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CLAAS

CLAAS Centenary

New product

Pre-series user reports

General feature

General news

CLAAS Worldwide

Cover photo. The latest ARION 500 and 600 tractor ranges will be on display at this year's Scotgrass, along with the complete range of CLAAS Green Harvest machinery.

Welcome

Trevor Tyrrell
CEO, CLAAS UK Ltd

The adverse weather conditions of the 2012 harvest remain a stark reminder to us of our vunerability to the elements. A key message that we have all taken from the experience is the need to ensure that we have extra combine capacity readily available when required.

Looking to 2013 it has been an exciting time for CLAAS. Our 100 years celebrations continue, and you may well have already seen our unique white liveried machines at various events across the UK and Ireland, including the recent Lamma Show at Newark and the FTMTA in Ireland. The very first Tier4 final tractor, the AXION 800 was previewed at the SIMA Show in Paris, together with the full introduction of the new ARION 500 and 600 ranges. We have also included an article in this issue on the history of the CLAAS family business which I hope you find of interest.

In addition, several of our key dealers in the UK and Ireland are expanding their branch locations so that they can offer the very best sales and service support, wherever their customers may be situated.

On the farming calendar lambing is in full flow and an air of expectation prevails as we wait for the sun to finally shine and kick start the grass season. Come and see us at Scotgrass on 14th May for full working demonstrations of the GH range of equipment from CLAAS.

Above all, we owe our success to you our loyal customer, and I hope that I, the CLAAS UK team and your local CLAAS dealer all have an opportunity to meet with you at some point during this noteworthy centenary year, to thank you personally for your continued support.

Kind regards,

Trevor Tyrrell
CEO, CLAAS UK Ltd

Follow CLAAS on our official Facebook page at:
www.facebook.com/yourclaas

All the latest images and videos of CLAAS machinery can be found on the official CLAAS YouTube channel at YourCLAAS

Scan the QR code with your smart phone to connect to the CLAAS UK website
www.claas.co.uk

CLAAS Centenary

100 years of harvesting excellence

"CLAAS looks after its customers and never lets them down". The principle which guided August Claas when he set-up his small business 100 years ago still holds true today, even though his company has grown to become a multinational enterprise with locations and sales companies in over 100 countries.

As has always been the case, family participation is key to the CLAAS business, with Helmut Claas as chairperson of the shareholders' committee, his daughter Cathrina Claas-Mühlhäuser chairperson of the Supervisory Board and with representatives from the two other owner families, Reinhold Claas and Günther Claas, it remains family-run today.

It is thanks to the innovative design of the 'knotter' and other pioneering developments, such as the PICK UP pick-up and loading baler, the first European MDB combine harvester, or the JAGUAR forage harvester, that CLAAS has conquered the world of harvesting technology.

"Then we will just have to do it on our own."

Whilst the Claas family business that we know today was established by August Claas, his interest in machinery was sparked by his father, Franz Claas who from a young age had been interested in agricultural technology, and in the 1880's set-up a workshop on the family farm to develop and manufacture machinery, including a highly successful cream separator and reaping and binding machines.

August Claas

In 1913, August Claas decided to set-up his own company to manufacture straw binders and was joined the following year by his brothers, Bernhard and Franz Jnr, with Theo Claas, the youngest of the four brothers, joining at a later stage, and the company adopted the name of 'Gebrüder Claas' (Claas Brothers).

However, no sooner had the brothers started in business, than World War 1 broke out, and they were conscripted into the army, putting everything on hold.

All the brothers survived the war and when it ended in 1919, they decided to buy a former quarry in Harsewinkel where they built a factory to manufacture straw binders as they had done in the past. The 'knotter', which was further developed and patented in 1921, became a fixed part of the machinery and it was the development of this small devise which resulted in the company changing from a small business to a larger industrial production company.

In the 1920s, the brothers expanded the manufacturing operation to include fertiliser spreaders and, later, straw balers. The Claas brothers were also persuaded to start looking at developing a combine harvester suitable for European conditions by Professor Vormfelde who, with his assistant, Dr. Walter Brenner, had been developing a combine harvester prototype with a leading-edge knifebar built around a tractor.

However, their attempt to bring the prototypes to full market readiness in collaboration with other manufacturers failed and that was when August Claas decided: "Then we will just have to do it on our own."

Work on the development of a trailed combine harvester started in Harsewinkel and in 1936, the first mowing-threshing-binder (MDB) towed by a tractor was driven across the fields in Zschernitz (Saxony) and one year later went into series production. Since then, this combine harvester has been inseparably linked to the name of CLAAS and it is to this machine in particular that the company owes its international size and importance.

Reparation payments lead to the first export business

As far back as the First World War, August Claas had supplied an agricultural agency in the Dutch town of Zytphen with straw binders and this business relationship with CLAAS was resumed in 1920.

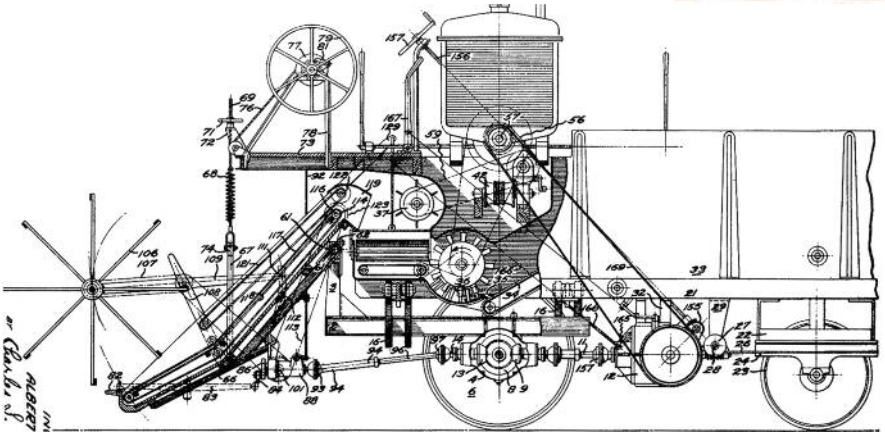
Germany's reparation payments to neighbouring countries formed the basis for the future export of straw binders, especially to France and Belgium. There was also increasing foreign demand for the straw baler manufactured from 1931 and the PICK-UP hay gathering and loading baler manufactured from 1933/34 – both from Europe as well as Canada and New Zealand.

Combine caravan salvages post war harvest

The Second World War put a stop to the export business but not to the spirit of innovation. Even though the government decreed in 1943 that only armaments could be produced, meaning that production of combine harvesters had to be halted, development work continued at the CLAAS premises, with the SUPER combine harvester given its initial trial runs on farms in 1943.

The end of the war in 1945 left considerable devastation and hunger was a major problem. In order to try and salvage the

The start of it all, the CLAAS knotter for which a patent was taken out in 1921 and is still applicable today.



harvest in 1946, a British officer in the military government, who was aware of the work the Claas brothers had been doing in developing a combine, approached them about organising a 'combine caravan' to tour Rhineland harvesting crops, which operated in both 1946 and again in 1947 using three SUPER combines.

A SUPER combine harvester confiscated by the British in the same year also convinced the British Department of Agriculture and this led to the export of a larger number of units in the following year. Several hundred combine harvesters followed in 1948/1949 meaning that the company became firmly established in Britain, with further shipments also made to France, Belgium and the Netherlands.

By the beginning of the 1950s, CLAAS enjoyed an excellent reputation throughout the world and in 1952, the company and its products were represented in around 30 countries including all the major markets in Europe, South America, parts of Africa and the Middle East.

Helmut Claas, son of the company founder August Claas, had joined the technology division (development and production) of the company in 1958. Together with his father, with whom he shared a passion for technology, he travelled to South America in order to identify the application potential for CLAAS machinery in Uruguay, Argentina and Brazil and to initiate export business there.

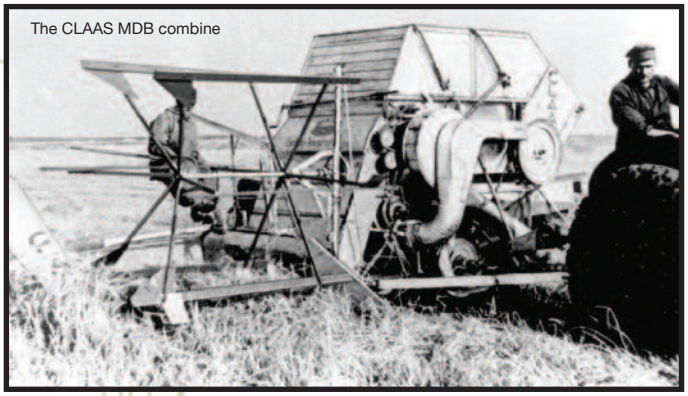
An important additional foreign location was the baler plant which went into production in 1962 in the French town of Metz. Today – together with CLAAS in Bad Saulgau in Swabia – it caters for the green harvest machinery sector.

CLAAS expand into green harvest

CLAAS didn't fully arrive in the "green" business of forage harvesting until the company bought Bautz in 1969. Alfred and Eugen Bautz were good friends of the Claas family, and it was this personal contact that resulted in the Bautz family turning to CLAAS when it became clear that they were going to have difficulties finding the next generation of managers for their business. Bautz was a familiar name throughout Germany and had years of tradition behind it, and it possessed plenty of experience making forage harvesting machinery and gave CLAAS access to a huge range of mowers, tedders, rakes and trailers.

Not long after Bautz was incorporated into CLAAS, the company heard that Hermann Speiser from Göppingen, who manufactured harvesting machinery, also wanted to offload his forager production activities. Speiser was bought at the start of February 1970, and production of Speiser's tractor-drawn foragers was moved to Bad Saulgau.

Initially, CLAAS made no changes to the Speiser forager and simply kept manufacturing it the way it always had been. However, the rapid shift to maize as a crop meant that a substantial change was necessary.



The CLAAS MDB combine

Working independently of each other, using parts sourced from CLAAS combines and foragers two CLAAS dealers had constructed their own self-propelled foragers. Realising the potential of these new machines, CLAAS supported their development. The company's first step was to supply the inventive dealers with the combine components they needed to build eight of their machines – axles, gearboxes, engines, cabins and hydraulics.

CLAAS eventually took charge of perfecting the new self-propelled foragers and put them into serial production. When it came to selecting a name for this strong and sturdy workhorse, the company opted for a Speiser name which had stood the test of time – JAGUAR.

The first production plans proposed building 30 JAGUAR 60 SF

foragers, launched in time for the 1973 grass and maize harvest. Initially, the JAGUAR was powered by a 100hp engine but it didn't take long for operators to demand higher power outputs, with today's JAGUAR range developing over 800hp.

The move into tractors

Although CLAAS has been developing agricultural tractors for many years, firstly with the HUCKLEPACK in the 1950s, then the HSG in the early 1970s which was to lead onto the start of what was to become the XERION in the late 1970's.

CLAAS had been entertaining the thought of offering its own tractor as without a standard tractor in its product range, CLAAS was always missing a key piece of the puzzle.

When the Renault Group decided to divest of all non-automotive activities and unexpectedly put its tractor division, Renault Agriculture, on the market in 2002, CLAAS saw the opportunity to expand into this market and secure and stabilise the dealer network. The deal to take over production and international distribution of the Renault tractor range was concluded in 2003.

The HUCKLEPACK toolcarrier

It was a giant chunk of a company to integrate as in one fell swoop, the CLAAS Group grew by some €650 million in sales volume per year (CLAAS reported sales of €1.2 billion in 2002, before the acquisition of Renault tractors) and the 6,700 CLAAS employees were joined by another 2,000 from Renault.

Yet CLAAS instantly gained a significant presence on the international agricultural machinery market. The German-French business presented the company with an opportunity to round out its machinery portfolio with a standard tractor.

The generations to come

The working relationship between the founding family and its partners, which is based on trust, is still a cornerstone of the corporate culture. Adopting a down-to-earth approach and a constant willingness to forge new paths, continuity and internationality are the things that set CLAAS apart. As in the past, the Claas family is still closely involved in the company.

CLAAS is particularly concerned with fostering the development of the next generation. Through the CLAAS Foundation that was established in 1999, the company is offering encouragement to young scientists. The Helmut Claas Scholarship offers support to people studying in the field of engineering and business management. Based on the conviction that talent cannot be recognised early enough, the foundation furnishes primary schools and kindergartens with so-called discovery kits that can be used to perform simple technical and natural science experiments. Student research centres have also been established in Bad Saulgau and Osnabrück.

Partnerships have also been created with numerous national and international universities because collaboration with science and research produces important findings in relation to the technical development of CLAAS products – in the area of alternative drives, for example, or in relation to the use of information technology for the cultivation of agricultural land. The role of research into the technologies of the future is also becoming increasingly important. And in view of the rapid growth in the global population, progress in agriculture and agricultural engineering is simply vital for survival.

100 years website

For more information on the CLAAS centenary, visit the dedicated website 100.claas.com (there is no need for the www.), which can also be accessed through the main CLAAS website.

The website provides a virtual journey through the last 100 years of CLAAS, with a wealth of information on the history of the company, the story behind the development of the company's best known products and the people behind the success of CLAAS.

The website also incorporates many historical photographs and films, and brings together experiences of CLAAS customers from throughout the world.

CLAAS Timeline

1913 Company founded by August Claas

1919 Company moves to Harsewinkel

1921 Patent issued for the development of the knotter

1924 The knotter is awarded a DLG Silver Medal

1931 First straw balers produced

1934 First pick-up baler produced

1936 The first European combine, the MDB, is launched

1942 1000th combine is produced. Development starts on the SUPER

1946 The SUPER is launched

1953 Production starts of the first self-propelled combine,the HERCULES (later called the SF)

1956 The axle and transmission factory at Paderborn is established

1962 Production of balers starts at Metz in France. The 100,000th combine is produced

1966 The new SENATOR is launched and the first to be CLAAS green

1968 The 200,000th combine is sold to a Scottish farmer

1969 CLAAS buy Bautz and the first forage harvesters are produced at Saulgau

1970 CLAAS buy forage harvester manufacturer Speiser. The DOMINATOR combine is launched

1973 The first self-propelled forage harvester, the JAGUAR, is produced

1976 Launch of ROLLANT round baler

1980 The 300,000th combine is produced at Harsewinkel

1988 The QUADRANT big square baler is launched

1993 The XERION is unveiled for the first time. The APS threshing system developed

1995 The LEXION combine range is announced

1997 New factory opened in Hungary

1999 New combine factory built in Omaha, USA

2000 New worldwide parts centre opened at Hamm

2003 The 400,000th combine leaves the production line. CLAAS acquires majority share in Renault Agriculture

2004 The 20,000th JAGUAR is sold

2005 New combine factory opened in Krasnodar, Russia

2007 Development starts of second combine factory in Chandigarh, India

2010 Production of CLAAS machines starts in Uzbekistan

2011 LEXION 770 breaks world harvesting record. 30,000th Jaguar produced. AXION 900 tractor launched

Have you got what it takes to be the best?

CLAAS UK will again be sponsoring the 'Farm Manager of the Year' award category at this year's *Farmers Weekly* Awards.

Have you got what it takes to follow in the footsteps of past winners, such as John Baker last year (above), or Charlie Russell in 2011 and Alastair Brooks in 2010?

John manages Thoresby Home Farm where he heads a team of 17 staff running a total of 1718ha, of which 516ha is heathland/ancient woodland, grazed by 200 pedigree Longhorn cattle and 300 Jacob sheep. Cropping on the farm includes not only arable crops, but sugar beet, potatoes, carrots and onions, plus there is a flock of 1000 commercial ewes.

What set John apart in the opinion of the judges was the way in which he successfully manages a complex business and has achieved consistent profitability. Alongside that is his policy of actively involving staff, for whom he organises a number of social events, including an annual harvest supper and they are also encouraged to get involved in the various public events that happen on the estate, such as the annual Thoresby Hay Ride.

"The awards night was a great occasion and a lot of fun," says John. "Obviously I was really pleased to win, but it was also good recognition for everyone who works with me on the farm, and I hope that they recognise that because we all work as a team. Without them I would be nothing."

For anyone thinking of entering, John actively encourages them to have a go. "It's an intense exercise but a great experience. I didn't do anything to prepare that I wouldn't normally do and yes, you will get a grilling from the judges, but it is a good challenge. If you are proud of what you do and the business you represent then you should certainly enter. You have nothing to lose."

So if you think you have what it takes or know of someone who does, to enter the competition simply visit the awards website at www.farmersweeklyawards.co.uk and click 'nominate'.

General feature

He's seen it all

CLAAS was only four years old when Robert McIlroy was born in Northern Ireland, and now at 95 he is in the unique position of having witnessed the development of agricultural machinery from horses to satellite guidance.

Leaving school at just 13, Robert was the fourth generation to work the farm at Killyman near Dungannon. Whilst his son William is now in charge, Robert is actively involved and still does the rolling and mowing each year.

Three generations of McIlroy's; Robert (left) with William and his children Samuel and Eva

At that time the farm was only 30 acres, but has grown to over 100, which is all grassland on which the McIlroys run 300 mainly Aberdeen Angus crosses. These are bought as 15 month-old stores for finishing at 24 to 30 months.

Together with his two uncle's farms, the McIlroys ran a total of 100 acres, on which they used four horses. "As we were a small farm, we tended to look for a utility horse, about 16 hands was ideal, which during the week could be used in the fields, and then on a Saturday you could throw a saddle on it and go hunting, or use it for pulling a trap," he explains. "It was only the larger farms that could justify having a shire horse."

"My father and grandfather always had horses coming on because they would often sell horses into industry. Typically a horse would be about five when it was ready for heavy work. If well looked after it would last about ten years before being put onto lighter duties, and my last horse kept going until it was 33."

"The skill was knowing how hard you could work a horse, so that it was fit for the following day and the day after that. Whilst initially you would train a horse to work on a rein, ideally you tried to train a horse so that it would work to your voice as it would then be far more relaxed."

The first tractor to arrive on the farm was a 16 horsepower Ford Ferguson, which was bought on the 16th May 1942, and cost £350 including a plough.

"I enjoyed working with the horses, but when a man came into the next field to me with a tractor and a two furrow plough and did four times as much as me in a day it was obvious where the future lay," recalls Robert. "But even after we got a tractor, we still had horses for pulling carts around the yard and taking stuff out to outlying fields."

Looking at the development of the tractor, Robert says that for him one of the biggest steps forward having 4-wheel drive on a Renault, which was one of the first to be sold in Northern Ireland.

Nowadays, Robert still keeps his hand in doing all the silage mowing, using a 3.0m front and rear mower combination on the farm's ARION 540 tractor, working ahead of a forage wagon, which this year will be towed behind an ex-hire ARION 640 that William bought to replace a 17-year old Renault 155, all supplied by local dealer **Ashfield & Wilson**, whom they have dealt with for many years.

Today's silaging operation is far removed from when the McIlroys first made silage back in 1935. Then the grass was cut using a horse-drawn mower, before being loaded by hand onto carts and then forked off again back at the farm.

"We made silage by hand for about 10 years before we bought a Green Crop Loader, which was a revolution as it lifted the crop and conveyed it straight into the trailer, and then we progressed onto a Hurricane Harvester. Now we can mow, lift it using a forage wagon, put it in the clamp, use a block cutter to take it out, which is a great invention, and feed using a diet feeder, without having to touch the silage."

"When you look at the power and comfort of tractors today, and the fact that they can comfortably do 10,000 hours without being touched, they are remarkable. They are a big change and I have seen it all."

Robert McIlroy with the 16hp Ford Ferguson that cost £350 in 1942

AXION 800 unveiled at SIMA

CLAAS offered a sneak preview at the SIMA show of the new AXION 800. This is due to be launched later this year and will be the first Stage IV (TIER 4f) compliant tractor to be introduced on the market.

The new AXION 800 range incorporates many of the design and technology features found on the higher powered AXION 900 range.

Like the AXION 900, the new AXION 800 range features a long wheelbase, with 50/50 front/rear weight distribution and a 'wasp waist' front axle design for an increased steering angle and optimum manoeuvrability. This is built around a fully integral frame that incorporates a self-supporting crank-case. The AXION 800 also uses the spacious 4-pillar cab design, which is fully suspended and is mounted further forward for greater visibility.

The AXION 800 range will consist of four models with CIS and CEBIS variants, ranging in power output from 200hp up to 270hp. As such, the AXION 800 fits in between the 145 to 184hp ARION 500/600 range and the AXION 900 which goes from 280hp up to 400hp.

The AXION 800 is also the first CLAAS tractor to meet the highest Stage IV (Tier 4f) exhaust emissions regulations that come into force in 2014. To achieve this, the 6-cylinder FPT engine is fitted with a new two-stage emissions system consisting of a maintenance free diesel oxidation catalytic converter (DOC/Oxicat) that works in combination with an SCR catalytic converter.

The 6.7 litre engine features a wide 500 rpm constant power band and 8% more torque than current models, so provides increased power at lower revs, and hence reduced fuel consumption. It is also fitted with the VISCTRONIC fan to further save fuel. In addition, the engine can be used at full power at all times without limitation.

As on the AXION 900, all the main functions on the new 800 range are controlled using the new CMOTION multifunction control lever. Initially the new AXION 800 will come with a HEXACTIV transmission, but a CMATIC variable option will follow in due course.

Another new fuel saving feature is the development of a patented de-coupling system for the front PTO. Until now, even when the front PTO is not engaged, the gears in the transmission still rotate and so use up power. The new mechanical system fitted to the AXION 800 means that when the front PTO is not required, the entire front PTO transmission can be de-coupled from the engine, which will save 0.4 litres of diesel per hour, representing a considerable fuel and cost saving.

General news

CLAAS APPROVED USED tractors

Whilst mainstream franchised car dealerships have offered used vehicles backed by a manufacturers quality assurance scheme for many years, this has not been the case with tractors.

Under a new new APPROVED USED & FIELD READY scheme launched by CLAAS UK this spring, used tractor customers can be confident in the quality of their purchase. Every tractor in the scheme has been prepared to a set manufacturers standard and will represent a sound, reliable investment.

Used tractor values have increased considerably on the back of currency exchange rates, inflation and more advanced technology. However, for the farmer looking to invest in a used tractor, until now there has been no clear benchmark as to the quality level of the tractors being offered. Aside from being more expensive than most cars, the cost implications of a tractor not being up to standard could potentially be very expensive in terms of lost productivity and repairs.

Only tractors that pass the stringent approval procedure will be offered for sale under the CLAAS APPROVED USED scheme, and to back this up they will be covered by a 300 hour/3 month warranty and a 0% subsidised finance scheme through CLAAS FINANCE.

The new APPROVED USED Tractor scheme covers the full range of CLAAS tractors through to the top-of-the-range XERION, and to qualify a tractor must be up to five years or 5000 hours old. The stringent approval process that dealers have to meet has been set by the CLAAS Technical Service department.

For a tractor to become CLAAS APPROVED USED & FIELD READY, the dealer has to:

- Give it a 1000 hour service
- Conduct a 165 point check, and an additional 15 point special CLAAS appraisal covering specific checks and tests of the engine, driveline and hydraulic systems, including a Dynometer test
- Fully test and update of all the electronic management systems fitted to the tractor
- Fully valet the tractor, check the paintwork and touch it up where necessary
- Replace any worn seat or cab components
- When all the assessment work is completed, all the completed data is send to CLAAS UK for final approval.

Tractors that meet all the assessment criteria will be offered for sale with the back-up of a 3 month, 300 hour drivetrain warranty and full service report. They will also be available with a subsidised finance scheme from CLAAS Finance and fixed price service for the next two scheduled services.

The introduction of the new CLAAS APPROVED USED Tractor scheme, will set a new benchmark for used tractors. Customers can rest assured that buying a used CLAAS tractor is a sound investment, with many of the benefits can normally be expected only with a new tractor, together with the low cost of ownership associated with buying a used product.

New retrofit steering system

CLAAS has introduced a new automatic steering system, GPS PILOT FLEX which can be quickly and easily transferred between different machines.

Until now, in addition to the GPS COPILOT which indicates a path to which the operator manually steers, the only automatic 'hands-free' steering system that CLAAS has offered is GPS PILOT.

Unlike GPS PILOT, which is a fully integrated system built into the machine, the new GPS PILOT FLEX is attached to the steering column and does not rely on any valves within the steering system, so making it easy to swap between different machines, such as tractors, combine harvesters or forage harvesters.

Installation could not be simpler. The control system is fully integrated into a control box and steering wheel that is fitted in place of the normal steering wheel. Having removed the steering wheel and replaced it with the GPS PILOT FLEX, steering commands are sent directly to the steering wheel's electric motor and so directly to the steering linkage.

GPS PILOT FLEX is designed for use with the CLAAS GPS PILOT S3 automatic steering terminal. Where this is already fitted to the machine, all that is required is to change over the steering wheel. On machines not already fitted with GPS PILOT S3 then the navigation processor, S3 terminal and GPS antenna can also be easily moved over.

The GPS PILOT FLEX is suitable for use with all the correction signals used by CLAAS from EGNOS through to an RTK signal received from either the BASELINE tripod or a mast mounted transmitter. It is also fully compatible with all the GPS PILOT S3 functions such as job or reference line management and the new AUTO TURN system.

CLAAS go white

CLAAS has a tradition of giving machinery special 'paint jobs' to celebrate particular manufacturing land marks. To recognise the CLAAS Centenary, CLAAS UK have had a number of machines painted white and bearing the 100 Years logo, which were unveiled at LAMMA.

In all, two ARION 600, two ARION 500 and two ARION 400 series tractors with front loaders have been produced in the white livery, in addition to two SCORPION telehandlers, a ROLLANT baler, LEXION 760 combine and a JAGUAR 850 forage harvester, and these will be the only machines produced to carry this unique colour scheme.

During the year, these machines will be on display dealer events throughout the UK and Ireland, in addition to national shows such as ScotGrass.

Rickerby on show ...

The Rickerby Show in March has become renowned for its centre stage displays and this year was no exception, with everything from a specially 100 Year decalled LEXION combine to a restored vintage Renault tractor. (Photo: David Winthrop)

Pre-series User

Even, lump-free spread

Having operated a new pre-series VOLTO 1100 tedder last season, Drew Watson has been extremely impressed with the performance of the tedder, and found the crop spread was excellent, resulting in high quality silage despite the conditions.

The VOLTO 1100 is the world's first linkage mounted 10 rotor tedder and features the new MAX SPREAD crop flow concept. Instead of straight tine arms, the VOLTO 1100 is fitted with slightly angled tines that are designed to work for 65% longer and increase pick-up rates.

Compared to conventional spreading arms, the design of the MAX SPREAD tines means that the crop flows through the tedder almost in a straight line. Not only is this more gentle on the crop, but this creates greater space between the rotors, so larger amounts of material can be handled, resulting in higher throughputs and a wider, more even spread pattern.

"It is certainly noticeable how well the VOLTO 1100 picks up the grass," confirms Drew, who is based at Mouswald near Dumfries. Drew runs two foraging teams, based around JAGUAR 890 and 870 foragers supplied by **Gordons**.

"Virtually 95% of the silage we make is tedded, and it's especially important for lush early first cuts, in order to increase the dry matter content so that you are storing grass and not water. It also means that you save on additive, and what you do use goes on the grass and is not diluted."

Drew uses two sets of DISCO front and rear mower conditioners with the crop left in a swath, so that the ground between the rows can dry out for a couple of hours before spreading. After wilting for 24 hours, the crop is rowed up using either a LINER 3100 or LINER 770 rake.

Drew Watson

"The new angled tines result in a very even spread and there were no lumps, even when we had to go through a second time because the crop got rained on. As a result, the crop rowed-up better and we found the feed into the forager was more even."

Drew also found that because of the new design, both the rotors and the tines were less prone to damage and crop damage was considerably reduced.

"The new concept certainly worked very well and the VOLTO 1100 is the ideal size as I didn't want anything too big. The fact it's carried on the linkage makes it easy to transport – you never knew it was there. Whether it was being used in front of the forager or a baler for haylage, whatever job it was doing we were full of praise for it."

Twice the baler

When it comes to combination balers, there is little to beat the UNIWRAP 455 reckons William Nairn, who has been extremely impressed by how the baler coped with last season's extremely difficult conditions.

The arrival of the UNIWRAP on William's farm near New Cumnock in Ayrshire marks a return to CLAAS balers after many years. He was one of the first in the area to run a round baler when he bought a CLAAS ROLLANT 35 in 1985. This was followed by a second four years later, but when the dealer changed franchise, William changed make with him.

"1985 was an extremely wet year, but unlike now farmers just were not prepared for it," says William. "I bought the baler because we could not make hay and I thought it would be the ideal alternative, as the bale was still small enough to be lifted by a spike on the back of an MF135. Having done our own, some of my neighbours also wanted their crops baled and we ended up using it to bale over 12,000 silage bales which were all bagged."

Today, William still buys his balers mainly for his own use, making about 2,000 silage bales for the farm's 140 suckers and 320 Texel cross ewes, and then fitting in extra baling for neighbours.

He changed to the UNIWRAP for last season having experienced continual reliability problems with his previous combination baler. "I had so many problems that towards the end of the 2011 season, knowing **Gordons** at Berryhill had a demo UNIWRAP, I asked Gordon Alston if I could try it."

"When it arrived, it had rained overnight and the crop was wet, but they set it up, showed me what to do and left me to it. I was immediately totally impressed. The difference was unbelievable, especially the crop flow into the baler, to the extent I ended up having to go up two power shifts to keep it full. After having the demo I never considered any other make."

"The daily output is twice that of my other machine, the UNIWRAP just eats grass. It will make a chopped bale quicker than the other could make a bale without the chopper engaged, because it would struggle to chop in the wet. One day last summer, I started baling at 10.30am and finished at 2.00am as it was turning wet again, and baled 647 bales. My other baler would have struggled to do 400."

For William, two of the best features of the UNIWRAP are the positive feed into the baler and the drop floor in the chamber. Despite the extremely difficult conditions last year and some very heavy crops, he only twice had to manually drop the floor to clear a blockage.

"The great benefit of the system is that by having a buzzer to warn you that the baler is at its limit, you know exactly how hard to keep pushing the baler so as to keep productivity to a maximum. Also the speed of the wrapper means that it is normally not holding the baler back, although in some of the late, heavy first cuts that we couldn't bale until August, we were getting 15 bales per acre, so I did have to slow up to allow the wrapper time to finish. The COMMUNICATOR is extremely easy to set-up and use, and it makes accessing and recording data extremely easy and quick to retrieve."

"Overall the UNIWRAP is twice the baler my old one was, and the service from Gordon's has been excellent. I was also impressed that two guys from CLAAS came to set up the baler and the swath width on my LINER rake, to make sure it was all working properly and I knew exactly how to operate it. Nothing was too much trouble, which I really appreciated."

William Nairn

General feature

Lucerne boost to milk yield

A complete review and overhaul of their forage cropping has been a key part in Kemble Farms increasing milk yields by 12% to 10,500 litres sold/cow, but at the same time improve overall productivity from the farm.

Andrew Walters (left) and David Ball.

Based near Cirencester, Kemble Farms extends to 1036ha of which 480ha is down to forage crops, mainly for the farm's 750 cow dairy herd which is housed all year, although some of the maize grown also feeds a 300Kw AD plant.

Two of the key changes made to the forage cropping by Farm Manager David Ball and Arable Manager Andrew Walters have been to introduce Lucerne into the forage mix, but to also change from medium term leys to one year leys, which are grown as a break crop within the 300ha of first wheat.

"We are currently in the process of expanding the herd to 900 cows. Being a mixed farm it all comes back to how we make the best use of the land to feed the increased numbers, but also maximise forage crop productivity, which will then release land that can be used for arable crops," explains David. "Also to ensure we are getting the most out of the forage crops, we integrate them into the arable rotation and treat them like an arable crop, and pay far closer attention to detail."

Historically the farm used a diet mix based on grass silage and maize, with the grass being harvested from medium term leys. However, the farm's draught-prone Cotswold Brash soils meant that grass production was unreliable and in drier years getting a 2nd cut couldn't be guaranteed.

"The Italian Ryegrass single year ley is far more vigorous and reliable, especially when fed with regular applications of digestate from the AD plant. So instead of a single cut and the possibility of a second, this allows us to take at least two or three cuts," explains David. "Adding Lucerne to the forage mix fits in well because it brings in extra protein to the diet and the fibrous coarse material is good for the cows. We can get three or four cuts from it as it is more drought tolerant and we had some cracking crops last year, despite the wet season."

Typically the cows are fed a diet mix based on 18kg of maize, 3.0kg of Lucerne and 9.0kg of grass, plus Trafford Gold, a maize mix blend and water, with the aim that the cows will have a dry matter intake of 27.2kg. "The key for us is the unit cost per litre of milk and since starting to make the changes, we have probably increased output by around 1200 litre/cow," says David.

In order to meet the herd's needs, on average Kemble now get three cuts from their 100ha of grass, plus a further four cuts from the 60ha of Lucerne and 225ha of maize is grown for the cows and the AD plant.

With potentially 800ha of forage cropping to harvest each year, plus some additional maize harvesting for a neighbour's AD plant, Kemble Farms run their own foraging team based around a JAGUAR 870 Speedstar, supported by a front and rear DISCO mower conditioner combination, a VOLTO 770 tedder and LINER 2900 rake, all supplied by **Mill Engineers**.

One potential problem with growing Lucerne is that the plant has a tender leaf which can potentially shatter, with a resulting loss of crop quality, unless it is handled gently. "We looked at various mowers and it was Richard Hutchinson who suggested that instead of a conventional mower conditioner, we look at a DISCO fitted with a rubber roller conditioner," says arable manager Andrew Walters. "It was a bit of a gamble, but it was the right thing to do as it is very gentle on the Lucerne, but will still handle grass adequately without too much adjustment."

ROLLANT reliability

David and Gwyn Havard may have had their ROLLANT 62 baler for 14 years, but it is nowhere near retirement even though it was joined by a smaller ROLLANT 340 last year.

David (left) and Gwyn Havard

Farming 100ha near Brecon in Powys, the Havard's try as far as possible to do everything themselves. The mixed farm mainly supports a 60 cow suckler herd with progeny sold as forward stores, and 400 ewes. In addition there is 40ha of cereals, some of which is cut for whole crop and the rest taken through to harvest for use as feed.

For the last 14 years, the ROLLANT 62 has mainly been used to bale both the Harvard's own straw, plus some additional straw bought in the swath locally, plus hay for winter feed.

"The ROLLANT 62 has been extremely little trouble," says Gwyn. "Apart from new chains and a new knife for cutting the net last year, that is all it's needed. It's never let us down and is extremely easy to operate."

If it hadn't been for last year's weather, the Havard's would have quite happily carried on using the baler. However, faced with the extremely wet conditions and the fact that they were not going to be making any hay, they decided to make baled silage instead and so needed a smaller 4ft baler.

Having looked at a number of different makes, based on how reliable the old ROLLANT had been, and the good service that they have received from local dealer **Rees Agri**, they rang Brian Rees to see what new balers he had available.

"We were very lucky," recollects Gwyn. "We phoned Brian the week before the Royal Welsh Show and he had a ROLLANT 340 that he had just taken up to the show, so brought it back."

"We hit it just right. The weather came good for the show week, so we were able to get everything baled in good, dry conditions and the resulting silage has been excellent considering how late it was baled."

The Havard's opted for the ROLLANT 340 on the basis that it was a simple, straightforward baler which was easy to operate and would make a good, solid silage bale, even though it does not have a chopping unit.

"In the future we will still use the ROLLANT 62 for baling straw and make a bit of hay, but we will now do more baled silage using the ROLLANT 340. It means that we can cut earlier than for hay, which frees ground for grazing, plus we will not be so reliant of the weather," says Gwyn. "Our philosophy is to keep it simple and the ROLLANT 340 is ideal in that respect, and if it lasts as long as the ROLLANT 62 then we will be very happy."

Clean sweep

A new LINER 2900 rake has given foraging contractor Nigel Grennow the working width and output to stay ahead of the forager, but still be compact enough to get around narrow roads.

Nigel Grennow

Nigel annually clears around 800ha of grass silage, plus whole crop and maize, mainly working within a 25 mile radius of his base near Hay-on-Wye. With a lot of narrow lanes to negotiate, transport is an issue to the extent that there are some farms the team can only access via neighbours fields.

The new LINER 2900 replaced a LINER 780, and whilst it offers working widths up from 8.0 up to 9.0m, transport width is just 2.97m.

"The LINER 780 was a good rake. I ran it a long time and it never lost a tine, but it did not have the output to stay ahead of the forager," says Nigel. "The new LINER 2900 is a lot faster. It will comfortably and cleanly pick-up three 3.0m swaths and once it's done the headland stays well ahead of the forager."

Nigel has been particularly impressed with how well the LINER 2900 follows the ground, thanks to each of the 3.8m wide rotors, which are fitted with 14 tine arms, carried on the six-wheel CONTOUR chassis and Cardan suspension system.

"As a rule I operate the LINER 2900 at its full working width unless the crops are really heavy, which has been the case the last couple of years due to the crops being cut later, and it has certainly helped bring the forager speed down," states Nigel. "It is also far better on the road and the fact that the rotors drop down helps lower the centre of gravity and makes the rake far more stable."

General feature

TIER 4i JAGUAR impresses

Matthew (left) and Richard Dowson

Having last year run a demonstration pre-series JAGUAR 950 powered by a TIER 4i compliant engine using SCR Ad Blue® technology, contractors RE & A Dowson found not only was it more fuel efficient, but the engine was more powerful and responsive.

Richard Dowson and his son Matthew annually clear around 2400ha of grass, maize and whole crop silage, generally working within a 25 mile radius of Pickering in North Yorkshire. For the last three years, the Dowson's have been running a JAGUAR 950, but were so impressed with the new TIER 4i compliant machine that they have bought one for this season.

CLAAS JAGUAR foragers have been central to Richard's contract foraging operation since the late 1980's when he first bought a trailed JAGUAR 75. The move to a self-propelled machine came with the increase in whole crop and maize in the late 1990's, when he initially bought a JAGUAR 820, followed by an 840, then an 870 before changing to the JAGUAR 950 three years ago.

In addition to the forager, the Dowson's grass harvesting operation also includes LINER 3500 and 2900 rakes, a VOLTO 1320 tedder and two QUADRANT 2200 balers, all of which are supplied and serviced by **Seward** at Sinderby.

"There is no comparison between the old 800 series and the new JAGUAR 900 range," says Matthew who drives the forager. "The ease of maintenance is the biggest difference, access to the chopping cylinder and the speed with which the curved blades can be replaced and set-up. I am an absolute stickler about setting the blades up correctly and with the new mounting system it takes about half the time to change and set-up the blades."

"I find that the JAGUAR 950 is a far better balanced machine, with the result that it travels well on the road and there is hardly any bounce, plus the visibility is greatly improved. Also the new five-bar reel is a great improvement. The pick-up follows the ground extremely well and makes a very clean job of picking the crop up."

Having tried a pre-series JAGUAR 950 last season, Matthew found that not only was the engine more responsive, but he also believes that it was far more economical, saving about 0.5-1.0 litre of fuel per acre which, as he says, is a significant amount.

"Because some of the tractors also use Ad Blue® , we buy it in 1000 litre IBC's, but I reckon that the forager should carry enough for about three days and during the grass season we will normally be back in the yard every other day. It's only in maize that we may be away for longer so may have to look at a tank on the fuel bowser."

The other benefit of changing to the new TIER 4i compliant JAGUAR is that it is also more powerful, developing 598hp at 1800rpm compared to 530hp previously. Having this extra power will enable the forager to keep up with and make the most of the LINER 3500 rake that was bought last year. The forager has also been specified with DYNAMIC POWER, variable tyre pressure and a printer to simplify job record keeping.

"The key to the operation is putting as big a swath as possible in front of the forager," explains Richard. "We saw that when we first bought a four-rotor LINER, as the output from our JAGUAR 870 we had at the time rose by up to five acres an hour just because we were putting a larger swath in front of it."

Outputs from the JAGUAR 950 vary considerably depending on farm and terrain. Richard explains that field sizes range from one acre upwards, and whilst up on the North York Moors around Whitby they may only average around 36ha a day due to the field size and the massive crops due to being close to the sea, on lower ground they will aim to cover 56ha rising to 80ha on a good day.

"I have never considered any other forager than the JAGUAR," says Richard. "The reliability and the service from the Seward team at Sinderby is fantastic, and that is the reason we run a CLAAS forager. Over the last six years we have only been stopped for two days. With any other machine that could have been days of down time, which we just cannot afford."

"At the end of the day it's a machine and things will go wrong, but the team at Seward are forager specialists, they know exactly what they are talking about, and if they say a part will be there the following morning, it will be and we have even had them delivering parts on a Sunday."

Twin JAGUARs

Two new TIER 4i JAGUAR 950s will be spearheading John Dan O'Hare's silaging operation in Northern Ireland this year after they were so impressed by how well the forager performed.

The O'Hare's run a total of four self-propelled forage harvesters, but the two new JAGUAR 950's will be responsible for the bulk of the work, because in addition to grass, they will also be used for maize and whole crop, clearing around 3,000ha each.

One of the new JAGUAR's will be operated by Joe O'Hare, who first came across the new TIER 4i version when he operated one at the Irish Grassland event. He was so impressed that he asked if it could be dropped off at their base near Banbridge in Co. Down on the way back to the UK.

"We only had the JAGUAR 950 for a couple of days, but we were well impressed by it," he says. "We ran it alongside our JAGUAR 960 and the 950 was more than a match for it; we were surprised by how well it went and the power it had. The extra power and smoothness was noticeable."

"And we are not afraid of Ad Blue® because we already have machines using it and the foragers come back to the yard most evenings anyway, so topping up won't be an issue."

The bulk of the O'Hares silaging customers are within a 15 mile radius and the majority are dairy farmers, who will generally take three to four cuts of silage. The O'Hares first made the change to CLAAS foragers in 2000, when they bought a JAGUAR 860 and now, in addition to the two new JAGUAR 950s they also run a JAGUAR 890 plus one other machine.

"The JAGUAR's have always been extremely reliable, so whilst we may not need to call them out too often, when we do the

Joe O'Hare

service and support from **Erwins** has always been extremely good."

Working ahead of the foragers will be either a DISCO 9100C Autoswather, DISCO 8400 and a self-propelled mower. After wilting for about 24 hours, the crops will be rowed up ahead of the JAGUAR 950s using LINER 3500 and LINER 2900 rakes, and a further LINER 2900 and 880 are also run in front of the other foragers and balers. Also new for this season with be a ROLLANT 374 baler.

"The timing worked well as both the JAGUAR 960 and another forager were both due for replacement. Normally we would have replaced like with like, but we were so impressed with the JAGUAR 950 and its performance, plus its useful having two machines the same for parts stocking and so that they can share headers, etc.."

Classic Tractor

The hunt is on for the oldest CLAAS combine

100 years of harvesting excellence.

As part of the Centenary celebrations CLAAS UK, in conjunction with *Classic Tractor* magazine, is on the hunt for the oldest CLAAS combine in the UK and Ireland.

The competition will be launched in the July issue of Classic Tractor (which is published on 31st May) and details on how to enter will also be available on the CLAAS UK website.

Two main prizes of an all expenses paid trip to the Agritechnica Show will be be awarded for:

- The oldest CLAAS combine in the UK and Ireland
- The oldest CLAAS combine still working commercially and annually harvesting more than 2.0ha in the UK and Ireland

An additional prize of a collector's model will be awarded to the owner of the pre-1980 combine that annually harvests the largest acreage in the UK and Ireland.

10 years of CLAAS tractors

In addition to its centenary, CLAAS is also this year celebrating the 10 years since it initially bought a 51% majority share in Renault Agriculture and then fully took over the company in 2006.

The past 10 years have been ones of considerable change within CLAAS Tractor SAS, which in such a short space of time has undergone one of the largest product and manufacturing development programmes of any tractor manufacturer in the world.

The rewards of this development strategy are all too evident. In Germany alone, from a Renault market share of just under 2% in 2003, CLAAS currently accounts for about 10% of sales, and throughout Europe as a whole now accounts for a similar level of market share. At the same time, the profile of the CLAAS tractor range has been changed to that of a high-end product that is recognised throughout the world.

In 2003, just 30% of tractors built at Le Mans were exported. Today exports account for over 70% of production and this looks set to further increase as the CLAAS tractor range reaches new markets in Eastern Europe, Russia and Asia, with tractors manufactured in a 'knock down' format for final assembly locally.

The key to this success has been the changes made both within the factory and the product range offered.

Over the past 10 years, structurally the factory at Le Mans has changed beyond all recognition and benefitted from an investment of over €400 million, including a new cab production assembly line in 2008, a new paint workshop in 2010 and the new Testing and Validation centre at Trangé which was opened last year.

At the same time, considerable attention has been paid to the training and development of the workforce at Le Mans, working to integrate employees into the CLAAS Group and the company's working systems and practices. This has involved intercultural training sessions, travel and over 35,000 hours of language lessons.

Finally and just as important has been the development of the tractor product. Over the past 10 years CLAAS has embarked on probably the most ambitious product development programme of any manufacturer, which has been the whole product range completely overhauled, with 12 new ranges and over 40 individual models introduced.

At the same time, maximum power outputs have been increased from 250hp to over 400hp and the whole tractor product has benefitted from sophisticated and reliable electronic monitoring, steering and control technology, whilst also meeting the latest European emissions regulations.

CLAAS goes from strength to strength

- Sales soar to €3,436 million
- Return on sales of 9%
- Agricultural Equipment sales grow by approximately 10%
- Gross profit margin up significantly
- Income before taxes up 24% to €316 million
- More than €300 million invested in the future

2012 was another very successful financial year for CLAAS. Sales rose to €3,436 million, up from €3,304 million in the previous year, with agricultural equipment sales rising by approximately 10%. Income before taxes, at €315.6 million, was up almost 24% on the 2011 peak of €255.3 million.

The foundation of the economic success of the CLAAS Group was and is the company's ongoing innovative strength and its employees' high level of technical expertise. This is clearly evident from numerous awards, including Gold and Silver Medals earned at international trade fairs.

A total of €127 million was invested in the company's future, including expanding and modernising production sites in France, Russia and other countries. With a further €177 million invested in research and development expenses (up from €149 million in 2011), total investments increased to €304 million.

Number of employees worldwide is up

As of 30 September 2012, the number of people employed by the CLAAS Group stood at 9,077 (previous year: 9,060). The year-on-year rise is not limited to individual countries, but is instead due to the new employees engaged in all areas worldwide, with the share of people employed outside Germany rising from 45% to 49%.

CLAAS Win Two Gold and One Silver at SIMA

The “SIMA Innovation Awards” recognise forward-looking agricultural innovations and for this year’s show, three Gold Medals, four Silver Medals and twelve distinctions were awarded, with two Golds and one Silver going to CLAAS.

New app development wins Gold award

CLAAS received its first Gold Medal for the development of a groundbreaking software application (app) with the working title of “Universal Terminal ISOBUS”. Still in development, the app will revolutionise ISOBUS communication between the tractor and implement for the user, as it will allow them to display and use the ISOBUS system on an IOS or Android based Tablet PC.

This will have the major advantage of enabling the user to have continuous access to all available operating data and other applications/information such as their customer file, e-mail program or weather app. The user simply needs a Tablet PC and can download the ISOBUS system app from the Internet (App Store).

Gold for CEMOS AUTOMATIC

CEMOS AUTOMATIC has been heralded as one of the major advances in combine development, and this has been recognised by SIMA with the award of a second Gold Medal.

CEMOS AUTOMATIC is the first fully automatic combine harvester setting system for separation and cleaning and uses numerous sensors to monitor a wide variety of the parameters of the combine harvester with split-second accuracy and immediately adjusts the settings to the current conditions - fully automatically.

CEMOS AUTOMATIC comprises of two separate working systems: CEMOS AUTO SEPARATION which optimises residual grain separation by adjusting the parameters for rotor speed and rotor cover plate position. CEMOS AUTO CLEANING regulates the cleaning process via the parameters for blower speed as well as upper sieve and lower sieve opening.

In combination with the GPS PILOT automatic steering system and CRUISE PILOT throughput controller, CLAAS combines can therefore achieve almost fully automatic grain harvesting.

Silver for the new DYNAMIC COOLING concept

A SIMA Silver Medal was also awarded to CLAAS for the DYNAMIC COOLING system fitted to LEXION 700 models. The new horizontal cooling package features a variable fan drive that delivers ‘cooling on demand‘, so only ever provides the cooling output actually required by the machine.

The air ducting has also undergone significant development. The air is drawn into the radiator from above and then forced forwards towards the engine and sidewards and down through the new louvre system. This creates a curtain effect which actively prevents dust from rising. This not only ensures that clean air is continuously drawn in, but also significantly reduces maintenance requirements due to the low level of dust build-up around the engine bay.

Operatic XERION

When it comes to staging an opera, the XERION production line at Harsewinkel is not quite in the same league as the Royal Opera House in London or La Scala in Milan. But that didn't stop the 'Einklang' (Harmony) Orchestra, who recently used it as the backdrop for a performance of Mozart's well known Italian opera 'Così fan tutte'.

The Technopark at Harsewinkel is regularly used for concerts and other events, but this was far too 'conventional' for the 34-strong orchestra, who specialise in performing in more unusual venues.

The opera, which is a farce with a plotline involving jealousy, love, doubt and loyalty, also featured singers from the Folkwang University of the Arts in Essen. The performance was watched by an audience of 450, who enjoyed it so much that in the best tradition they demanded an 'encore' at the end.

CLAAS on the road

Each year, the CLAAS demonstration team criss-cross Europe so that customers and dealers can see the latest developments from CLAAS in action.

Last summer was no exception, with the combine demonstration team spending four months on the road demonstrating the new LEXION 700 and 600 series combines. In addition to taking in both England and Scotland, the team also travelled through Hungary, Poland, Germany, Latvia, Estonia and Italy.

During the autumn, two tractor demonstration teams spent eight weeks travelling around Europe, showing off the new AXION 900 and ARION 600 and 500 range tractors, during which time they visited Norway, Sweden, Romania, Bulgaria, Spain, Portugal, Poland, Netherlands, Belgium and Luxembourg.

Converting straw into oil

A 3-year research project supported by a number of companies, including CLAAS, has been established to look at the possibility of converting straw into oil for eventual use in petroleum.

The 'Bioenergy Innovation Cluster' has been established by the Fraunhofer Institute for Environment, Safety and Energy Technology to look at utilisation concepts for biomass, using a plant built by CLAAS Fertigungstechnick (now MBB Fertigungstechnick).

Unlike some other alternative uses of biomass for energy production, where there is a conflict between the use of land for fuel and food, the project is looking at the use of straw once the crop has been harvested and the grain separated for human and animal consumption.

The project is using a process called pyrolysis (the thermo chemical conversion of plant-based biomass into a liquid intermediate product). The chemical process has been known about for decades, but the challenge is in making the process practical and economical.

Using the pyrolysis process it is possible to convert biomass, such as straw, into coal-like products or bio crude-oil, which can then be supplied to existing refineries and added to conventional petroleum. This would allow the proportion of petroleum used to be significantly reduced - a promising approach in the context of dwindling oil reserves.

Because of the speed with which wet biomass starts rotting, to optimise production and be economically viable, this will require the biomass to be converted close to the field, and so part of the project will look at the development of small stationary or mobile conversion plants.

A lot of research work is still to be carried out, but who knows, it may not be too long before we start seeing on-farm conversion plants or machines that can drive across the field converting straw into oil.

The team who designed the experimental pyrolysis plant set up at the Fraunhofer Institute (from left): Dr. Horst Weigelt (Head of Technologies/Renewable Raw Materials at CLAAS), and from MBB Industrietechnik GmbH Carsten Fehring (Project Manager), Uwe Martin (Project Mechanic), Faruk Akcay (Design Engineer).

The experimental pyrolysis plant.

CLAAS Worldwide

Home sweet yurt

Whilst festival goers at Glastonbury and other concerts may pay a fortune to escape the mud and get a good night's sleep 'Glamping' in a Mongolian Yurt, for a team of CLAAS engineers the real thing provided the ideal 'home from home' recently.

Mongolia may be more usually associated with Genghis Khan, wide open steppes and herds of horses, but like other countries they are faced with having to feed an ever rising population.

Mongolia is the second largest land-locked country in the world, but cultivated crops only account for 1% of its usable surface area. Although it is also the most sparsely populated country in the world, its population has doubled to 2.75 million over the past 30 years and with more people moving to cities, the country's agricultural industry is having to look at how it can feed this growing and more urbanised population.

Western agricultural machinery and modern farming methods will play an increasingly important role in the development of the country's farming system. And following a fact finding mission to Germany, CLAAS was invited to Mongolia to assess the suitability of the AVERO for harvesting crops in the country's testing conditions.

For the tests, the team from CLAAS were based in a small camp out in the barren countryside, living in a yurt, whilst a second yurt was used as a workshop, parts store and for assembling the combine, which had been transported to Mongolia by train.

The AVERO easily coped with the testing conditions, where at times during harvest the temperature was already below freezing, and using a VARIO cutterbar proved itself to be the ideal machine for harvesting crops such as rape, buckwheat and wheat.

Sage advice from America

Gardeners like the purple, white and pink blooms of clary sage for the beautiful colour they add to the landscape. Others claim that the plant's essential oil has medicinal properties. But, for growers, clary sage is prized for another reason altogether.

The plant produces sclareol, a waxy substance that when put through the bioconversion process makes sclareolide. Sclareolide is used by the fragrance industry to make fixatives that help fragrances last longer. These fixatives are used in products that range from perfume and aftershave to laundry detergent and fabric softeners.

Since 1978, Avoca, Inc., has been providing this by-product of clary sage for companies around the world. The north-eastern North Carolina enterprise is the only producer of the plant in the United States and has the largest extraction facility in North America.

Over the past four years, Avoca has increased their acreage from 1,600ha to 6,000ha. More than 75 growers provide three varieties of clary sage for Avoca—including Lyman Harrell, who grows about 160ha and also serves as the contract consultant for Avoca. There's "nothing special" to the growing process, compared to other crops, says Harrell. The sage is planted in August and September, resumes growth when warmer temperatures return in about March, and flowers in late April or early May.

During the month-long harvest in June, the whole plant is taken off the ground so that Avoca can extract sclareol from the entire shoot and flowers. The substance is extracted onsite at Avoca and is shipped to its sister facility in Wisconsin for the chemical conversion. It then returns to Avoca to be finished off and sold as sclareolide.

"The quality of the cut is important in the extraction process," explained Avoca President David Peele. "The more uniform the particle size, the better the extraction efficiency. Uniform cut is also important with respect to our material handling systems."

Contractors can harvest their own crop or have Avoca do it for them, says Harrell, who took delivery of a CLAAS JAGUAR 930 forage harvester and a CLAAS 610 DIRECT DISC this past spring.

"Our custom crew runs two CLAAS JAGUAR harvesters. The crew leader was the first to run CLAAS and trades up regularly. He got both of his new in 2011. A friend of his runs a used

2013 CLAAS Scholar

Congratulations to Daniel Robertson, who has been named the seventh Harper Adams CLAAS scholar. Daniel comes from Aboyne in Aberdeenshire and is studying MEng (Hons) Agricultural Engineering at the university in Shropshire, a course that includes a masters' year.

The scholarship means that Daniel will now have his second and fourth year fees covered and a one-year sandwich placement at the CLAAS Group headquarters at Harsewinkel. He will also be offered a summer placement with CLAAS UK.

19-year-old Daniel, said: "'It was an honour to be selected for the scholarship. I am good friends with some of the other interviewees, so knew that they were great candidates and it was going to be really competitive. That is why it was such a surprise when I was chosen. I cannot wait to start work in Germany in October."

Students Joseph Allin, Adam Montgomery and Alan Forde were also interviewed for the scholarship but narrowly missed out. They have been offered the opportunity to apply for other placements with CLAAS.

Beate Kral, HR Manager from CLAAS KGaA in Germany, was on the judging panel. She said: "We have seen four very motivated and fantastic candidates. Daniel stood out on account of his personality and has shown that he has the drive and commitment to make use of the opportunities we provide within this program. We are happy to accompany Daniel on his way."

Launched in 2005 at the personal instigation of Helmut Claas, the CLAAS Scholarship is open to one second year student per year who is studying either the MEng/BEng (Hons) or BSc (Hons) Agricultural Engineering, or the BSc (Hons) Agricultural Engineering Marketing and Management courses at Harper Adams.

Daniel Robertson is congratulated by CLAAS UK CEO Trevor Tyrrell and Beate Kral, HR Manager from Corporate Human Resources at CLAAS KGaA

CLAAS Foundation award for Harper student

Each year the CLAAS Foundation recognises the work of students studying general engineering from around Europe, and the recent awards ceremony saw the work of students from Germany, Great Britain, Sweden, Hungary, Romania, Slovakia and the Netherlands being recognised.

In addition to the four main scholarships, four bonus prizes of €1500 were awarded, with the "Technical Innovation" award being presented to Daniel Campling from Harper Adams University College.

JAGUAR he bought this past year and I was lucky enough to take the seat and drive his a bit."

One of the first things he noticed was the easy handling. "It's a lot more user friendly and comfortable," than the competitor's model he had before. And since his acres are about 15 miles away from Avoca, Harrell says he appreciates the highway speed on his new JAGUAR coupled with the additional fuel savings. His first harvest in his new JAGUAR went "very well."

But what about the all-important quality of the cut? "It's a more consistent cut," says Harrell. Peele says he's heard the same from others.

For a company whose production process counts on consistency, that's important. So take note the next time you see a perfume bottle or a bottle of laundry detergent—you may just be seeing the product that got some long-lasting help from a CLAAS JAGUAR harvester.

EU prize winners

Two Harper Adams students have beaten off entries from 25 countries around the EU to take top honours in the European-wide *Farming by Satellite* competition organised by the European GNSS Agency (GSA), the EU agency responsible for European satellite activities. The competition was sponsored by CLAAS UK and Bayer Crop Science, and supported by the NFU.

The aim of the competition was to promote the use of the Global Navigation Satellite System (GNSS), and EGNOS and the new GALILEO system in particular, especially within agriculture, which is seen by the European Commission as one of the most progressive and important users of satellite technology.

The GSA aimed the competition at students throughout Europe, inviting them to put forward and develop new ideas for the more extensive use of satellite technologies in agriculture to improve production, efficiency, profitability and to reduce environmental impact.

The competition was open to students and young farmers from throughout Europe and received 114 entries from 25 different countries, which were judged by Dr Andrew Speedy, Fernanda Guerrieri, Dr Jens Moller, Hans-Joachim Duch and Dr Andrea Graham.

The top prize of €10,000 was won by Robert Fillingham, who has been studying for a MEng Off-Road Vehicle Design degree, and is about to embark on a 3-year PhD course.

Winner Robert Fillingham (left) was presented with his award by Michel Bosco of the European Comission. Jonathan Bradbeer received his award from Dr Hubert Schmeer, Head of Development Region EMEA for Bayer Crop Science.

Robert's prize winning entry developed the idea of a geo-referenced online data platform with information services for farmers throughout Europe. Called the "European Farm Management Information System", his vision was for comprehensive data collection that would contribute widely to agricultural practices.

The core of his concept is an online database that enables farmers to use satellite data, weather information and forecasting models in their daily work. In conjunction with regular expert analysis on user-uploaded operating and machine data, farmers would receive specific recommendations to increase their income and efficiency.

Contributors to the network would also gain access to information and analysis from other farmers.

The second prize of €5,000 was awarded to Jonathan Bradbeer, who is studying for an MEng (Hons) in Agricultural Engineering. He showed how satellite-based positioning can optimize the collection of hay bales in the field, which helped reduce the required operating time and saves fuel.

The third prize of €1,000 was awarded to Veronica Saiz-Rubio from Spain. Her idea, 'Vitismart', was for the use of satellite positioning in combination with a camera-based recognition of biomass, that could be easily installed on existing vehicles and was designed especially for use in vineyards.

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