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CLAAS hybrid technology - for a quarter of a century always one step ahead

It was exactly 25 years ago that CLAAS launched the LEXION 480, a model which was not only the world's top-performing combine harvester at the time, but also featured an entirely new threshing concept which remains unrivalled for its performance under all operating conditions.

The patented APS HYBRID SYSTEM, a combination of the APS threshing unit and the ROTO PLUS residual grain separation system, was a world first at the 1995 Agritechnica show and has been the global benchmark for throughput and grain quality as well as multicrop capability in the high-performance combine harvester segment ever since. Compared with the APS threshing unit

of the MEGA straw-walker machines, the threshing drum diameter had been increased from 450 mm to 600 mm, and the feeder housing width from 1.580 mm to 1.700 mm. Two smooth-running axial rotors were used for protective residual grain separation. During grain threshing with the first LEXION 480 series, this technology enabled grain throughput rates of more than 35 t/h, a figure which rose to more than 40 t/h with the longer rotors which were fitted from 1996. Other trend-setting features were the active swivel-action spreaders, which were able to spread the straw across the entire cutting width of the front attachment, and the advanced VISTA CAB with a CEBIS screen.

In 1998, the LEXION 480 once again pioneered new technology when it became the first large combine harvester to be equipped with front-axle rubber crawler tracks suitable for high-volume production – the TERRA TRAC system. These tracks responded to the need to protect the soil as front attachments were becoming ever wider and heavier – and they did so while keeping the transport width within 3.5 m. Another breakthrough came in 2011, when road travel on crawler tracks at speeds of up to 40 km/h became possible – a record at the time!

As early as 2002, CLAAS was able to celebrate the production of the 10,000th LEXION – a 480 TERRA TRAC. Just 3 years later, the LEXION 600 series broke the "sound barrier" of 60 t/h grain throughput in wheat. This new dimension of performance was reinforced by an official Guinness World Record in 2008: never before had anyone managed to harvest 532 t of wheat within 8 hours with a single combine harvester. And in 2011, it was a LEXION 770 TERRA TRAC that broke this record by threshing an incredible 675 t of wheat within 8 hours in the UK.

Into new dimensions with a new generation

2019 saw CLAAS launch the second, newly developed generation of its successful large combine harvester line-up with four new LEXION model series offering more performance, more throughput, more intelligence and even more comfort – as well as the largest grain tank in the market at 18,000 l* and an impressive offloading rate of up to 180 l/sec. This new LEXION line-up – including two *Machine of the Year 2020* awarded series with the APS SYNFLOW HYBRID threshing and separation system – has once again set standards for fuel efficiency with the most advanced MAN and Mercedes-Benz engines. An important factor in this is the CEMOS AUTOMATIC machine

optimisation system. Still the industry leader, this self-learning system continuously optimises areas such as primary separation, cleaning, secondary separation and engine load.

The top-of-the-range LEXION 8900 with a maximum output of 790 hp is so powerful that its full capacity cannot be used in markets like North America with comparatively low yields and limited quantities of straw and it is therefore not sold there. In summer 2020, the current flagship model from Harsewinkel, the LEXION 8900 TERRA TRAC, operating in the UK under real-world conditions, attained peak outputs of well over 100 t/h of wheat at times with an average of more than 94 t/h and grain losses of less than 1%. This is where the obvious strength of the hybrid technology makes itself felt: the throughput curve hardly declines at all, even during the late evening and night which are characterised by increasing levels of moisture in both straw and grain. This is precisely what farmers and contractors appreciate, along with the outstanding multicrop capability of the LEXION APS SYNFLOW HYBRID. "With so many positive characteristics, it is perfectly clear that CLAAS will continue to rely on the APS SYNFLOW HYBRID system in the upper performance classes in the future", explains Jan-Hendrik Mohr, who is responsible for the grain harvesting business division on the CLAAS executive board. "This means that the LEXION top-of-the-range class is better equipped than any other combine harvester to face the diverse requirements of the global market. Satisfied, and therefore loyal, customers all over the world are the best proof of this. However, the pressure of costs and time as well as expectations regarding comfort continue to increase; these are the factors that drive our engineers as they work every day on the further development of CLAAS combine harvesters."

In recent years, CLAAS has also rolled out hybrid threshing technology in mid-range performance segments. Since 2009, for example, the product range has included an APS threshing unit in combination with a single rotor in the TUCANO HYBRID. Meanwhile, 2019 has also seen another seed-green hybrid – the youngest member of the CLAAS hybrid family – start to roll off the production line in China: the DOMINATOR 370.

Incidentally: the current record for grain maize threshing was set in the US at the beginning of November with a CLAAS LEXION 8600 TERRA TRAC. With LEXION product specialist Wes Wortmann at the wheel, the class 8 hybrid machine harvested an incredible 2,041 t (57,926 dry bushels) in 8 hours, representing an average of 250 t/h. This means that the LEXION 8600 beats the previous record-holding LEXION 760 TT by a comfortable 84 percent!

However, CLAAS has never rested on its laurels where records are concerned
- the development process continues...

Images relating to this press release can be downloaded here:

<https://dam.claas.com/pinaccess/showpin.do?pinCode=8vF9xQSGMiTe>

Journalists please note:

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About CLAAS

CLAAS (www.claas-group.com) is a family business founded in 1913 and is one of the world's leading manufacturers of agricultural engineering equipment. The company, with corporate headquarters in Harsewinkel, Westphalia, Germany, is the European market leader in combine harvesters. CLAAS is the world market leader in another major product group, self-propelled forage harvesters. CLAAS is also a top performer in world-wide agricultural engineering with tractors, agricultural balers and green harvesting machinery. The CLAAS product portfolio also includes state-of-the-art farming information technology. CLAAS employs more than 11,400 workers worldwide and posted sales of 3.8 billion euros in the 2019 financial year.

Danish Agro a.m.b.a.

Danish Agro koncernen består af en række agroindustrielle selskaber i ind- og udland. De har alle den overordnede målsætning - i et tæt samspil med kunderne - at medvirke til værdiskabende løsninger på de enkelte bedrifter. Koncernen er beskæftiget inden for salg af foderblandinger, råvare- og vitaminforblandinger, gødning, planteværn, såsæd og energi samt køb af afgrøder fra landbruget. Endvidere forhandler koncernen en række stærke maskinbrands til landbruget samt driver en omfattende kæde af hobby- og fritidsforretninger. Danish Agro Koncernen beskæftiger ca. 5.000 medarbejdere og vil i 2020 have en omsætning i niveauet 35 mia. kr.

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