

### **OPRACTICAL TEST**

Not makers and property and

An endurance test

In August, we were able to catch up with a Fendt Katana in Italy to carry out the throughput measurements that we were unable to complete in last year's poor harvesting conditions.

FEND

#### Fendt Katana 850 forage harvester:

# Bella Katana

In Italy we were able to make up for what we were unable to do in our practical test last season. Near Verona, the Fendt self-propelled showed off its strong throughput and impeccable cutting quality.

arvesting the maize in northern Italy wasn't easy, either. The Katana had plenty to chomp on, with the crop yielding 61t/ha, and, despite being irrigated, the cobs on the Dekalb DKC6812 had small, rubbery kernels, making them more difficult to crack. To handle this, the cracker rollers had to remain relatively close together, just 1.75mm during our throughput and chop length measurements. The speed differential was set at 40%.

The only difference to our otherwise identical Katana 850 from last year was the speed difference of the rollers. The 40mm chopping drum and the Kemper 490 plus attachment were the same as what we had last season. We varied the crop chop length from 4mm to 13mm. The large field with a uniform crop allowed us to repeat each test run three times. With a 32-36% DM content, the maize variety yielded an excellent 21t/ha dry matter – see the table "Throughput and fuel consumption" for more details on this.

#### High throughput

Even when set to a chop length of 4mm, the Katana 850 achieved an FM throughput of almost 260t/hr. At 7mm chop, the throughput increased by 20t to 289t/hr. Each additional 3mm increase in the chop length delivered another 15t/hr of fresh mass into the silage trailer – great! The Fendt foraging flagship model harvested a maximum of 320 tonnes per hour, which is 110t/hr of dry matter or 5.25 hectares per hour.

Based on the maximum output from the 847hp Liebherr motor, the Katana achieves a dry matter throughput of 0.10-0.13t/hr per

## KEEPING IT BRIEF

Transforms the 850 Liebherrgenerated horsepower efficiently into throughput.

Results show perfect length chopping.

Katana has nothing to fear on the performance side of things.

horsepower. These are top results, so much so that the Katana can and should compete with other makes in this power class. Fuel economy, too, was at a very good level - 0.44 litres of diesel per tonne of fresh material is one of the lowest rates we have



ever measured in this forage harvester class. At 4mm, the consumption increases to 0.55l/t FM. However, the Katana also uses around 6.0% AdBlue.

#### Perfect chop

During our test last autumn, we found the Katana 850 was delivering a good chopping quality even in dry maize. Our earlier gut feeling is confirmed, with the Italian tests showing first class figures for normal dry matter crops.

The fraction analyses were carried out by the Institute for Agricultural Engineering at Bonn University (see graph: 'Chop lengths' (right)). With a cutting length of 4mm, a good 60% of the material collects in the up-to-6mm crop fraction and more than 90% in the up-to-10mm fraction. These are chopping qualities we have never measured before. When we changed the cutting length, we found that this had a very uniform effect on the fractions. At a cutting length of 13mm,

The cracker gap could have been further reduced



over 35% of the material ends up in the 'upto-6mm' fraction, 70% in the 'up-to-10mm' fraction ... and almost 95% of the material has a maximum length of 15mm. There were virtually no overlengths in any of our maize samples.

To check the kernel processing, Lufa Münster also determined the CSPS value of our crop samples. Regardless of the cutting length, the findings range between 51% and 62%, which means an average score as compared with the optimum score of over 70% of cracked kernels. All kernels were crushed well, but some of the small and 'rubbery' kernels were merely split – with obvious effects on the CSPS value.

Jan-Martin Küper

## CHOP LENGTHS



## FENDT KATANA 850 IN MAIZE: FIELD PERFORMANCE

### THROUGHPUT AND FUEL CONSUMPTION

CHOP LENGTH	THROUGHPUT	FUEL CONSUMPTION	DRY MATTER CONTENT <sup>1)</sup>	THROUGHPUT	FUEL CONSUMPTION
4mm	259.6t/hr	0.5 l/t	32.9%	85.4t/hr	1.66l/t
7mm	289.0t/hr	0.49I/t	33.8%	97.7t/hr	1.45l/t
10mm	304.1t/hr	0.47l/t	36.6%	111.3t/hr	1.28l/t
13mm	320.1t/hr	0.44I/t	34.2%	109.5t/hr	1.30l/t
Eorage maize (variety Dekalb DKC 6812) with 32.0 to 36.6% dry matter and 61t/ba freeh or 10.0.21.2t/ba dry matter yields 1.75mm cracker gap (40% speed difference)					

Forage maize (variety Dekalb DKC 6812) with 32.9 to 36.6% dry matter and 61t/ha fresh or 19.0-21.2t/ha dry matter yields, 1.75mm cracker gap (40% speed difference). The measured values relate to the net throughput, which is the throughput and fuel consumption during actual chopping activity; headland turns and other non-productive times were not taken into account; 1) Dry matter measurements were carried out in the drying cabinet of the Agricultural Machinery Institute, Bonn, and Lufa Agricultural Research Institute, Münster, Germany

As the chop length increased, the fresh mass throughput increased by 23.3% and the dry matter throughput by 28.2%. The chop lengths were measured by the Institute for Agricultural Engineering at the University of Bonn using a sieve tower. There were few overlengths and, overall, the kernels were well cracked. Lufa Münster also measured the CSPS value, which was between 51% and 62% regardless of cutting length – an average result. Illustration: Linda Gesing.

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