

CLAAS

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Trials show AXION has the power to perform

Tests conducted in conjunction with the DLG, one of Europe's leading test and research organisations, show that 83% of the engine power on the AXION 820 is transferred to the wheels, highlighting the efficiency with which the HEXASHIFT transmission utilises engine power, making this one of the most efficient tractors in its class on the market.

In the tests, the DLG compared the engine and transmission performance of the AXION 820, against a similar sized competitive tractor. In addition traction and engine tests were also conducted on the higher powered AXION 850.

AXION 820 v competitor

The AXION 820 has a nominal power output of 189hp (139kW) with a maximum power output of 197hp (145kW), with latest models also benefiting from a further power boost to 232hp (170kW) from the CLAAS POWER MANAGEMENT (CPM) system.

The main message to emerge from all the test data was how efficient the driveline in the AXION 820 was in transmitting power and the fuel efficiency of the engine.

- 91% of engine power was available at the PTO, so highly efficient
- 83% of engine power was converted into useful power at the wheels
- Constant power was over 800rpm
- Maximum PTO torque 787 Nm with a 54% torque rise
- Fuel consumption was flat across the main engine range at 221 gms/kW/h.

In terms of performance in the field, the efficiency with which both the AXION 820 and 850 transfer power to the wheels, results in a tractor that will achieve higher work rates at reduced fuel usage. The wide constant power range will avoid the need to change gear, whilst the high torque and impressive torque rise mean that the tractor will keep pulling and again avoid the need to change gear, so losing momentum when going up-hill or when soil conditions change through the field. At the same time, the flat fuel consumption means that whatever the load, consumption remains constant.

Accurate, realistic testing

The tests on the AXION 820 and 850 were conducted using the DLG's unique Drawbar Test Vehicle. This is designed to replicate a field environment and so provide more comprehensive and accurate information than is possible with a static test or other field based measuring systems.

The Drawbar Test Vehicle is able to test the total performance of the tractor within a controlled environment that ensures that replicated results can be achieved, i.e. that the results are consistent and if

	AXION 820	Competitive tractor	AXION 850
ISO rated engine output (kW)	139	139	233
Max PTO power at engine rated speed (kW)	130	124	171
% of max engine power available at PTO	90%	84%	90%
Max PTO Torque	787Nm	742Nm	908Nm
% of max boosted engine torque	92%	87%	89%
Torque rise	54%	46%	42%
Best fuel consumption (Grams/Kilowatt/hour)	221	234	234
Maximum drawbar pull (kW)	115.2	103	157
Ratio maximum drawbar pull to engine power	83%	74%	92%



repeated the same result will be achieved. The major drawback of field based testing is that soil types and conditions vary too much and so can have a major impact on results, making a realistic comparison between tests and machines impossible.

The Drawbar Test Vehicle is linked to the tractor by a load-cell drawbar and the computer and test measuring systems are linked into the tractor's fuel, hydraulic, PTO, electronic and engine management systems. Where required, in order to place the tractor under load, as it tows the vehicle down the test track, an onboard Dynamometer places varying levels of braking effect on the lorry's rear axles to create a 'pull' at the drawbar which can then be measured.



New product goes on display

Last year saw a total of 53 new models from 11 product ranges being launched in Europe.

As part of this, CLAAS held its largest ever UK product launch in October, staging a mini World CLAAS event for it's dealers and their sales staff at its Saxham headquarters.

Following this main launch, during this spring many of our dealers will also be holding open days, at which the new ARION and AXION tractor ranges will be the main highlight. Failing that, CLAAS will also be displaying a wide range of the new products at the Grassland Event (21 & 22 May), Cereals (11 & 12 June) and other regional shows throughout the UK this summer such as the Royal Highland Show (19-22 June) and the Royal Welsh (21-24 July) .

Dealer Open Days at the time of going to press are:

February 13 –	Riverlea Open Evening, Nantyfinn Hotel
February 20/21 –	Gordons Open Evening, Rowallen Activity Centre
March 5 -	Sellars Open Day, Letham
March 12/13 –	Rickerby Show
March 12 –	Riverlea Show
March 18 –	Southern Harvesters Sussex Open Day, Petworth
March 19 –	Southern Harvesters Kent Open Day, Great Chart
March 19 –	Hamblys Open Day, Launceston
March 26 –	Hamblys Open Event, Honiton



The new ARION was the main feature of the recent UK product launch at Saxham

New ARION becomes a quick favourite

Following the launch of the new CLAAS ARION range at the Agritechnica Show in Germany last November, orders for the 19 model range have been coming in thick and fast.

According to tractor product manager, Tom Jewers, one of the biggest attractions of the range is the wide range of models. Within the 19 model range, ARION is available in three specification levels – CEBIS, CIS (CLAAS INFORMATION SYSTEM) and C – with eight power outputs from a maximum of 117hp to 160hp, plus two models also feature an additional CLAAS POWER MANAGEMENT (CPM) boost to 160hp and 180hp.

“We have had a lot of positive feedback on the ARION and the choice of three specification levels is a big attraction,” says Tom. “Another big plus-point is the engine, which has plenty of torque, pulls well and is extremely economical.”

“One of the best sellers is the 4-cylinder ARION 540, which whilst it has a rated power output of 135hp, with the CPM boost will go up to 160hp, so it offers all the power of a 6-cylinder but without the fuel consumption. We have also had a lot of interest in the ARION 630C as a good, straightforward, easy to operate workhorse.”

The ARION CEBIS and CIS models are powered by the latest TIER III, common-rail 6.8 litre DPS Powertech Plus engine, fitted with a variable turbocharger, 4-valve technology, exhaust gas recirculation and intercooler.

These two models also feature the CLAAS HEXASHIFT transmission which, with 6 power shifts within 4 ranges, can be set to operate either manually or automatically and



A good, economic

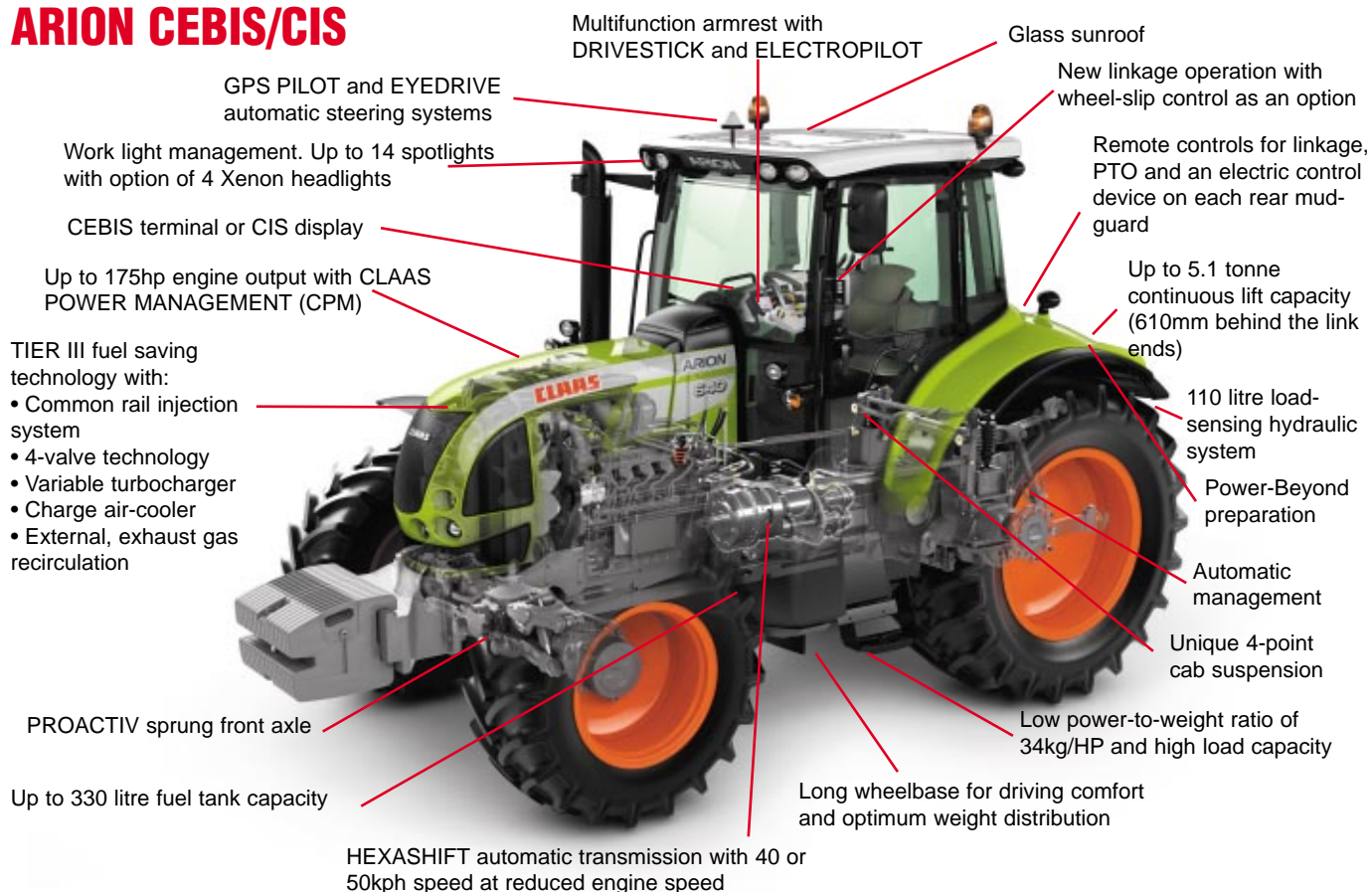
David Laird was one of a number of users around Europe to evaluate pre-production versions of the ARION last autumn.

is operated using the new DRIVESTICK control on the multifunction armrest.

On CEBIS models, all the functions and settings, such as the CLAAS SEQUENCE MANAGEMENT (CSM) headland control, are accessed using a simple rotary dial, plus it incorporates a flash card writer/reader so that information can be saved for the future. On CIS models, settings are accessed using a display within the digital dashboard.

The lower specification ARION C models offer the performance of a 6-cylinder tractor, but without the electronic control systems. Drive is through the well proven QUADRISHIFT transmission, with REVERSHIFT reverser, and it uses mechanical controls for the hydraulics.

ARION CEBIS/CIS





c, all-round tractor

‘Light and Lively’ is how contractor David Laird sums up the pre-production ARION 640 CEBIS he had on evaluation between July and October last year, during which time it clocked up 900 hours.

“The ARION is the ideal tractor for our kind of work,” states David who offers a general contracting service based near Cumnock in Ayrshire and runs a fleet of 15 tractors, of which six are 164hp ARES 816s plus a further two 140hp ARES 697s.

“What I look for is a tractor that has plenty of power, but is not too heavy. The ARION did everything from lightweight jobs such as sowing grass seed, through to powering a forage wagon and big baler where you need power and weight. For the variation of jobs that we do, you can always add weight when it's necessary, but you can't take weight off a heavy tractor.”

Comparing the 155hp ARION with his ARES 816s, David says that the most noticeable difference is the ARION's fuel consumption, which he says is considerably better, plus the engine pulled well and the power boost up to 180hp was useful.

“The CLAAS cab is one of the roomiest on the market, and the ARION is no exception. The combination of PRO-ACTIV front axle suspension and the cab suspension means it's very comfortable to work in, the visibility is good and I like the layout of the armrest; once you get used to it the DRIVESTICK control for the transmission was easy to use.”

“I was also very impressed with CEBIS; it's easy to operate and set-up and there is a lot of information available. Having access to information on exactly how much fuel you have used, the area covered or the hours worked is excellent and makes pricing jobs far easier and more accurate.”

Turning to the back of the ARION, David was also impressed with the new design of spool valve connectors which incorporate a release lever. “The connectors are well thought out – they are accessible and easy to connect or release under pressure.”

“I also like the fact that it has good ground clearance for baling and forage, plus the bottom step can be removed which is a good idea. The lighting package is a definite step forward compared to the ARES and means you have good night vision.”

New award-winning Z-ACTIV active suspension system

For the past 20 years the four-point Z full cab suspension system used on CLAAS tractors has led the way in cab suspension.

Later this year, CLAAS will be taking operator comfort on the AXION 800 series tractors to a new level with the introduction of the new Z-ACTIV cab suspension system.

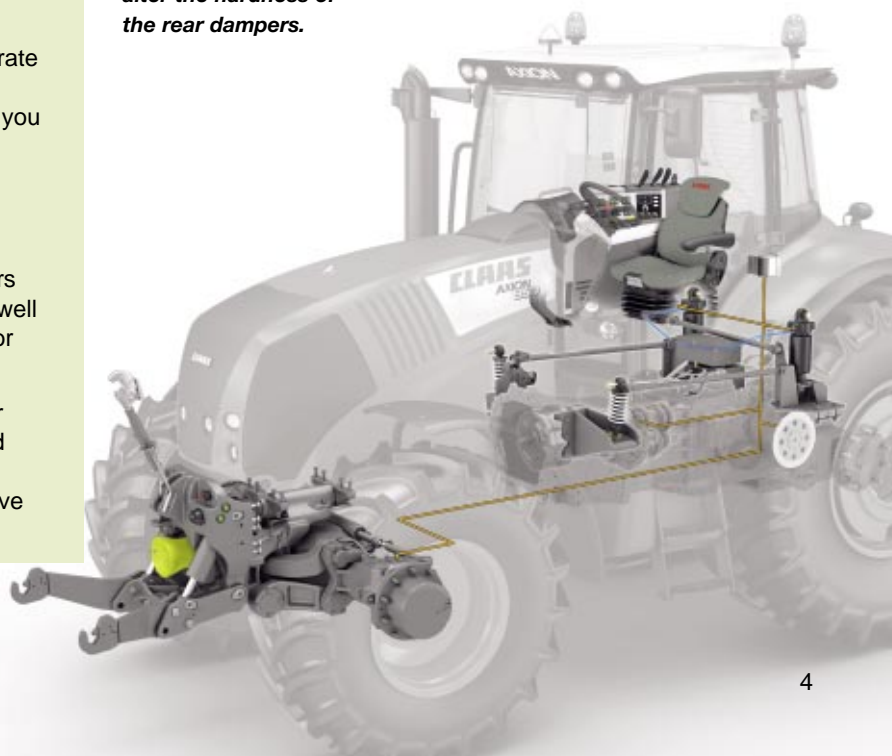
In recognition of this advance in operator comfort, the CLAAS Z-ACTIV suspension system was awarded a Silver Medal by the DLG at last year's Agritechnica Show.

Central to the new Z-ACTIV system is the combination of air-suspension units with automatically variable damping units in place of springs at the two rear suspension points. The damping units contain a magnetorheological fluid in which is suspended iron particles. By passing a varying magnetic current through this fluid, the viscosity of the fluid changes so altering the damping effect.

This gives the Z-ACTIVE system the ability to automatically adjust the suspension to the operator's and passenger's weight. Then, using a CAN-BUS interface and sensors that provide information such as ground speed, steering angle, braking and transmission changes, the Z-ACTIV suspension system is able to automatically react at a rate of 5000 times a second and continuously alter the hardness of the dampers. In addition, the active suspension system will also stop the cab tilting when braking hard or cornering.

If required, the operator also has the facility to over-ride the automatic system and manually select the damping effect, with the option of a hard damping for fieldwork, or a softer setting for the road.

The Z-ACTIV suspension system collates information from throughout the tractor to constantly alter the hardness of the rear dampers.





CLAAS ARION - 19 models from



117hp to 180hp

CLAAS

Running costs cut

The ability CEBIS provides to fine tune the AXION's hydraulic and engine settings has paid dividends for Matthew Bowe.

Since it arrived last July, the 203hp AXION 830 CEBIS has worked 600 hours mainly cultivating and powering a 6.0m wide wrap-around KRM drill combination, which is shared between the farm that Matthew manages for Sentry near Bury St Edmunds and another farm about 10 miles away.

The main driver of the tractor also operates their LEXION combine, so was used to CEBIS and the ability to fine-tune the tractor has made all the difference to its performance.

"CEBIS makes that tractor," states Matthew. "By being able to set-up and fine tune the speed at which transmission changes up and down are made specific to the operation, we have found that having it set correctly makes a considerable difference to fuel consumption. Once the driver got to grips with it the difference was staggering."

"Over the 600 hours the AXION 830 has done, it has used 2 litres/hour less fuel than the 185hp tractor it replaced, which so far is a saving of 1200 litres worth £600. I was initially dubious about the fuel meter, but double checking it have found it to be extremely accurate."

"I am very pleased. The engine is superb and I don't know where it gets its power from if it is using so little fuel! Also what I can't work out is how, when it is basically the same engine as on our previous make of tractor, that it can be so different."

The AXION was bought to specifically handle the big drill combination, which has a large front-mounted seed hopper,

whilst the drill on the back also incorporates a packer roller, resulting in a long overhang.

"The old tractor was not powerful enough and chipping it was not the way to go, plus we had reliability issues. As well as the AXION I looked at two other makes, but when these were brought up to the same specification, they were priced out, also Manns at Saxham are only five miles away so we know we will get good service. The other advantage is that on paper the AXION is slightly shorter and has a better turning circle, so is more manoeuvrable as we have some tight buildings."

"The drill is a bit of a monster, but the AXION handles it very well and the front axle suspension and anti-bounce work very well when transporting it between farms. It's very comfortable and the layout of the cab is good, especially the control console, as with the drill you can have a lot going on at the headland, but it's very relaxing to drive."

"I'm extremely pleased with the AXION as it has done everything we wanted it to do, with increased output but at a lower running cost. Reliability has been good and any teething problems have been quickly sorted. We will certainly look at another, and even the driver, who was a hardened fan of our previous make, has conceded that the AXION is a better tractor!"



Matthew Bowe's AXION 830 makes light work of the farm's 6.0m wide KRM wrap around drill combination. (photo: Mid Suffolk Agri Photos - www.midsuffolkagriphotos.co.uk)

Fuel efficient power

Both Raymond Copland and his customers have been extremely impressed by the fuel efficiency of his new AXION 840.

As a 'one-man band', when changing his tractor last year contractor Raymond Copland's priorities were specification, performance and comfort. However, an added bonus of buying an AXION 840 has been its fuel economy, which over the 900 hours the tractor has done is some 45% less than the 215hp tractor that it replaced.

"I have been extremely pleased with the fuel economy," says Raymond who is based near Dumfries. "Customers have also been surprised as their first impression is often that due to its size, that the AXION must use a lot of fuel. For silage work, the customer supplies the fuel, so economy is important, but one customer has calculated that I will save him £3,000 in fuel a year."

Aside from general contracting, in particular silage work using a 51m³ forage wagon, Raymond also does municipal and plant work. The AXION 840, which has a rated power output of 212hp but a maximum of 246hp with the CLAAS POWER MANAGEMENT (CPM) boost, is the first time Raymond has bought CLAAS, and chose the AXION having compared it to two other leading makes.

"The comfort offered by the front axle and cab suspension was important if you are going to be in the cab for 12 to 16 hours a day. Compared to other tractors, on paper they were less expensive, but once you specc'd them up to the same level there was nothing in it. I knew Gordon's from dealing with them in the past and I also liked CLAAS's professional, 'can do' attitude. If there is a problem, it will be fixed and they treat you exactly the same regardless of how big a company you are."

"I first saw the tractor at the World CLAAS event and felt then that it was certainly worth a look. The cab is well laid out and everything is to hand, and I like the DRIVESTICK control. The HEXASHIFT transmission is excellent and the ability to just leave the transmission in automatic for roadwork is good. Aside from its low fuel consumption, the engine pulls well and the extra boost is great; it's there when you need it and by coming in in stages, you only use as much extra power as you need."

"Physically the AXION may look big, but it's very nimble and manoeuvrable for its size. Also CEBIS is extremely useful and having had it, I would certainly want it again as it provides so much information, and the ability to set up the hydraulics just as you want them is great. I am basically a technophobe, but find it easy and clever to use."

"I am very, very pleased with the AXION. Its' been great and just what I wanted, plus the back-up from Gordon's could not be better."



Thanks to its fuel efficiency, Raymond Copland's AXION 840 has saved both him and his customers money.



AXION impresses in Kent

With a total of 14 CLAAS tractors, including five new AXION 820s, FGS AGRI Ltd is one of the largest fleet users of CLAAS tractors in the UK.

The five new AXIONS are the latest additions to a CLAAS fleet that includes six ARES 656RCs, an ARES 826 with loader, an ATLES 836 and a XERION 3300.

Based near Ashford in Kent, aside from farming 400 ha (1000 acres) of combinable crops, the company also provides a wide range of contract services covering the agricultural, plant and environmental sectors.

The first CLAAS tractors were added to the fleet soon after they were launched in the UK four years ago. "We have bought CLAAS balers and combines from Southern Harvesters Kent for a long time, so took the decision to go with the tractors as well when they were launched," explains farm manager Alan Higgs. "We have not looked back; CLAAS has a very positive outlook on their machines and if there is a problem they will get it right, which is very reassuring."

The first AXION 820 CEBIS was delivered last July and joined by the others in August. Aside from cultivation work, the AXIONS, which have a maximum power output of 189hp, are also used for a wide range of agricultural haulage work, including straw and muck haulage, so as with all the main tractors on the fleet they are specified with 50kph

transmissions and air brakes, and are all on MAXI CARE service contracts.

"The AXION is a very good tractor; simple, well built and easy to operate," says Alan. "It's ideal for our needs. We originally ran 175hp ARES 826's, then moved to 140hp ARES 697s with 50kph 'boxes, but these were not quite heavy enough for some tasks such as pulling our QUADRANT baler or Bunning Highlander spreaders, so we needed a heavier tractor."

"We have been very impressed with the AXIONS and got on very well with them. Compared to the strong competition at that level the AXION is extremely good. It's very comfortable, the engine is superb and for the work they are doing is certainly more economical than the ARES 826. The cab is logically laid out and once you get used to the DRIVESTICK, it's extremely easy to use, but for most of the time you are better off leaving the transmission in automatic. For the future we will certainly be interested in the CVT option for haulage work."

Of the other tractors in the fleet, the ARES 656 RCs were bought specifically for plant and site work, hauling various trailers and tankers and supporting the FGS Plant operations. The XERION was also a new addition this autumn and is used for primary cultivations, pulling a 3.8m Simba Solo and cultipress combination and, concludes Alan Higgs, has been "very, very impressive."





Peter Crudge uses CamPilot mainly for spraying and baling

Eyes to the front

One of the first users of the unique CLAAS CamPilot automatic steering system in the UK is Peter Crudge.

Farming 283ha (700 acres) at Churchill in Oxfordshire, Peter Crudge admits to a liking for 'gadgets', especially if they have the potential to make life easier, but has found CamPilot to be ideal for spraying and baling.

Using an 3-D camera mounted on the front of the tractor, CamPilot uses the digital images from the camera to define the outline of tramlines or rows, and then uses this information to accurately steer the tractor.

Peter already uses a GPS automatic steering system on another tractor, which he says is great for work on bare land, such as for pre-emergence spraying, but finds that when spraying later in the year it is not quite accurate enough to re-align with the tramlines.

Having seen the CamPilot system at World CLAAS, Peter felt this was the ideal solution and would provide the accuracy he wanted in growing crops, so had it fitted when he bought a new ARES 697 from Mill Engineers last year.

"The eye works very well in tramlines as when spraying or applying liquid fertiliser it enables me to concentrate on the sprayer – it just means there is one less thing to concentrate on and is very easy to use."

Having used it for spraying, Peter then looked at other applications where it could be used.

Using a conventional baler Peter annually makes 40,000 hay and straw bales a year, mainly for sale to local horse owners.

Having tried using the camera for mowing which, he says, worked fairly well, he then fabricated a frame to go on the tractor's front linkage so that the camera could be offset over the swath for baling.

"This worked very well and again meant that I could just concentrate on the baler knowing that the tractor was looking after itself and accurately following the row."

Farm Sunday

To help those who are opening their farm for the first time as part of this year's Open Farm Sunday event on June 1st, the organisers have arranged a series of 'Workshops' around the country, which CLAAS will be supporting through the loan of machinery and the donation of CLAAS 'Goody' packs for June 1st.



The aim of the workshops is to enable those who are opening their farms to come a meet others who are 'old hands' and learn from their experiences. Advice will also be available from the organisers on a complete range of topics, from publicity, how to answer questions, how to manage the event, Health & Safety and insurance.

For further information of the 21 Workshops which are being held throughout March, April and May, either visit the Open Farm Sunday website at www.farmsunday.org; telephone LEAF on 02476 413911 or email Carol Cartwright at carol.cartwright@leafuk.org.

Hertfordshire farmer, Ian Pigott will be one of hundreds of farmers getting involved in this year's Open Farm Sunday on the 1st June.



New XERION rises to the challenge

A change in cultivation system for last autumn required H & J Nevile & Son to look at a more powerful tractor, with the result they contract hired a pre-production XERION 3800.

Managing a total of 1,200 ha (3000 acres) of cereals around Aubourn in Lincolnshire, nearly all of which are winter crops, the aim was to move from a 3-4 pass disc based cultivations system down to ideally doing a single pass using a 4.7m, seven tine Gregoire Besson Discordon ahead of drilling with their Vaderstad drill.

"Having tested the Discordon we knew we needed more power to pull it, so we spoke to Marsh about a XERION," explains farm manager Nick Marshall. "However it was felt that at 335hp, the XERION 3300 would not be powerful enough, but they then came back to us saying that a more powerful 388hp version was being developed and would we be interested in testing a pre-production version."

"One of the main reasons we approached Marsh and agreed to test the XERION was because we already run other CLAAS equipment and the back-up and support we have had from Marsh at Sleaford has been excellent, and this is important where you are relying on a key piece of machinery."

With a large part of the farm sitting within the River Witham Flood Alleviation Scheme, large areas were flooded up to 12 inches deep in June, and in what was a difficult autumn Nick has been extremely pleased with how the XERION has performed.

"Conditions were not easy as at one stage the soils were very wet, then went very dry, but the XERION has gone extremely well and done exactly what we wanted it to do. Bearing in mind it is a 380hp tractor doing heavy work and the output we are getting from it, the fuel consumption is pretty good too."

"We were running it 16 hours a day, during which time it would do up to about 28ha (70 acres) depending on conditions. Also it is extremely easy to operate. The driver had never driven anything as technical before, but once he had had a driving lesson from Marsh, he went from strength to strength."

"Using CEBIS is extremely straightforward and uncomplicated; it's very 'user-friendly'. We use the four-wheel steer all the time in addition to the crab steer and cruise-control modes."

"It pulls and handles the Discordon extremely well and I am sure having four equal sized wheels means we get better traction. Whilst we did consider a tracked machine, I think we would have needed even more power to get the pulling power and probably not have got the same performance."

"The aim is to have a simple system and so far, despite the conditions last autumn, it has worked well and the crops are looking extremely good and seem to have benefited from the change. All in all we have no regrets at all," concludes Nick.



CLAAS

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