 900 is very low. “At an average of 16 litres per hour, the tractor uses far less than the others which use around 21 litres per hour,” says Severin.



▲ The Fendt 936 Vario with a Samson PG 25 liquid manure tank and a 3 m3 front tank.



▲ Jens Gustav Svendgaard is the owner of Svendgaard Maskinstation, based in Sønder Vissing.

### Overall costs at a glance

Alongside the tractor's design, the fuel consumption depends on a number of different factors. Specifically, engine speed and an efficient gearbox are required to keep the fuel consumption down. "But the utilisation also plays a key role. The tractors only run for 30% of the time at full power and maximum fuel consumption," estimates Henrik Severin. For the rest of the time, the load during lighter work is somewhat less. "With a low load, the tractor controller keeps the engine speed as low as possible, therefore saving a lot of fuel," he explains. The calculations of 2013 assumed that all three Fendt 936 Vario will run for approx. 9,000 hours or around 10 years until they need to be exchanged. Depreciation was also factored in here. "Of course, you never know the resale value before buying," says Henrik Severin. "But the Fendt does very well when it

comes to low depreciation and loss of value," he asserts. With regard to weight and tractors, opinions differ widely. One prefers lighter tractors in the high horsepower class, the other

### "THE VARIOS IN THE YARD NOW TAKE ON MUCH OF THE HEAVY TILLAGE."

prefers heavier ones. "If you need weight, you can always use ballast," says Severin. Since 2007, the land on Svenstrup og Giesegaard Landbrug I/S has been managed without ploughing. The Varios in the yard now take on much of the heavy tillage.

### The tyres are a great help here!

In order to be able to transfer the considerable tractive power properly, the ground contact surface must be as large as possible. "On the roads, the width of the tractor shouldn't exceed 3 metres. This is why these tyres come into their own, because you can ride the vehicle without the sides of the tyres bulging at low tyre pressure," explains Henrik Severin. On the contrary, good low pressure tyres have a large ground contact surface, when, for example, the tyre pressure is reduced to 0.8 bar. Using Michelin Axiobib IF 900/60R42 as rear tyres, Severin feels that all three machines are ideally equipped.

## A CLASS OF ITS OWN

Jannik Bang Jensen is used to really excellent Fendt tractors. But now he has one that beats the lot. His new Fendt 1038 Vario is the new addition to the Svendgaard yard. As you watch him in the distance, as now, driving in the field with his Samson PG 25 liquid manure wagon with spreading system, the difference is maybe not so obvious. But seen close up, the operator is left in no doubt. "The Fendt 1038 is a totally different tractor to the Fendt 939, which I've been driving for the last two years," says Jannik Bang Jensen. His last 367 running hours with the 1000 series have been spent solely on liquid manure spreading. "The engine is just much more powerful and the tractive power is better."



### FARMING IN DENMARK

Following the structural changes, a total of 35,674 active Danish agricultural enterprises were registered in 2016 according to Statistics Denmark.

In addition, the number of new multi-shareholder companies registered in the last ten years in farming came to 4,683 (2016). These companies are normally far larger than single farms. They make up a good 12% of all farms in Denmark, but farm a fifth of all agricultural land, a third of all pigs, and a fifth of all cattle.

### The workplace for professionals

Fendt is known for its continuously-variable Vario transmission, which the company itself has developed over many years. The new Fendt 1000 Vario has a new generation continuously-variable gearbox the Fendt VarioDrive. "If you drive the 1038 from the road into the field, you don't have the change the speed range, says Jens Gustav Svendgaard, owner of Svendgaard Maskinstation based in

### "IF YOU DRIVE THE 1038 FROM THE ROAD INTO THE FIELD, YOU DON'T HAVE THE CHANGE THE SPEED RANGE."

Sønder Vissing, south-west of Aarhus in Jutland. With 12.6 l cc and a higher torque at maximum power, the drive also tackles heavy work far better, for example, liquid



▲ Jannik Bang Jensen is an operator at Svendgaard Maskinstation. He applies liquid manure with his Fendt 1038.



▲ Finn Dam (l) from Danish dealer TBS Maskinpower in Starup hands over the Fendt high-horsepower tractors to Jens Gustav Svendgaard, owner of Svendgaard Maskinstation.



manure runs. Jannik Bang Jensen is an operator at Svendgaard Maskinstation. The company purchased the new Fendt 1038 Vario mainly for applying liquid manure.

The tractive power is also automatically increased by the greater operating weight. A Fendt 1038 weighs a good 3 tonnes more than a Fendt 939. "With their larger diameter, the tyres also have a large ground contact surface. This ensures better stability and less drag," says Jens Gustav Svendgaard. The 4WD is also permanently activated up to a speed of 25 km/h. In his opinion, the entire design is more robust and better suited for heavy work. "I have high expectations of our new Fendt 1038. If the tractor continues to meet our expectations, we will probably buy more, even if the initial purchase price is quite high".

***"IF THE TRACTOR CONTINUES TO MEET OUR EXPECTATIONS, WE WILL PROBABLY BUY MORE, EVEN IF THE INITIAL PURCHASE PRICE IS QUITE HIGH".***

**Larger, more appealing cab**

For Jannik Bang Jensen, the decisive factor is feeling comfortable while he works. The Fendt 939 Vario already has a very nice cab, but this one really is even better," he explains. His impression is that the machine rides much smoother on uneven ground. He has also found that the Fendt 1038 has a better exhaust brake. "The controls on the terminal are also really easy to follow. If you want to, you can put additional functions on the multi-function joystick." There's lots of good arguments to go for the 138 Vario alongside the Fendt 936.

Even greater comfort and cosiness, known in Danish as "hygge" is incorporated into the Fendt 1000 Vario. But in the end, the decisive factor is the power and fuel consumption – the guys at Svenstrup og Giesegaard Landbrug are still very good with numbers. **F**

# FENDT 900 VARIO MT – THE PERFECT COMBINATION

With the new Fendt 900 Vario MT and Fendt 1100 MT track tractors, AGCO/Fendt can now offer high-performance traction machines from 380 to 646 HP for professional farmers. Take a closer look at the Fendt 900 Vario MT series.

## Combines the best of two worlds

Fendt 900 Vario MT (Mobile Trac) combines the best of two worlds. The experience gained from the installation of more than 250,000 Vario gearboxes, and the expertise as a result of more than 30 years of working with track tractors. A genuine Fendt operator's seat and new, unique ride comfort have been added, based on a completely new suspension concept.

## Grip and comfort

"Vastly improved handling on the road and in the fields was a key objective of the development work on the Fendt 900 Vario MT," says Peter Settele, engineer in Fendt Sales Support, describing the unique suspension concept.

## ConstantGrip

The three middle track rollers are fitted in the track frame via the pendulum suspension (bogie in bogie). This allows the track rollers to be adjusted to follow the ground contours in the fields and on the roads. Other benefits include an even weight distribution over the entire treadbar surface and maximisation of the contact area in the fields.

## SmartRide

The main beam for the drives is connected to the chassis by the newly developed suspension. The suspension consists of various components:

- Sturdy helical springs with integrated pressure surge dampers
- Additional hydraulic shock absorbers for damping if bouncing occurs
- Hydraulic shock absorbers and spring pads guarantee optimal suspension behaviour when bouncing occurs, and limit the spring travel
- The torque rod stabiliser bar provides the chassis with lateral stability

This results in a significant longer spring travel of 260 mm in total (measured on the front guide wheel). The suspension allows a swing angle of 11° on each drive, and is therefore comparable with the front axle suspension of a wheeled tractor.

## Cab suspension

The Fendt 900 Vario MT is the first conventional tracked tractor with a 2-point cab suspension, consisting of two dampers with rubber buffer on the front and helical springs



with integrated shock absorber on the back. The total spring travel on the cab rear is 98 mm and provides very soft suspension for effective damping of vibrations, which are transferred directly from the ground via the rigid rear axle.

#### Operator's seat, air-sprung

The combination of chassis and cab suspension reduces the shock loads considerably. In practice, the operator notices this in the significantly enhanced stability at higher speeds on the road, and without getting tired when working the fields.

#### High power and low fuel consumption

As seen on the Fendt 1000 Vario, the hydrostatic-mechanically VarioDrive power split drive train is also an outstanding feature of the Fendt 900 Vario MT with its larger hydrostat units. "The only difference between the TA 300T track gearbox and the ML400 of the Fendt 1000 Vario is the lack of 4WD, which track tractors don't need because the machine is driven via the rear axle," says Peter Settele. Both hydro motors drive the rear axle. At high speeds, a hydro motor is completely unhitched whilst unloaded just as on the 1000 Vario. "This means no drag losses which leads to a significant increase in efficiency," explains Peter Settele. The result of the Fendt VarioDrive: Uninterrupted maximum

tractive power in the field, and maximum efficiency when transferring from field to field without additional travel range selection. The benefits of the low speed concept are therefore not only evident during use in the fields. Even when driving on the roads, the Fendt 900 Vario MT tracked tractor reaches the maximum speed of 40 km/h at just 1550 rpm.

The Fendt 900 Vario MT tracked tractor always operates in the ideal speed range with maximum torque and minimum fuel requirement. The maximum torque of the new, high-capacity AGCO Power engine (9.8 l) is already reached at 1450 rpm. The rated engine speed is very low at 1700 rpm. The effectively-used speed range (1200 to 1700 rpm) is far lower than for conventional concepts, and is a precise match for the engine's optimal fuel consumption. An automatic function has been added, through which the engine software reduces the engine speed from 1000 rpm to 800 rpm when the tractor is in the parking position.

#### Concentric Air System (CAS) cooling system concept

Due to a separate hydraulic drive independent of the engine, the Concentric Air System (CAS) always supplies the ideal cooling capacity. "The CAS cooling concept with pushing high-performance fan cools all heat exchangers according to need. The fan wheel in front of the cooler module sucks in cold air in contrast to standard fans," explains the Fendt sales engineer. "Since cold air has a greater density, more air mass can be pushed through the heat exchangers, and more heat is therefore absorbed and dissipated with less fan power output." The CAS can also be ordered as an optional reversible fan.

#### A Fendt operator's seat

When it comes to getting maximum performance from the machine, the design of the driver's seat also plays a key role. "In principle, all essential controls and features have been transferred from the Fendt 1000 Vario cab," states Peter Settele. "Machine parameters can be set and monitored from the convenience of the Varioterminal 10.4" with large touch screen. The vehicle can be operated quickly and intuitively using the familiar Fendt multi-function armrest with the integrated Fendt Vario Joystick."

## MODELS

The new Fendt 900 Vario MT tracked tractors are available in three output levels:

Fendt 900 Vario MT	kW	PS
Fendt 938 Vario MT	279	380
Fendt 940 Vario MT	298	405
Fendt 943 Vario MT	317	431

Rated power according to ECE R 120

The cab of the Fendt tracked tractor comes with the option of a operator's seat in real leather, which enables the various comfort functions, as well as a comfort instructor seat with an integrated cup holder in the armrest. Sun visors at the front, back and at the sides, a new high-power air-conditioning system, as well as several 12 V points and USB ports makes the cab an extremely comfortable work place for those long days.



**New Fendt high-performance hydraulics are powerful, energy-efficient and environmentally-friendly**

The new Fendt 900 Vario MT has high-performance hydraulics with optional 2 load-sensing pumps (2 x 220 l/min) which can supply 2 separate circuits, and reach their maximum flow rate at 1700 rpm. Various functions of the implements can be connected to the relevant circuit as required with regard to oil quantity and oil pressure, e.g. the fan drive of a seed drill has a low pressure requirement, whereas the other hydraulic functions have a higher pressure requirement. This helps reduce throttling losses and cooling times throughout the system, and to increase the overall efficiency. The high-performance hydraulics are fitted with valves which allow a high flow rate of 140 l/min as standard. All 6 valves with a flow rate of 170 l/min are available as an option. The new flat-sealing hydraulic couplings are very environmentally-friendly, energy-efficient and easy to handle (Flat Face Couplers = FFC). **F**

## TECHNOLOGY

- AGCO-Power 9.8 l seven-cylinder motor with TwinTurbo and up to 431 HP.
- Fendt iD low engine speed concept
- Fendt Concentric Air System
- Fendt VarioDrive drive concept
- Mobil Trac System with large contact area
- SmartRide chassis suspension
- ConstantGrip roller suspension
- Fendt cab suspension
- Fendt VariotronicTI with VarioGuide, SectionControl, VariableRateControl, VarioDoc Pro
- Up to 440 l/min hydraulic power
- Full-fledged cat. III/IV lifting unit with 86.18 kN lifting power
- Dual PTO shaft 1000 & 1000E

# TESTS

## CARRIED OUT BY PROFİ AND TRACTION DIDN'T GO EASY ON THE FENDT TRACK TRACTOR



Trade magazines profi (12/17) and traction (Nov-Dec/17) tested the Fendt 900 Vario MT in field trials with a 5 m wide Horsch Terrano cultivator. The new Fendt track tractor won over the journalists, not only due to its power and ride comfort, but also through the many small practical details.

### Ride comfort

**traction** "The ride comfort during our test was very good for a purely track tractor. Below 10 km/h though, you could only see a difference where the ground was very uneven. The chassis and cab suspension comes to the fore when you ride quickly over ruts on a headland or on farm tracks and roads."

**profi** "The Fendt 1000 Vario types are easy to identify here. Starting with the "push" radiator fan through the continuously-variable "VarioDrive" drive to chassis and cab suspension, this represents huge progress."

### Details

**traction** "Good: The rollers' bearings now have small inspection glasses to check the oil level." "The current belt tension can be called up on the terminal for checking."

**profi** "And with regard to the connections in the rear, the flat-face hydraulic couplings have now been introduced. The flat-face design of the double-sided connections which can be coupled under pressure prevent oil leakage almost completely, and the connections are therefore also much easier to clean."

### Operation

**traction** "We liked the option of deactivating the cruise control using the foot pedal. You push the pedal right to the floor (but the tractor doesn't accelerate), and then take it back gradually – the software deactivates the cruise control and all this gives you a seamless speed change – very nice." "Benefits of the CVT gearbox, alongside the reduced workload due to fewer operating steps include better acceleration figures, the variable adjustment of

the engine speed and automatic adjustment to the required power."

**profi** "The comfort of the continuously-variable gearbox is "experienced" through the engine gearbox control unit: The engine is nicely kept automatically within the optimal speed range, regardless of whether it operates at the boundary load or within the partial load range."

### The cab

**traction** "The interior of the cab is 100% from Fendt. Alongside the familiar Vario armrest control with 10.4" touch terminal a leather upholstered operator's seat is available on request, which can be swivelled 40° to the right and 10° to the left. The standard configuration includes a high-power automatic air-conditioning system, as well as a pull-out roller shade at the front and at both sides."

**profi** "When it comes to comfort, the cab doesn't hold back either."

### Performance

**traction** We put the 943 Vario MT through its paces in our field trials. The 6 m wide Terrano was set to a depth of 30 cm to incorporate maize straw on heavy soil. On the level we drive at 0 to 3% drag, and upslope (up which the 400 HP standard tractor used by the farm finds it impossible to pull a cultivator) still at between 5-6 km/h."

**profi** "Only upslope could we push the track tractor to its limits, and at less than 5 km/h, the drag of the 20 t traction machine rose to more than 15%."





◀ Huge interest in the traditional technical demonstrations with Fendt Vario tractors and machine from the Fendt harvesting technology range.

Insiders in the know call it “Little Wadenbrunn”. Even so, the Fendt field evening in Malsfeld/Mosheim has grown since its launch twelve years ago to more 4,500 visitors on 7 September 2017. That’s around a tenth of the guests at the last “Big Fendt Field Day” in Wadenbrunn. The mood in north Hessen is just as good as that in Franconia, that’s also because the popular event offers farmers and their families a platform for swapping experiences with colleagues from the industry. Friends and acquaintances also meet here to chat and look forward to the next one.

**Efficient Fendt technologies draw a crowd**  
 “We’re very pleased with the way everything has gone, the rising visitor numbers, and the huge interest in our farm technology,” commented Mario Soose, managing director of Raiffeisen Waren GmbH, Kassel. The technology demonstration is the highlight. Fendt demonstrated its full line range for 2017. For the first time, harvesting implements like the Fendt Twister and the Fendt Tedder were present. The highlight of the Varios is without doubt the presentation of the Fendt 1046 with a 12.6 l MAN engine and 460 HP. It is the largest standard tractor on the German market. The

**“THE HIGHLIGHT OF THE VARIOS IS WITHOUT DOUBT THE PRESENTATION OF THE FENDT 1046 WITH A 12.6 L MAN ENGINE AND 460 HP.”**

# HUGE CELEBRATION OF AGRICULTURE IN MOSHEIM

Each year, between the winter wheat harvest and autumn work, Raiffeisen Waren GmbH Kassel and Fendt held their traditional Fendt field evening in Malsfeld-Mosheim. The latest technologies from the Fendt full line range were on show in practical demonstrations.

▶ Mario Soose (left), managing director of Raiffeisen Waren GmbH Kassel, opens the Fendt field evening together with Fendt Regional Sales Manager Nord/West Heiko Knesebeck (right), and Torsten Wendhausen (2nd from left) from Amazone and Arndt Grein, Köckerling (2nd from right).



▼ (from left) Nils, Karin, Hans-Werner and Anika Hocke. Every year, the Hocke farming family from Mosheim make part of their land available for the field evening.



audience was also enthusiastic about the new innovative combine harvester generation. “After the wet harvesting conditions of this year, we made a conscious decision to present the small Fendt combines, the 5225 E with 218 HP and the 5255 L with 243 HP. For farmers in this region, they are the perfect harvesting tool,” commented Heiko Knesebeck, Fendt Regional Sales Manager, North/West. Alongside colleagues from Fendt and employees of the Raiffeisen Technology Centre in Homberg, he presented the Fendt tractors with implements as well as harvesting technology in the central show ring.

**In-depth look at machines in action**

Visitors from the industry followed the show with great interest. They could then go to the adjoining stubble field and find out about all the latest innovations, and discuss the issues in-depth with Fendt engineers and Raiffeisen employees. Along facts and figures, live demonstrations in the field with Fendt tractors and tillage implements, as well as the Fendt Katana 65 forage harvester which was demonstrated chopping maize, offer an in-depth look at the machines in action.

**Fun for the whole family**

“The fascination for Fendt technologies goes on, and that’s a positive thing. In addition, with a fun-filled programme for the youngest



▲ “The field evening is a unique event,” says Nadine Krug. Together with her parents, she runs a farm with arable crops, sows and piglets.



▲ Celebrating agriculture in the show ring: Frank Grenzebach, sales representative at the Raiffeisen Technik-Center Homberg/Erze has himself weighed to demonstrate the unique weighing function of the Fendt CargoProfi front loader.

**BACK IN 2013  
WE STARTED WITH AROUND 30  
PEDAL TRACTORS. NOW WE HAVE  
FIVE TIME AS  
MANY. THAT’S JUST GREAT.”**

▲ (from right) Farmer Bernd Weiß, his son Lukas and father Karl Weiß are regular visitors to the field day in Mosheim. Bernd Weiß manages a farm in Homberg-Wernswig with arable and dairy.



▶ Alongside tractors and harvesters, AGCO/Fendt demonstrated the new Fendt implements in Mosheim. Here we see the Fendt Slicer mower for efficient forage harvesting.

generation, we’re already looking after the customers of tomorrow,” summarises Frank Grenzebach, Raiffeisen Technology Centre in Homberg. For this year, the “Come with your pedal tractor” kids campaign is also in full swing. More than 150 children brought their own Fendt pedal tractor with them, and were given a pair of limited edition “Mosheim Fendt sunglasses” as a small reward. “Back in 2013 we started with around 30 pedal tractors, now we had five times as many, which is just fantastic,” says Katharina Penke, Raiffeisen Waren GmbH, Kassel. Lots of entries were also received for the “My lovely day out in Mosheim” painting competition. A straw castle

and the toy tractor seesaw also provided plenty of fun in the “Kindergarten” for the little ones. The “older” generation however, tested their driving skills on the tractor balance. Just the right music was provided to fit in with this year’s slogan: “Celebrating agriculture in Mosheim” Organisers Mario Soose, Frank Grenzebach, Raiffeisen Technology Centre in Homberg, and Katharina Penke, supported by Heiko Knesebeck, hit the spot with the seven musicians of the “Rhönräuber” band, who played long into the night in the party tent at the 2017 Fendt field evening in Mosheim. **F**

# THE STRENGTH LIES IN THE SMOOTHNESS



The Fendt VarioGuide automated steering system leads the Fendt 1050 Vario of building contractor Kay Ditzel far from the beaten path: All quite deliberately. Since May, the work place of the white fleet, including the latest and most powerful Marktoberdorf tractor, has been the building works in the Rhine-Main area. Track by track, the combination of tractor and soil stabilisation mixer battles to create solid ground.

One person, lots of experience: Building contractor Kay Ditzel has been running the earthmoving company since 1994.



▲ (from left) Steffen Brandtner, Fuse Specialist at RWZ Rhein-Main and Samuel Waas, planner and stabiliser operator.

It's slow work, very slow. Usually, it takes the whole working day until the tractor has solid ground under its wheels. The area of 5,000 to 15,000 m<sup>2</sup> covered by day's end is not obvious at first glance. Yet, the 1050 performs the heaviest work during this time: 517 HP pulls the soil stabiliser through the loose soil, ensuring that a mix of unslaked lime and cement is incorporated into the ground up to 50 cm. At the end of the work, the combination leaves behind a solid surface for industrial units, wind farms, sports fields, and of course, the classic road building. In 1994, Kay Ditzel decided to found an excavation and

earthwork business to go alongside his farm. "It was actually a hobby", he adds smiling. Today, he employs a staff of 20. Kay Ditzel's construction company

**THE WHITE FLEET IS INSTANTLY RECOGNISABLE AND IT'S THE IDEAL WAY OF ADVERTISING THE COMPANY."**

specialises in heavy earthworks, demolition work and land reclamation. The main equipment includes excavators, track tractors, trucks and Fendt tractors.

"I already knew about Fendt from working on my parent's farm. We still have a 3 S there. Reliability and on-site service were the key arguments in favour of using the Marktoberdorf technology in the construction business. In total, seven Fendt Varios from the 800 to 1000 are used for material transport and soil conditioning," explains the hands-on businessman.

Visual hallmark of the Ditzel fleet: All machines are painted white, from trucks to the Vario. There's a straightforward reason for this: The Fendt tractors are not used in grassland, so nature-green is not required.

"There's a lot of dust on construction sites. Despite all this dust, the implements never appear dirty. The white fleet is instantly recognisable and it's the ideal way of advertising the company," says Ditzel, convinced by his colour concept.

**Just a few centimetres work saves several hundred euros**

In spring 2017, the soil stabiliser traction machine, a Fendt 939 Vario, was due for replacement. Three factors played a key role in looking for a replacement machine: Time, wear and fuel, because these all cost money. The company quickly decided on the 1000 series Vario. Thanks

to the low engine speed, the stabiliser can now run at 1,300 rpm on the PTO. In his own field test, Ditzel saw a cost saving of 20% compared with the 939, which had to apply around 2,200 rpm to the PTO at the same power. "That's a real quantum leap. I think I should also point out that we were already very happy with the costs for the 939," says Ditzel with regard to the operating costs. A guidance system is not the norm on construction sites. Even at Ditzel, it was largely down to chance that VarioGuide is now established in the company. Just four months later, a machine without a "guidance system" is unimaginable. The

system is so convincing that the company has already budgeted for its additional costs when they invest in the soil stabiliser's traction vehicle. "Safety on the construction site plays a key role here, in addition to the costs of applying the lime mixture," says the man from Hessen, glancing at his many employees busy on the site. The demo tractor, which has been used on the site for a day, has the Trimble RTK installed. Samuel Waas, planner and stabiliser operator was won over straight away by the technology. Steffen Brandtner, Fuse Spezialist at the Raiffeisen Waren-Zentrale Rhein-Main eG

(RWZ), was on hand to answer his questions. He oversees everything relating to the Precision Farming sector there: Advice, sales, basic training and troubleshooting. "Working

**"IN HIS OWN FIELD TEST, DITZEL SAW A COST SAVING OF 20%."**

with VarioGuide is far more efficient and makes operating easier," says Waas. Creating a solid foundation requires precision work.

The longer the working day, the more the concentration tends to waver. In order not to put the results of the work at risk, many tend to overlap somewhat more just to make sure, but this just drives up costs. Waas makes a simple example calculation for the 7,000 m<sup>2</sup> area in front of him: On a 100 m lane length, I need to make 30 runs with the 2.50 m wide soil stabiliser. In order to be sure that the substrate has been properly worked, they aim for an overlap of two to five centimetres. That just can't be done by the human eye. Also, the clouds of dust on the construction site are sometimes so thick, that you have to wait until a headland

before the visibility has improved enough to find the right track for the return run. The third eye of the Trimble Receiver penetrates the cloud quicker, and steers the combine back onto the right

**“OVERLAPPING BELOW 15 CM IS VIRTUALLY IMPOSSIBLE WITHOUT THE GUIDANCE SYSTEM.”**

track in no time at all. “Overlapping below 15 cm are almost impossible without a guidance system,” says the experienced operator. Without VarioGuide we would have a total width of 3 m which had



◀ The guidance system is vital to such soil stabilisation work.



been worked twice. That corresponds to two additional lanes which add 250 euros onto the stabilising bill alone at the end of the day, but now we can save that money. Waas also sees other benefits: Use of the cab as an office, to plan the machine fleet; exact area calculation for correct billing with customer; focus on heavy implement to optimise the setting. All this happens in the background without influencing the process, for the Vario follows its lanes – slowly but precisely to the very centimetre – without any intervention from Waas.

**VarioGuide makes operating a pleasure, even during monotonous work**

Can the system cope OK with earthmoving? This was the question that Ditzel and Waas before using the Trimble RTK for the first time. The automated steering system

faces a whole range of challenges: Extreme dust loading, minimal road speed, powerful forces applied to the tractor by the stabiliser. In practice, none of these are a problem. Regardless of whether VarioGuide is used in urban areas or on the land, the company has not yet experienced a system failure. The Trimble RTK receiver receives the signal for precise tractor control even when operating in a dust cloud. The two guys from Hessen also had reservations with regard to road speed. When used for agricultural applications, the guidance system is normally used during work which is completed at around 8 km/h or more, but when used for soil conditioning during construction work, the Fendt 1050 Vario crawls across the surface at 0.4 to 1.3 km/h. The VarioGuide results were however extremely persuasive: +/- 2 cm reproducible accuracy is possible at snail's pace. The Fendt 1050 Vario will therefore help carry out stabilising work for around 1,000 running hours per year. It will spend a further 500 hours driving at up to 60 km/h on the road within a radius of up to 250 km of Hanau. Slow and steady wins the race – exceptions only prove the rule. **F**



Jörn and Tammo Gläser are long-time agricultural equipment experts and passionate film makers. They visited building contractor Kay Ditzel and shot a video there for us.

The impressive results can be found at: [www.Fendt.TV](http://www.Fendt.TV)

# DIFFERENT. BETTER. IDEAL.

“We developed this combine harvester from scratch – with no limits and using any ideas which enable productive and loss-free harvesting,” says Roland Schmidt, Vice-President Fendt Marketing. “The Fendt IDEAL is a combine harvester featuring high quality and reliability, designed to make best use of the short harvesting window.”





## TECHNOLOGY

- Fendt IDEAL 8 and 9 with high-power MAN engines and the dual helix threshing and separating system
- Fendt IDEAL 7 with AGCO Power engine and a single helix threshing and separating system



### Streamer 210 with maximum capacity grain tank and hydraulic adjustment of the discharge rate

The Fendt IDEAL has the largest grain tank on the combine market today. It has capacity of 17,100 litres. That is 18% more than any other high-horsepower combines today.

The key to an effective harvest chain is the fastest discharge rate on the market at 210 l/s.

In order that the driver does not have to constantly drive back and forth to fill the grain cart evenly, the Fendt IDEAL has a new ScrollSwing control. "The operator can move the discharge to and fro by extremely small amounts by using a rotary control on the multifunction joystick during the transfer process. In addition, the discharge rate can be hydraulically adjusted by the Streamer gates – therefore protecting the crop during the discharge process," explains Schmidt, discussing the benefits of the Streamer 210.

### A threshing system without equal

"The complete new helix processor lies at the heart of the Fendt IDEAL," says Roland Schmidt. "The longest rotors with a length of 4.84 m and a diameter of 600 mm ensure that all grains can be cleanly separated without having a negative effect on the straw quality."

The dual helix processor uses up to 50% less power than other systems, and is only adjusted via the speed and concave clearance. "In order to handle the crop with extreme care, and for a constant rotor load, the feed coils, threshing coils and rotor fingers are arranged in a spiral around the rotor, in a similar pattern to DNA", says Roland Schmidt, explaining the structure of the helix processor.

### IDEALbalance™: Two grain pans for optimal cleaning

The Fendt IDEAL has a second grain pan in the front section of the threshing mechanism, meaning that the front end of the preparation floor can already be filled with crop. The rear grain pan catches the material from the separation area, and distributes it in the rear area. The entire length of the preparation floor is therefore fully utilised, the crop evenly distributed, and efficiency maximised.

"The bulge of the two grain pans also allow optimal and consistent output even on slopes," says Roland Schmidt. Losses on gradients of up to 15% are reduced in comparison with conventional combines.

# MODELS

The new Fendt IDEAL combines are available in three output levels:

Fendt IDEAL	kW	PS
Fendt IDEAL 7	336	451
Fendt IDEAL 8	401	538
Fendt IDEAL 9	483	647

Rated power according to ECE R 120



### AutoDock™ links combine and table in just 5 seconds

Very short set-up times increase the efficiency of the grain harvest. "With the automatic AutoDock table connection, the table can be coupled quickly and safely onto the Fendt IDEAL combine. This can be done conveniently from the cab and the mechanical, electrical and hydraulic connections can be made in just five seconds. AutoDock works through an RFID code, the Ag Tag which is fitted to all tables. The combine automatically recognised the table in question.

"For healthy output, the crop must be fed smoothly to the combine. The new PowerFlow table, which is available for the Fendt IDEAL combine now with a maximum operating width of 12.20 m, offers just this," says Roland Schmidt.

### Full slope function up to 650 HP, and top performance even outside the field

In order that farmers and contractors can always use the full capacity of the machine on slopes, the ParaLevel system automatically and easily compensates for gradients of up to 14%. The crop flow in the machine always remains guaranteed. The large-volume tyres of a maximum of 800/70 R38 with a transport width of below 3.5 m on ParaLevel machines ensure low ground pressure.

### The transparent combine – IDEALharvest™ visualises the flow of crop in real time

52 mass acoustic sensors (MADS) show the utilisation status of the threshing mechanism and cleaning in real time. That's IDEALharvest™. The sensors are fitted along the rotors and the shaker shoe, and detect the flow of crop within the machine as well as any losses which occur.

"Using the IDEALharvest app for tablets, you can select your favoured harvest strategy within a pre-set triangle icon: Minimisation of

cracked grain, minimisation of foreign bodies, or minimisation of grain losses. For example, the Fendt IDEAL continuously adjusts the concave clearance or rotor speed to suit the selected strategy," says the Fendt Vice-President of Fendt Marketing.

### Outstanding visibility and an exciting design

The driver's seat design is key when it comes to getting the best out of the machine. The spacious Vision cab provides lots of space, and provides outstanding vision as well as operating comfort as only Fendt can. "The Fendt IDEAL design alone conveys dynamism, efficiency, motivation and strength," stresses Schmidt. **F**



Moritz enjoys driving tractors with his father.

# THINKING IN TERMS OF GENERATIONS

Between the Eifel and the Rhine lies the municipality of Swisttal. It takes its name from a brook called Swist, which winds its way through the Voreifel. The land here has been used for centuries for agriculture. The Ancient Romans grew crops and raised cattle here. So it's not unusual that Hubertus Krupp from Swisttal is the fifth generation of his family to farm the land here.

It's still very quiet in the fields, just a sound of a couple of birds singing in the early summer morning. It's the last weekend in June and a light breeze is blowing. Ears of ripe winter barley hang on their stalks. Hubertus Krupp takes a look, and decides that they are dry enough to harvest this morning. "The harvest is the reward for a whole year's work," he says, "and every second counts". But this morning is even more special, because for the first time, Krupp will bring in the harvest with his brand-new Fendt 6335 C combine.

### Seed propagation demands 100% varietal purity

The combine harvester is prepared for action every morning during harvest time. "Sticking to the normal intervals is easy to do on a Fendt combine. You can run through the lubrication process very quickly, which is

**"THE HIGH-PERFORMANCE 360 HP FENDT COMBINE, EQUIPPED WITH A DURABLE POWERFLOW TABLE, ROLLS AWAY ACROSS THE FIELD."**

a huge advantage," explains Hubertus Krupp and praises the easy accessibility and the logical design of air intake and engine oil inspection on the 6-walker combine.

The thresher and transportation combinations of Fendt tractors and trailer are ready to the go in the field. He rides the combine harvester himself, because his operator's seat gives him a good overview. Hubertus Krupp is the hub around whom everything is organised. Everything must go off without a hitch. Transporting the grain to the yard, which is done by seasonal labour, and unloading into the farm's

own silo facility. Farmer Krupp places great store on properly setting the units and feeder channels. Every single grain must drop into the correct box. He not only grows crops for the commercial market. On the farm in Swisttal-Straßfeld, he propagates seeds for winter crops such as winter wheat and barley, triticale and oilseed rape. He is contractually obliged to provide 100% varietal purity.

"A ripe grain with 17% moisture can be stored very easily in our barns, because of course we need to avoid cracked grain in order to provide high quality for seed propagation," says the father





of three, describing the requirements.

Then he vanishes once again into the 6335 C cab. The high-performance 360 HP Fendt combine, equipped with a heavy-duty PowerFlow table, rolls away across the field in a cloud of dust, only revealing yellow stubble here and there. Around midday, the state-certified farmer takes a break. A part-time farmer from the village, who helps him during harvest time, takes over and continues the threshing routine.

**Irreplaceable expertise and specialist knowledge**

At home, his wife, Andreas juggles family, farm, business and home. She is responsible for the office, which means far more than just doing the books. “Because I’m always here, I take calls, coordinate orders and freight deadlines,” she says. She keeps in contact with her husband by mobile phone, whilst he concentrates on the harvest. The couple took over the farm from Hubertus’ parents in 2004. Shortly afterwards, they acquired Andreas’ parents’ farm, and they live there to this day with their three sons and her mother. However, it’s not only farms which are inherited from generation to generation, but irreplaceable expertise and knowledge is also passed on. This is important to both Krupps, who are very conscious of following in the long tradition of their forebears.

Leaving nothing to chance: Andrea not only takes over office duties from Hubertus, but also allows him to keep a clear head. For he plans each process in meticulous details, and leaves nothing to chance if he can possibly avoid it. He sees the key factor for success as the right crop rotation, which he must define for three locations within a radius of 20 km. In essence, he tries to rotate crop types to create intervals between possible peak workloads. For example, he normally plans two different

crops in one locations, so that the dates for planting, establishing and harvesting are staggered: With an eye to maintaining the soil fertility, it is important to him that grain legumes and winter barley is always established before sugar beet or maize, so that enough time remains after the harvest to plant a catch crop. Sugar beet is without doubt one of the longest established arable crops in the Voreifel. Just 5 km from Swisttal, in Euskirchen, lies the oldest sugar factory in the

Rhineland, founded in 1879, so it’s no surprise that sugar beet has been grown on the surrounding land for generations, and the Krupp farm is no exception. **Fendt technologies are a permanent fixture** Krupp looks for technology to use on his land with the same diligence as he plans his farm operations, and of course, he always uses it to best effect. Fendt tractors are a permanent fixture here. The Fendt 724 Vario and Fendt 718 Vario tractors operate for

850 to 1,000 hours per year. The Fendt combine is also well utilised with 230 operating hours this year. “My grandfather and father drove Fendts, and we have a reliable service partner close by,” he says, explaining why he chooses Fendt. The arable

**“MY GRANDFATHER AND FATHER DROVE FENDTS.”**

farmer is particularly appreciative of the RWZ-Agrartechnik-Zentrum Zülpich, which helps him out with loan tractors or demo models at peak times, when his own “work horses” are not quite enough.

For Paul Lantzerath, Managing Director of Agricultural Technology at the RWZ branch, this is all part of the service. “We’re always ready and willing to provide Mr Krupp support with all the tools at our disposal. We know all too well how important it is to act quickly during the harvest and to supply spare parts if a fault does arise. Farmers just need to get on as quickly as possible,” he agrees.

▼ Ready for autumn: certified winter wheat seed.



◀ (from left) Paul Lanzerath, Andrea Krupp, seasonal worker Peter, farmer Hubertus Krupp and Felix Glas, Fendt Plant Representative for harvesting technology. “All customers with a new Fendt combine receive a visit during harvest time. We do this as in close collaboration with the RWZ,” explains Felix Glas.



▲ Grandfather Heinz-Hubert Krupp with grandson Philipp. The retired farmer still likes to get involved with the harvest.

**The benefits of a comfortable work place**  
 After eating lunch at home, Hubertus Krupp makes his way back into the field for the afternoon shift. Before he makes a start, the farm owner briefs his seasonal workers on what needs to be done this afternoon. Back in the cab, he learns to appreciate the huge benefits of having his workplace in a Fendt combine. With regard to controls, there are many parallels to Fendt tractors, which makes operating the combines much easier. Back in the spring, the Fendt 724 Vario was fitted with the

VarioGuide, which is now proving to be a very smart move, for the modern can be easily transferred to the new combine. "I was somewhat reluctant at first, but since

**“SINCE THIS SEASON BEGAN, I’VE BEEN USING THIS TECHNOLOGY, AND I HAVE TO SAY THAT I’M IMPRESSED.”**

this season began, I’ve been using this technology. And I have to say that I’m impressed,” he makes no

secret of the fact that he’s pleased with the decision. It’s now so much easier to cope with a long day bringing in the harvest, a day which can quickly run to 16-18 hours.

**Thinking in terms of generations**

When the farm runs efficiently thanks to Fendt technologies, there’s time to spare to look beyond the farm and to get involved in the wider aspects of the farming industry. For 30 years, Hubertus Krupp has been a member of the Agriculture, Water and Soil Task Force (ALWB) in the

Rhine-Sieg district, which includes farmers as well as regional water suppliers and the advisory Chamber of Agriculture of North Rhine-Westphalia. “We try to discuss our work with consumers through publicity work. For example, we show the care we take when using pesticides, and how we therefore contribute towards protecting drinking water.” The farmers are therefore singing from the same hymn sheet as the water suppliers. “Since we think in terms of generations, it follows that we always have an eye to the future,” says Hubertus Krupp.

**F**



▲ The ultimate in threshing management and terrific efficiency!





## Dieselrossöl still goes down well

At the end of October 2017, the brewery Aktienbrauerei Kaufbeuren and Fendt sealed their partnership for the coming years. The Fendt beers will also continue to be available in the Dieselross Restaurant, and at all Fendt events. From 2018, the 5 Fendt beer varieties will also be available in the Fendt Forum – either as a memento of a plant visit or a great gift for friends. “The origin of Fendt beer goes back to the 75th anniversary of the Dieselross in 2005,” remembers Peter-Josef Paffen, Chairman of the AGCO/Fendt Management Board. “We originally wanted to brew our own beer for a one-off event, but Fendt customers and Fendt distributors were so thrilled that we let the idea grow. It has come full circle, as we combine the tradition of Fendt Dieselross with the latest Fendt full-line technology. I think this local beer suits us and our local clientele very well.”

### Fendt's full-line program extends to beer

In 2017, “Fendt Fahrer Weizen” (Fendt Driver's Wheat Beer) was added to the existing beer selection as a non-alcoholic brew. It all started in 2006 with “Dieselrossöl”, a very traditional lager, which is the biggest seller to this day. It's a strong, darker beer, which used to be sold by almost all Bavarian breweries. But beer drinkers are liking the newer varieties. Shortly afterwards came the “Vario Weizen” (Vario Wheat Beer), a light-amber coloured beer, the pale “Ernte Gold” (Harvest Gold), and the “Katana Pils”. The old Dieselross tractors aren't the only collector's items – there are plenty of different Fendt beer glasses to collect, too. Every glass is available as a limited edition and the motifs showing the old Dieselross are highly sought after. A new 0.5-litre glass comes out this month, showing the Fendt Dieselross F12.

## One man. One Dieselross. One mission.

Silvia Glaser has been working for the past two years in Uffing am Staffelsee. Her father promised her that he would visit her on his tractor! And he was as good as his word. On 28 July 2017, Heinrich Glaser set off on the 400 m trip from Achern-Fautenbach in Baden-Württemberg to Uffing. His vehicle of choice: a Fendt Dieselross Fix 1, 1959 model. Heinrich Glaser took on the project in the summer, as he began his retirement. Equipped with a modified trailer, the “temporary bedroom”, the retiree set off on the long journey.

### A road with many memories

One of his pit stops included the Lohr farm in Degenhauser-Tal. This stop was quite special, for Heinrich's father, Leo Glaser, served his apprenticeship here after the war, and he himself was last there as a child. He was quite astonished to see how the dairy farm had changed with the 70 cows and the vast technology on hand. Heinrich Glaser also called into the birth place of his faithful travel companion. As he rode in front of the Fendt Forum, he took a huge interest in the large Fendt tractor with twister parked there, and for lunch, he went to the Fendt Dieselross Restaurant of course. In Marktoberdorf, Heinrich Glaser filled up with fuel for the 3rd time. The Dieselross therefore used 35.03 litres of fuel in 5 days. The operator however consumed 10 bottles of water and 18 bottles of beer, reaching Uffing am Staffelsee around evening time. The 15 HP under the vintage tractor's bonnet brought him safe and sound to his daughter. After a few days, he began the long journey home at 17 km/h and the Bavarian flag over the roll bar, where an enthusiastic welcome awaited him. Mission accomplished, promise kept!

## New fuel consumption world champion on the road and on the test bench: The Fendt 1042 Vario

The Fendt 1042 Vario is the first Fendt tractor which has undergone a PowerMix Test on a new roller test bench at the DLG test centre in Groß-Umstadt.

### Record DLG PowerMix test result: 235 g/kWh

Away from the weather and road conditions, the large tractor was put onto the test bench to undergo the DLG PowerMix Test 2.0. The result shows: The difference between road and test bench is marginal.

	ROAD DLG PowerMix Test 1.0	ROLLER TEST BENCH DLG PowerMix Test 2.0
<b>TRACTION WORK</b>		
Ploughing 100%	238	240
Ploughing 60%	240	241
Cultivators 100%	236	239
Cultivators 60%	239	241
<b>TRACTION AND PTO WORK</b>		
Rotors 100%	212	211
Rotors 70%	218	217
Rotors 40%	241	239
Mowing 100%	220	220
Mowing 70%	230	230
Mowing 40%	257	256
<b>TRACTION/PTO AND HYDRAULICS</b>		
Manure spreading	228	234
Round balers	259	258
<b>TOTAL</b>	<b>235</b>	<b>236</b>

## LEGAL NOTICE

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Fendt Marketing, Press Officer Sepp Nuscheler  
Email: [pressestelle.fendt@AGCOcorp.com](mailto:pressestelle.fendt@AGCOcorp.com)

**Editorial management:**  
Sepp Nuscheler, Manja Morawitz

**Contributors:**  
Bettina Karl, Manja Morawitz, Anna-Maria Ostermann,  
Jörn and Tammo Gläser

**Photos:**  
Jörn and Tammo Gläser, Andreas Mohr, Brigitte Huber,  
Bettina Karl, Anna-Maria Ostermann

**Design/graphics:**  
Martina Böck, Monika Niedermair

**Sketches:**  
Paulo Calleri

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The new Fendt Focus app is available in the Google Play Store for Android devices and in the Apple Store for iPads.



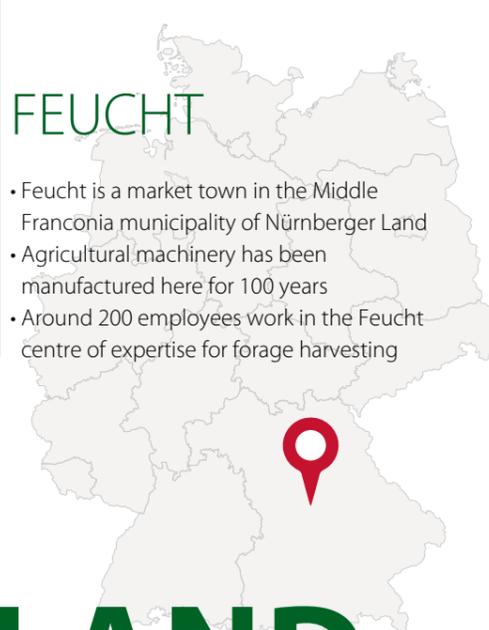
# FORAGE HARVESTING

Thinking in terms of combinations:  
A Fendt tractor with a mower, a twister or a Fendt hay rake. Since Agritechnica 2017, there is now an option to combine it with a round baler or combi wagon, because really good work results can only be produced when tractor and implement work in harmony.



## FEUCHT

- Feucht is a market town in the Middle Franconia municipality of Nürnberger Land
- Agricultural machinery has been manufactured here for 100 years
- Around 200 employees work in the Feucht centre of expertise for forage harvesting

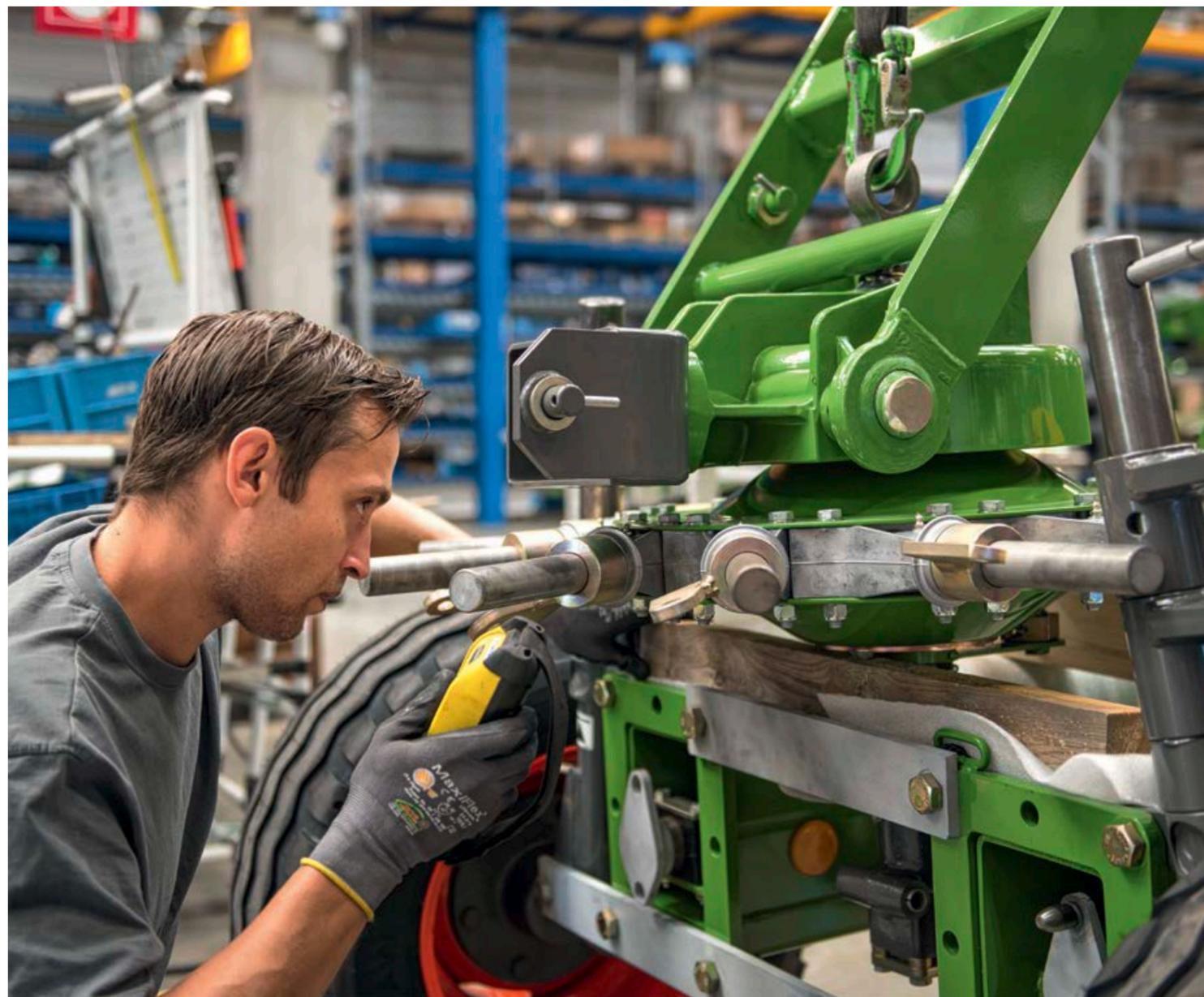


# QUALITY FOR GRASSLAND

## Fendt forage harvesting from Feucht



It all started in 1918 with the production of machines for tillage. Next year, we will celebrate the centenary of the Feucht site, which today houses the AGCO Centre of Expertise for forage harvesting in Europe. Around 100 models – from small twisters to very large hay rakes – are developed and produced here in Feucht exclusively for Fendt. In Fendt Nature Green and to Fendt quality standards of course!



▲ **The research centre is globally renowned**  
 A team of around 30 employees in Development – right up to testing and sample building – focus on mowers, twisters and hay rakes at the Feucht site. They work together in cross-site groups with engineers worldwide, for example, on the ISOBUS standard with the Electrical Function Group from the AGCO plant in Hesston/USA. Whether it's all about the right terminals or sensors, in the end Fendt implements and tractors must be compatible. This is what it takes to make a top team.

◀ **Quality begins with the drawing**  
 Quality in Feucht begins right from the virtual design of the machine in the Research and Development division. From the drawing to the initial samples, the risks of the parts are assessed and the parts optimised. Suppliers are also constantly evaluated: Do they have the necessary expertise, the right production machines, the required delivery quality? Approval of the initial sample is an especially critical point. Part for part, everything is inspected in Feucht for drawing conformance using high-precision test instruments. The supplier is only approved for production of parts when everything is OK.  
 As a next step, a functional model is built, a model. Employees gather initial information and note lessons learned during in-house assembly in the areas of parts delivery, assembly processes, tools, accessibility, etc. and use this to chart the way forward.



### Strong bars and sharp knives

Maximum precision is required when manufacturing the Fendt Cutter drum mowers and Fendt Slicer disc mowers. If the knives are too hard, they break. A certain amount of intuition is required here. Rotating mower knives should be highly durable, but the risk of fracturing rises with the degree of hardness. Thanks to a special hardening technology, the cutting knives have an elastic core whilst retaining an extremely hard cutting face. This prevents fracturing and premature wear. In a batch of 10,000 knives, 4 knives in a test sample are inspected in every detail, which includes a continuous quality test.

The mower is inspected during the production process on a special quality gate before final assembly: The cutterbed with drive is rotated 3,000 times for 20 minutes at full speed in the soundproof cab. During the test, all key parameters such as sound level, power consumption and heat generation are examined. Final assembly of the machine is only completed following this test.



### The sturdiest tines in the world for the Fendt Former and Fendt Twister

Employees in Feucht set a very high benchmark: They want to deliver the world's best tines, and to help them do so, they have developed their own tine test. The self-designed test benches have also been installed in all tine suppliers. For the test, 12 tines are clamped into a special carousel race. The twister and hay rake leg spring-loaded tines must withstand very high load cycles to guarantee a long service life. The tines are flicked for 30 hours over this race with more 200,000 impacts. Only 1 out of every 150,000 tested tines is allowed to break to meet the quality standard.



The mower frame ensures stability and keeps the mower units secure even at high speed. For this reason, the quality of the welds is inspected at the supplier and again in incoming goods. The large welded components which cannot be tested with the 3D machine, can be tested with test arms each 1.5 m long and with an accuracy to the nearest hundredth.



### For top quality and exceptional durability

The centre of expertise for forage harvesting technology manufactures devices for various AGCO brands. This means that all parts are delivered in three different colours: red, grey and green. The paint for the Fendt NatureGreen has been completely re-developed. To guarantee top quality paint, the paint undergoes a number of tests, such as an impact test or a test for UV resistance. The salt spray test is particularly thorough. Machine parts are sprayed with salt water for 480 hours, and inspected for corrosion resistance. Quality is not only limited to production. Fendt place great store on quality even after sale. This is where customer service comes into play. An international harvesting team supports dealers with customer issues and problems, for the team represent the point of contact with the customer, and needs to be fast and professional. The spare parts warehouse system is also based on speed and reliability. Around 3,000 spare parts for forage harvesting technology are kept in the main AGCO Parts warehouse in Ennery, France. Dealers order directly from there, and receive their parts within 24 hours.

**That's Fendt quality from the centre of expertise for forage harvesting in Feucht – from the first drawing to dealer service.**

# HIGHLY EFFICIENT FORAGE HARVESTING



## NEW MODELS

### Fendt Former 14055 PRO

Working width	11.5 - 14 m
Tine arms per rotor	4 x 13

### Fendt Slicer TLX

Working width	3.1 - 3.6 m
Cutting discs	6 - 7



Fendt presented new high-performance products in the forage harvesting range to visitors to Agritechnica. New products were presented from top of the range loading wagons to round balers and innovative developments in the mower and hay rake sector.

#### New addition: Fendt Former 14055 PRO

With a working width of up to 14 m, the new Fendt Former 14055 PRO tedder has a high area coverage, and is therefore great for use in large enterprises and by contractors. The challenge involved in developing a tedder with such an operating width so as to ensure that the implement is compact when in its transport position. Fendt has found the perfect solution. The Fendt Former 14055 PRO remains below a transport height of 4 m without having to dismantle rotor arms by automatically lowering the rotor, and lowering the entire frame using the hydraulic chassis, which allows the tedder to be transported on roads with maximum height restrictions, bridges for example, with no problem at all. This saves customers valuable time during the hectic harvest season.

Thanks to ISOBUS, the tedder can be conveniently controlled via the terminal and the tractor's multifunction joystick. The intelligent proConnect technology combines three innovative functions which make work easier and increase efficiency: the automatic, speed-related rake height adjustment, flexHigh, the rotor overlapping function gapControl, and the hay rake management system, myMemory. flexHigh can automatically adjust the operating height of the rotor to the speed of the tractor, guaranteeing the best setting and allowing greater area coverage. When switched off, the rotor is automatically raised, which both protects the turf, and significantly reduces the ash content of the forage. On the terminal, gapControl shows the overlapping range between the front and rear rotor, therefore allowing the operating width to be used to its full potential. MyMemory is used to store the last values for the operating width, tedding

width and rake height setting, and automatically restarts after transporting, saving the user long set-up times. A further benefit is the reduction of operating errors caused by the system to an absolute minimum.

#### New addition: Fendt Slicer TLX mower

The Fendt Slicer TLX disc mower series comes in a new diagonal transport position, which gives the series the huge advantage of being compact. Due to the cleverly-designed curved shape of the arm, the mower unit has a swing range of +28° to -20°, which is wide enough to ensure outstanding ground following even on difficult terrain. The standard hydro-pneumatic suspension optimises the bearing pressure of the mower in a wide range of conditions.

The mowers come in two operating widths: 3.10 m and 3.60 m. Three models are available for each operating width, with tine conditioner, roller conditioner and without conditioner.

The SafetySwing impact guard, previously a familiar feature of Fendt mower combines, has been included for the first time in a dedicated mower. SafetySwing ensures optimal safety in the field, and offers reliable protection to the implement against damage caused by obstacles. The mower unit moves

back and up to avoid an obstacle, and then returns naturally to its original position once the obstacle has passed.

Fendt focuses on user friendliness. The Slicer TLX mower series therefore offers complete access to the mower bar, the surrounding plastic impact guard, a tool box and an operating height indicator. All in all, it's the small features which ensure that fitting times are reduced to a minimum and that the user-friendliness is enhanced. Other options include the hydraulically-foldable external guard, a hydraulic transport lock, and stands for setting the machine down in the transport position.

All other features, such as the huge cutting force, an exact cut and reliability are offered by the Fendt Slicer TLX mower series to the usual high Fendt quality standards. **F**

## NEW MODELS

### Hay rake

Fendt Former 351 DS

### Twister

Fendt Twister 431 DN and Fendt Twister 601 DN

### Disc Mower

Fendt Slicer 260 FP and Fendt Slicer 260 FPS

# ONWARD AND UPWARD WITH THE NEW ALPINE RANGE.



Answering the call of the mountains, Fendt steps forward with its new Alpine range. Lighter and more compact was the tagline of the new forage harvesting devices – designed and built for hill farmers in steep and difficult terrain.

Farmers in mountainous regions require special machines which allow them to work safely yet efficiently. Fendt now offers a new Fendt silage equipment range: the Former 351 DS tedder, the 431 DM and 601 DN twister, as well as the Slicer 260 FP and FPS disc mowers. All devices feature a weight-optimised design. In addition, their centre of gravity is close to the tractor, which means better stability on slopes.

An outstanding feature of the Fendt Former 351 DS tedder is the rigid headstock, therefore allowing a range of options on the front of the unit.

The Fendt Twister also impresses with its drive, which includes robust double yokes and synchronous movement as standard, providing additional safety when working on slopes. The Fendt Slicer 260 FP and FPS models with swivel headstock complete the product range in the disc mower division. In addition, the Fendt Slicer 260 FPS also has an integrated hydraulic side shift, absolutely perfect for operating across slopes.

All machines are therefore ideal for use on slopes, and in alpine or upland areas. **F**

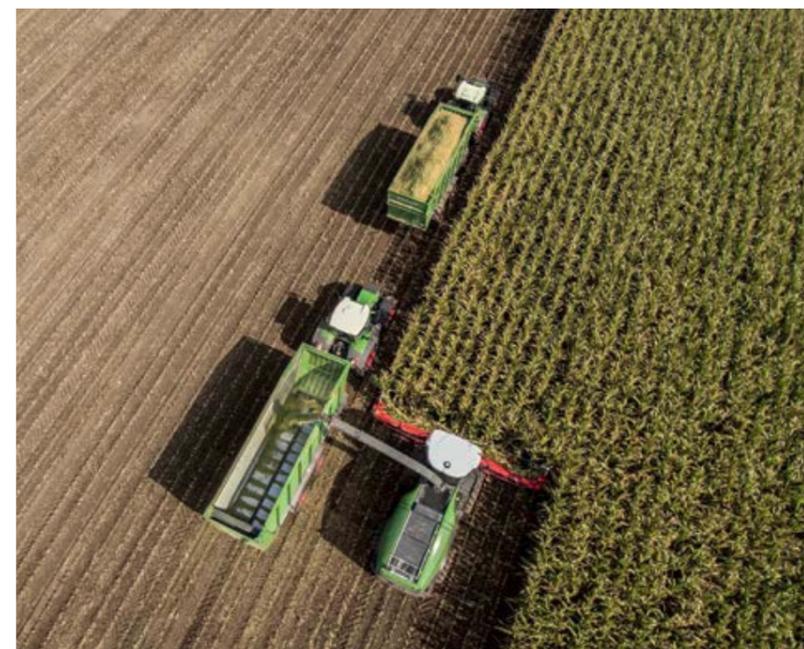
# EVEN MORE BLOWING POWER – REVERSIBLE FAN FOR THE FENDT KATANA

Users are finding the consistently outstanding chopping quality of the Fendt Katana 65 and 85 forage harvesters increasingly attractive. The excellent harvest quality is appreciated by cattle farmers as well as biofuel producers. This is why the machines are under constant development. High-quality and high-quantity work pays off during harvest time. “The Fendt Katana has attracted more than 500 customers here” says Daniel Wolf, Plant Representative/Area Sales Manager for Harvesting Technology in north-east Germany. “This is also why we are continuing to develop the machine. The tried and trusted Fendt reversible fan is also therefore included in the Fendt Katana 85. This is not just a innovation, but a unique selling point on the forage harvester market.”

The air flow direction is reversed by turning the fan blades. The result is a permanently clean radiator grill which increases

the performance capacity and efficiency of the Fendt Katana 85. “This means that much of the burden of cleaning is taken away from the operator, therefore saving him time, and therefore the days of cleaning the radiator grill manually are at an end,” says Daniel Wolf.

The cooling capacity is automatically adjusted to the engine’s needs by changing the angle of the fan blades. This extra power makes the Fendt Katana even more efficient. Software updates, which are available for all Fendt Katanas, continuously add functionality, and so increase the retention value. Practical trials have shown that the controls are now even better tailored to the operator’s needs. “For example, since this year, operators have been able to switch very easily between high beam and low beam using the assignable buttons on the joystick,” says Wolf. **F**



# FENDT TIGO. THE PERFECT COMBINATION.

What goes to create a comprehensive forage harvesting range? A loading wagon of course! Following Agritechnica, Fendt now offers two new platforms: the Fendt Tigo XR and Fendt Tigo PR. You can re-live the highlights of these payload champions once more here.

## MODELS

Fendt Tigo	Volumes in accordance with DIN 11741	Permissible total weight
TIGO PR 45	31 m <sup>3</sup>	17,500/18,500 kg
TIGO PR 50	31 m <sup>3</sup>	20,000/22,000 kg
TIGO PR 60	36 m <sup>3</sup>	20,000/24,000 kg
TIGO PR 70	41 m <sup>3</sup>	20,000/24,000 kg
TIGO PR 65	38 m <sup>3</sup>	20,000/24,000 kg
TIGO PR 75	44 m <sup>3</sup>	24,000/31,000 kg
TIGO PR 100	54 m <sup>3</sup>	31,000 kg



"This wagon is not simply a loading wagon," explains Roland Schmidt, Vice-President of Marketing at Fendt, EME. "It is a compact combi wagon, which is a loading and forage harvest transport wagon all in one. The combination of very high payload and dual use forms the basis for all-year-round utilisation, and enhances the return on investment in the Fendt Tigo. All in all, it offers farmers and contractors top forage quality, optimal utilisation of the loading capacity and easy handling!"

### Outstanding features include high loading capacity and excellent feed quality.

The Fendt Tigo is stable and lightweight, with a high volume despite the compact design and easy operation, and is therefore ideal for large agricultural enterprises and contractors. The excellent capacity of both models is achieved by the swingable bulkhead, thanks to which the loading area above the pick-up can also be used. The farmer can therefore

load a 6 m<sup>3</sup> crop," says Roland Schmidt, describing the benefits of the combi wagon which is around 1 m shorter than similar wagons but with the same loading capacity. At the same time, the multi-functional bulkhead acts as a press during loading. The VarioFill loading and unloading

### » LIGHTER, MANOEUVRABLE AND 6 M<sup>3</sup> MORE LOADING SPACE WITH VARIOFILL

system with its infinitely-adjustable control ensures the best possible compaction density. "During the discharge process, the bulkhead swings back and pushes the loaded crop in the same direction when the scraper floor begins its work, and empties the wagon clean. At the same time, this takes some of the pressure off the scraper floor together with its chains," explains loading wagon expert Roland Schmidt, discussing the unique VarioFill system.



## TECHNOLOGY

### The combi wagon that always gives 100%:

- High load volume of 31 to 54 m<sup>3</sup> (DIN) in lightweight and compact design
- Cutting length can be switched between 37 mm to 74 mm
- 80° pivoting multi-functional bulkhead with VarioFill
- Short distance between pick-up and cutting rotor with speed tuned for optimum feed quality and crop flow
- Parallel ISOBUS operation using the drive lever, Varioterminal and loading vehicle terminal.
- 60 km/h top speed
- 80 cm ground clearance
- Hydraulic or electronic forced steering with offset steering and flywheel brake



### Optimum rated feeder with extended pick-up

The uncontrolled, quiet and low-maintenance pick-up with an operating width of up to 2 m, guarantees excellent output on both the Fendt Tigo XR and PR. "In order that the forage is handled very carefully and the forage quality is excellent, we have integrated 25 mm wide rotor tines. We are the only manufacturer to have integrated the rotor drive gearbox into the chassis frame. It runs in a "sealed permanent oil bath", which allows it to run smoothly and easily. This ensures a quiet working environment for the operator," says Roland Schmidt.

### Excellent chopping quality guaranteed

At just 3.5 mm, the gap between the rotor knives is the smallest on the market, and ensures exceptionally high chopping quality for the best possible forage. Just as unique

and patented is the "Trimatic" rotor tine changing system. This changing system allows individual tines to be replaced without replacing the entire rotor, so significantly reducing the amount of work needed and cost involved in this process.

### » SMALLEST GAP BETWEEN KNIVES ON THE MARKET AT 3.5 MM

### All functions at your fingertips with the Varioterminal

All implement functions can be controlled via ISOBUS and the Varioterminal, meaning that all functions can be operated via the terminal or with the joystick. Both models also carry a parallel mode option using the separate forage wagon terminal. The chopping rotor on the Fendt Tigo which can be swivelled outwards has either 40 (PR) or 45 (XR) knives, and

can be easily operated using the two buttons on the left side of the wagon, or from the cab. The 2-step automatic loading system and the compression pressure of the feed can be continuously adjusted via the terminal. Whether it is higher pressure for a maximum loaded wagon or lower pressure to avoid disintegration losses in hay – as soon as the selected compression pressure is achieved in the pressure sensors of the hydraulic cylinder, the scraper floors automatically sets itself in motion and the bulkhead gradually moves towards the front," says Roland Schmidt, explaining the VarioFill automatic loading system.

### Excellent stability on slopes and on the road

"Filled wagons always start to tilt downwards especially when used across a slope, therefore destabilising the entire combination. We have developed the Fendt Stability Control System, FSC for short, to guarantee safe use on the slope, and guarantee perfect road handling," says Roland Schmidt. Another unique level control is installed in the wagon's hydro-pneumatic suspension system. The full suspension travel is always available regardless of the load. Two hydraulic stabilisers on each axle ensure that the set level is always maintained, and that the wagon's loading space is always parallel to the slope, meaning that it remains stable. "Even with faster road transport, the closed system works by countering rocking when taking corners," says Vice-President of Fendt Marketing, EME Roland Schmidt, highlighting the quality of the Fendt combi wagon. **F**



## MODELS

Fendt balers	Bale chamber diameter (m)	Bale chamber width (m)	Bale chamber volume (m <sup>3</sup> )	Power requirement (kW/HP)
Fendt 1125 F	1.25	1.23	1.5	40 (60)
Fendt 2125 F	1.25	1.23	1.5	65 (85)
Fendt 2125 F Profi	1.25	1.23	1.5	50 (80)
Fendt 4160 V	0.9 – 1.6	1.23	2.5	55 (80)
Fendt 4160 V Xtra	0.9 – 1.6	1.23	2.5	55 (80)
Fendt 4180 V	0.9 – 1.8	1.23	3.1	70 (110)
Fendt 4180 V Xtra	0.9 – 1.8	1.23	3.1	70 (110)

# THE NEW FENDT ROUND BALERS – ALWAYS THE PERFECT SHAPE.

From 0 to 100! For too long, Fendt has neglected the round baler sector.

Now there are three fixed chamber models and four with variable chambers – for us, the best in the round baler segment. At Agritechnica 2017, Fendt presented the new round balers with working widths of 2.00 to 2.40 m to customers for the first. The unique HydroflexControl system is not the only way in which new Fendt balers ensure the perfect shape.

“Every operation is different. That’s why we offer the Fendt round balers in different versions,” explains Hartmut Koebbel, Plant Representative for Harvesting Technology. “From the durable, straightforward entry-level machine without knives to the professional machines, there’s something for everyone. “In the end, technical innovations make all the difference.”

### Unique HydroflexControl system releases blockages quickly and easily

The Fendt 2125 F, Fendt 2125 F Profi equipped with a table, and the two variable balers have the unique HydroflexControl system. “In order to be able to make perfect use of the round baler throughout the day, blockages must be prevented before they occur. That’s why the system has been designed in such a way that the flexible “Flex” floor in the feeder channel discharges different amounts of crops downwards with no problem at all. Despite this, if there is too much material in the feeder channel, the blockage can be relieved by swinging out the full floor,” says Hartmut Koebbel,

“For me, the 25 knives which cut the silage give me a guarantee of high milk production. Our machine has already compressed 23,000 silage bales in 4 years,” say Holger and Martin Mesecke from Prenzlau:



“The excellent spare parts delivery service is also fantastic. If you order parts by 4pm, they are with the dealer the very next day. That is just as big as selling point to me as the baler itself,” Mellvin Herbst (left) with Jan Mundt.



explaining the special system. The operator does not even have to leave the cab, but can control the process conveniently from the cab via the Varioterminal. “This increases operating efficiency, and farmers and contractors save valuable time, and of course costs,” says Koebbel.

#### Retaining quality of crop during pick up

“All our round balers have an advanced, maintenance-free pick-up,” explains the experienced harvesting technology engineer. “With the five rows of tines and a short distance between pick-up and rotor, the round balers ensure that the forage is picked up carefully, and that the crop flows perfectly and is of the best possible quality.”

#### » PERFECT CROP FLOW AND OPTIMAL FORAGE QUALITY.

The mechanical baler chamber lock on all models also ensures firm, well-compacted and evenly formed bales. The round balers also features the CPS (Constant Pressure System) to ensure consistently high bale density. Due to the interaction between mechanical suspension and hydraulic cylinders, the pressure rises as bale diameters increase, ensuring that each bale is perfect.

“Maximum power, firm bales and sturdy baler design is the quality hallmark of our machines,” says Koebbel.

“We had good service out of the Welger baler that we bought back in 2008. We were very impressed by the efficiency and quality. Now we’re looking to buy a new baler and the Fendt variable round baler has really caught our eye,” says Jan Mundt, a dairy farmer in Lüneburg.

#### Xtracut table produces top quality forage

Fixed chamber balers are fitted with 18 “PowerGrip” steel rollers in the bale chambers. This unique PowerGrip design is a patented feature of new Fendt round balers. It ensures that the balers can work with all types of materials, under practically any circumstances. “10 ribs along the individual rollers are press-fit into the thick-walled tube using a special process, and ensure a long lifetime, stability, durability, and always a perfect grip on the bales,” says Hartmut Koebbel. In order to guarantee optimal cutting power in the Fendt round balers, they are fitted with an Xtracut table. “If different materials need to be baled, the operator can choose between different knife groups with 13, 17 or 25 knives. The 25 knives offer a notional chopping length of 45 mm when all knives are activated, or 90 mm if half the knives are used,” says Koebbel.

A special feature of these balers is the hydropneumatic knife protection facility featuring two pressure accumulators, whose preload is 40 bar. This increases the service life of the knives and produces a top quality cut. The elaborate task of scraping the knife slits gives way to the simple touch of a button on the control unit. Well-cut forage is easier to compact properly, silage chopping is optimised and savings are made on foil and net, as well as transport costs and storage space.



#### Choose between VarioNet and VarioTwin

The Fendt round balers are suitable for net or twine ties, and offer two different tying modes. “VarioTwin is a simple and inexpensive twine tie featuring a variable speed control facility. On the other hand, VarioNet is a net tie that is perfectly compatible with all standard net widths,” says the baling expert, explaining the difference. “It features a net brake that can be adjusted using tension springs. Thanks to the net guide design, the net is pulled automatically.” Consequently, the bales are also perfectly formed at the sides, and reliably protected. This also makes storage easier.

#### More power with Power Split

All baler models with variable chambers as well the large fixed chamber models (2125 F, 2125 F Profi) are fitted with the power split transmission gearbox. “This gearbox is a divided drive concept that distributes the required power to the rotor and chamber drive perfectly evenly,” says Koebbel. The input speed here is 540 rpm. In models without cutting floor, a 1650 Nm slip clutch guarantees safety, whilst in the models with cutting floors, a cam shift and free wheel clutch with

1950 Nm protection, protect the drive train.

“Whether it’s straw, hay or wet silage, the balers from Wolfenbüttel can easily handle any material,” says Ulf Simon, who farms suckler cows on Nauen. Just some of the highlights of the new Fendt round balers. From 0 to 100 in 7 models! **F**

#### » WHETHER IT’S STRAW, HAY OR WET SILAGE, THE BALERS FROM WOLFENBÜTTEL CAN EASILY HANDLE ANY MATERIAL