

FARMFORUM

THE MAGAZINE OF **CASE IH** SUMMER
2015



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NEW GENERATION

SOIL PROTECTION

2015 IS 'INTERNATIONAL
YEAR OF SOILS'

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AGRICULTURE

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EDITORIAL

'AGRICULTURE 4.0'

DEAR READERS OF FARMFORUM,

Many of you will have heard about 'Industry 4.0'. Put simply it's a term used to describe the integration of development and supply of goods and processes using Internet, and involves machine construction, electrical engineering and information technology – all linked together to achieve the target. In today's farming approach we can see many similarities with precision farming – increasingly making 'Agriculture 4.0' a reality in everyday farming practice.

The articles in this edition of FarmForum dealing with AFS Telematics, RTK+ or AFS Academy are about precision farming today, and developments that will be coming in the near future.



The 'on the job' reports from France, Italy and Benelux in this edition show what solutions may look like in individual cases, whilst the 'machine portraits' characterise the broad range of operations, as well as special features, of some of our innovative Case IH machines. These portraits include the Case IH Austoft sugar cane harvester (a good example of an 'exotic' machine in Europe), they include the Quadtrac with front linkage and thus extended fields of operation – and the new Puma Series 2015 with new features and further improved performance.

And yet, modern agricultural engineering and 'Agriculture 4.0' are not an end in themselves: As a manufacturer Case IH is also fully focussed on the human dimension – owners and operators – as they must be able to benefit from all these additional advantages and ease of work in his daily routine.

I hope you will enjoy browsing and reading this edition of FarmForum!

Sincerely yours

Matthew Foster

Vice President & General Manager Europe, Middle East, Africa

STAGE IV FOR DEMANDING FARMERS AND
AGRICULTURAL CONTRACTORS

NEW CASE IH PUMA MODEL RANGE

THE PUMA HAS SET NEW STANDARDS IN EUROPE IN TERMS OF QUALITY AND PERFORMANCE.
NOW CASE IH IS UNVEILING THE NEXT GENERATION.

The new Puma models built in St. Valentin, Austria with the tried-and-tested semi-powershift transmission, full-powershift transmission or continuously variable CVX transmissions and the latest engine technology from FPT Industrial surpass the quality level defined by its predecessors by a substantial margin. With seven models and rated power of 150 to 240 hp, the new Pumas are ideally equipped to tackle the most challenging tasks in arable farming, livestock farming or agricultural contracting businesses.

POWERFUL, EFFICIENT AND COMFORTABLE

Powered by a 6.7 litre NEF engine from FPT Industrial, the Puma 240 flagship model achieves

a power output of 240 hp at 2200 rpm, and up to 270 hp when Power Boost is activated. The engine delivers its maximum torque of 1160 Nm between 1400 and 1600 rpm.

'A top feature of the new Puma tractors is the powerful, fuel-saving and low-emission six-cylinder engine. The proven Hi-eSCR technology from FPT Industrial guarantees compliance with Stage IV (Tier 4 Final) in the European exhaust specifications with low fuel consumption and high engine power. This simple and efficient system also enables Case IH to achieve engine oil change intervals of 600 operating hours', stated Dan Stuart, Case IH Product Marketing Manager with emphasis, and in respect of the tractor sector for Europe, Middle East and Africa.

MULTIPLE INNOVATIONS IN THE CAB

As well as the engine, the Case IH engineers have also taken a close look at the cab - inside as well as outside. The cab now has a seamless, one-part windscreen that gives the driver unobstructed visibility towards the front. The AFS 700 terminal has also received multiple upgrades. These include a new configuration for the auxiliary control units and the ISOBUS III functionality that – depending on the implement involved – automatically controls vehicle speed, lifting gear, the electrohydraulic auxiliary control unit and the PTO shaft functions of the tractor. For work involving frequent changes of direction, the choice of response sensitivity and other settings of the reversing shift are available and these enable the vehicle to be configured to suit personal preferences. 'The new HMC II headland management system can also do a great deal to simplify the work of the driver, while also significantly increasing productivity levels', stated Dan Stuart. 'With a new and practical user interface, the system also permits additional parameter settings for other sub-assemblies that supply signals. This simplifies repetitive kinds of field work. It is also more efficient and relieves the workload of the driver.'

'The same applies to the selection of new seat options that are now available for the Puma tractors. This enables users to select from the finest range of seat and ride comfort options in the sector. As standard, the Puma is equipped with a pneumatic seat with low-frequency suspension. In addition, new seat options are available: a dual-motor low-frequency pneumatic seat at the luxury end of the range with innovative height-adjustment on the backrest and a choice of a fabric cover or red leather, or a Maximo Evolution leather seat with semi-active suspension', explained Stuart.





A top feature of the new Puma tractors is its range of powerful and fuel-efficient six-cylinder engines. These are the 6.7 litre NEF engines from FPT Industrial. The flagship model, the Puma 240, has a power rating of 240 hp.

Puma with lighting package - two new headlight packages deliver top-quality lighting using the very latest LED technology.

ONLY LIGHT CAN DRIVE AWAY DARKNESS ...

Entirely in the style of Case IH Magnum tractors, the latest Puma models have received a facelift on their cab exteriors with a new cab roof and more powerful lighting packages. Two new worklight packages contain the very latest LED technology and guarantee illumination that is not only brighter but that also provides lighting over a greater distance. 'The driver can identify and avoid obstacles on the field reliably, and even the extremities of particularly wide implements are clearly visible at night', stated Dan Stuart with emphasis.

'Nowadays, precision farming techniques constitute a decisive step towards the improvement of efficiency and the conservation of the environment. All Puma tractors from

Case IH can be equipped with an integrated AccuGuide steering system as part of the AFS technology platform from Case IH. The system receives its correction information via the 372 antenna that is compatible with GLONASS and GPS satellites. xFill technology enhances the reliability of the system by maintaining machine operability even in the event of a 20-minute failure of the RTK signal. The optional Case IH AFS Connect TeleMatics system employs a combination of global positioning system and wireless technology to transmit and receive data relating to the machine, the crop and the job in hand. 'On board our tractors, these technologies ensure that farmers are able to work better and manage operations more efficiently than ever before', stated Dan Stuart with conviction.





CUSTOMER PROFILE

FLAGSHIP 692HP CASE IH QUADTRAC WILL INCREASE EFFICIENCY

ONE OF THE FIRST CASE IH QUADTRAC 620 TRACTORS TO BE DELIVERED IN THE UK WILL FURTHER INCREASE EFFICIENCY AND TIMELINESS, WHILE ALSO REDUCING PRODUCTION COSTS FOR ONE LARGE CONTRACT FARMING OPERATION IN EAST ANGLIA.

A leading contract farming business in East Anglia has invested in the world's largest series-manufactured tractor, a 692hp Case IH Quadtrac 620, to maximise the efficiency of its operations across 1800 ha of combinable crops in Suffolk and Norfolk.

Founded by Jes Hansen in 1993, Tyneholme Estates has built an excellent reputation for its highly-professional approach and paying attention to even the smallest detail, attributes which continue to set it apart in a very competitive sector. 'Our approach to farming profitably is to tap into market opportunities which offer

premium potential, lock in known returns for the crops we produce, rigorously control production costs and operate the best equipment to achieve timely operations and maximise yields,' Mr Hansen explains. 'Farming well is a very specialist profession and operating on the scale that we do allows us to harness the benefits of large, high-capacity machinery yet still achieve a low cost per acre, which is increasingly important.'

'When I came here in 1993 the estate had been operated along traditional lines and was in need of complete modernisation. One of the key issues holding back performance was the lack of

timeliness and it was obvious that the heavy land would have to be drilled much earlier to achieve higher yields and more consistent results. Seed rates were a key factor in drilling earlier and in conjunction with an independent adviser in Denmark I developed a guide which we still use today. We start with a very low seed rate at the beginning of the season and increase it every three days.

'We achieved some very good results by drilling earlier but because we ploughed and power harrowed every acre some years wet weather caused severe problems. In 2005 we started to

use deeper non-inversion cultivations to improve timeliness on fields that were suitable, but the nature of our soils meant that we still had to work 8' to 11' deep. Having tried various types and makes of equipment we eventually settled on using a Vaderstad Top Down, followed by a power harrow to improve the quality of the seedbed, which worked very well. It was apparent that we needed to have more power available.'

I CATALYST FOR CHANGE

In 2007, wet weather made harvesting grass seed particularly difficult and the estates two existing New Holland CR rotary combines struggled to cope. After a Case IH 9010 combine came to the farm on demonstration and proved to be four times faster, produced a much better sample and never blocked, Mr Hansen decided to re-evaluate his entire approach.

The existing combines were replaced with two Case IH Axial-Flow 9010 combines with 30' headers and the tractor fleet received a complete makeover. The departure of several smaller units paved the way for the arrival of several new Case IH tractors, including a Quadtrac 430, Magnum 310 and two Puma models. The effect of this massive power boost would soon make its impact felt.

'The decision to buy our first Quadtrac in 2007 was not one that we took lightly,' Mr Hansen explains. 'The cost certainly made us think for a while but it was obvious that was the way to go. We had been doing a good job with our previous wheeled tractors, but the arrival of the Quadtrac took the quality and timeliness of seedbed preparation and drilling to a whole new level.

'Before choosing it we had twin-track machines from John Deere and Challenger on the farm. I also went to look at a Challenger working on heavy land alongside a Quadtrac, both pulling a 10-furrow reversible. The Challenger struggled to pull in a straight line because it lacked a diff-lock and when turning the tracks filled with mud, leaving the headlands in a mess.

'In contrast, the Quadtrac flew up and down the field and left a clean, level headland. That really made my mind up. There were other advantages from choosing a Quadtrac because it meant that we could continue supporting our Case IH dealer, Doe Power in Framlingham, which I was keen to do because of the excellent maintenance and back-up service they provide.'

'The original Quadtrac was a 2006 model and had completed 1000 hours when we bought it in 2007. By the time we traded it in after the 2014 harvest it had done 6000 hours. Over those seven seasons it was really reliable, with no

unscheduled stops or breakdowns. Apart from changing the tracks at 3500 hours we only had to fit three track rollers.

'The key to reliability is correct servicing. Every two years we sent the Quadtrac to Doe Power for a full service in their workshops and in the meantime our operators maintained it to a very high standard. One of the key points with the Quadtrac is to make sure that the track rollers run at the correct temperature, because if they start to heat up it is a sign that something is wrong. We have an infra-red thermometer that allows the operator to check the temperature of each roller a couple of times each day just by pointing the beam at it.

'The Quadtrac 430 was scheduled for change in 2017, but to benefit from the new tax allowances which were introduced in 2014 we decided to trade it in earlier. There was very little difference in cost between the flagship Quadtrac 620, which gives us almost 700hp, and two smaller models in the range so it made sense, particularly as it came with a good finance package and three-year warranty. 'Being able to operate at the correct speed is very important to achieve optimum results from our cultivation and drilling equipment, but to do that we have to have the power. The Quadtrac 620 provides that and should cover our existing workload in fewer hours, but we are taking on more land so it will probably still do 900 hours a year.'

I FIRST YEAR OF PRACTICE

The Quadtrac will get its first taste of action in the spring drilling peas with an 8m Väderstad Rapid drill and after harvest will be used with a three-leg mole drainer, a 6m Horsch Tiger cultivator which is the replacement for the Väderstad Top Down, used to produce stale seedbeds ahead of a 6m Horsch Joker, and an 8m Vaderstad drill. Rotational ploughing ahead of second cereals and all spring crops is carried using a nine-furrow reversible behind the Magnum 310.

Cropping at Tyneholme Estates includes 1000ha of first and second wheat, including 6500 tonnes of Solstice or Skyfall grown on contract for Warburtons, whose Chairman presented Mr Hansen with its Grower Award in 2006/2007.

In addition, Tyneholme Estates also produces 500ha of oilseed rape, winter and spring barley, 150ha of marrowfat peas and 60ha of red fescue grass seed. The latter is very good for conditioning heavy land due to its root structure and being down for two years provides an excellent break. Another major benefit is that red fescue is tolerant to glyphosate at certain times, allowing blackgrass to be controlled.



Jes Hansen, who founded Tyneholme Estates

I CASE IH FLAGSHIP

The Quadtrac 620 is the flagship of the Case IH tractor range, powered by a six-cylinder, 12.9-litre FPT Industrial Cursor 13 engine, which is rated at 629hp but produces up to 692hp, SCR technology enables it to fulfil Tier 4 Final/Stage IV emission standards. To harness this prodigious output the Quadtrac incorporates a 16 x 2 Full Powershift transmission, its Automatic Productivity Management (APM) system automatically selecting the best combination of gear and engine speed to match the implement and terrain. Four independently-driven tracks provide a constant soil contact area of more than 5.6m², 25% greater than other tractors in this class, to maximise traction, virtually eliminate slip as well as minimising ground pressure and soil damage.

Largest in the industry, the Surveyor™ cab provides unrivalled all-round visibility and features the latest generation of Multicontroller which operates the main functions. An exclusive suspension system provides the operator with a comfortable ride. 'The cab is one of the big benefits of the new Quadtrac,' Mr Hansen explains. 'It is exceptionally quiet and the suspension is excellent.'

In addition to a flagship Quadtrac 620, Jes Hansen also operates a Case IH Axial-Flow 9230 which is fitted with a 40' draper header and came with a five year finance/service/warranty package, allowing him to budget for a known cost.

'We are always looking for new farming and cropping opportunities, such as the peas which we grew for the first time in 2009. They have been an exceptional crop and their gross margin has averaged £1225/ha, compared with £555 for oilseed rape in 2014. In 2015 we will be growing spinach for seed for a company in Denmark. It is a new spring crop in the UK but again represents a new premium opportunity that will take our business forward.'



WASTE PRODUCTS ARE ALSO HARVESTED CAREFULLY
AT THE SAME TIME

CORN STUBBLE IS A VERSATILE RAW MATERIAL

AGRICULTURAL CONTRACTOR RAINER UCKELMANN FROM DÜLMEN IS EMBARKING ON THE HARVESTING OF CORN STUBBLE, EQUIPPED WITH A CASE IH COMBINE HARVESTER. HIS INTENTION HERE IS TO ENHANCE THE ADDED VALUE OF HIS CORN GRAIN HARVESTING ACTIVITIES. SEVERAL CUSTOMERS ARE ALREADY IN PLACE, KEEN TO PURCHASE THIS INTERESTING RAW MATERIAL.

Corn is not always simply corn. This year's harvesting season will illustrate that point once again: dairy farmers and biogas generators harvest the entire plant and use it to make silage, while pig-farmers and poultry farmers are more keen on the grain. That explains why grain corn is so high on the league table of preferred crops in the high citadel of value-added crops that is western Münsterland (North-Rhine Westfalia). Since last year, there is a newcomer on the league table: Contractor Rainer Uckelmann from Daldrup near Dülmen (in the administrative district of Coesfeld) harvests grain corn as well as corn stubble. 'It would otherwise stay out

their on the field, but it is in actual fact a valuable raw material', he advised. 'Furthermore, stubble is slow to break down and rot, and if you plant potatoes after a corn crop, the potato harvester often uproots it', which he found to be a further disadvantage of leaving it in place. He has now completed a Bachelor degree dissertation after studying at the University of Osnabrück, so he now knows what he suspected all along - that stubble can be used for a wide variety of applications such as litter in poultry sheds, as cat litter, as a construction and insulation material, as an oil-bonding agent or as a substitute for road gritting salt, as well as a fuel.

I CASE IH AXIAL-FLOW ROTOR LEAVES STUBBLE INTACT

However, to harvest this raw material, specific technology is required. Technology that is not available to purchase 'off the shelf'. That is because standard shaker-combine harvesters only pick up the grains from corn on the cob, with all the rest of the plant going back onto the field - including the stubble.

This does not happen with the Case IH Axial-Flow 6088 combine harvester, with eight rows of corn pickers on its front-mounted implement. Uckelmann purchased this combine harvester, built in 2011, in Austria, already fitted with



Rainer Uckelmann (top left) has now set himself in business independently with the service of corn stubble harvesting. The combine harvester is equipped with a front-mounted corn picker attachment arranged behind the folded up stubble bunker.



Through the additional channel installed (black box in this photo), stubble is conveyed upwards and into the bunker. When lowered, the bunker locates over the shaft.

REPLACEMENT OF 1000 LITRES OF FUEL OIL

Stubble burning is another application. The quantity of stubble per hectare has the calorific energy equivalent of 800 to 1000 litres of fuel oil. 'However, the spindles, just like other biomass from cultivated land, have a lower ash melting point than wood', interjected Tobias Picker from heating provider Döpik Umwelttechnik. For that reason, systems that employ wood chip heating systems are not suitable for stubble burning purposes because they tend to cause slag to accumulate in the boiler. Picker states that 20% is the maximum proportion of wood that can be employed in the mixture. The situation is different with the so-called biomass heating systems that are also suitable for cereal crops, straw or miscanthus. These systems have specially developed burning chambers and other refinements that enable them to be used very flexibly with these raw materials. Picker went on to say that, in purely legal terms, and up to a boiler size of 100 kW, corn stubble can also be burned at the same time: 'That is because, alongside miscanthus or straw, it is considered as biomass that contains stalks.' However, in larger burning chambers, the applicable emissions standards are more stringent, and the use of a filter is then usually required.

Agricultural contractor Uckelmann leaves it up to the farmers to decide if they wish to capitalise on their stubble. If they do, he then charges the standard threshing costs, and adds a further 50 per hectare.

this specialist equipment. Uckelmann believes that this type of CASE IH combine harvester is particularly well suited to stubble harvest because of its rotor technology. That is because the corn cobs are grated several times on grater heads, rather than in the threshing drum. This leaves the stubble intact, and that makes further processing much easier.

After that, the stubble is not ejected together with the meadow ('timothy') grass leaves in the usual manner, but is instead directed into an additional screening unit. The stubble falls through the screen and is then conveyed upwards into a bunker by the airblast from a fan. This bunker has a capacity of 13 m³. 'That is roughly the amount that can be harvested from one hectare of grain corn', explained Uckelmann. Due to the fact that the field sizes in western Münsterland are very small, seldom exceeding 4 hectares, this bunker technology is better suited than continuous transshipment into a skip vehicle driving alongside the harvester. The container can be tilted up to a height of 4.50 metres, enabling it to be emptied into most standard types of skip vehicle.

This conversion has not reduced the threshing performance of the combine harvester, nor has it adversely affected the quality of the grain corn. Between 2 and 5 tons of stubble can be harvested from each hectare. That figure fluctuates so widely because the weight very much depends on the humidity content. 'At 45% humidity, about 3.5 tons can be harvested', stated Uckelmann

on the basis of his experience to date. The bulk density was between 160 and 170 kg/m³ for corn stubble prior to being shredded. That equates to the bulk density of coniferous wood chips. As a rule, the stubble has residual humidity of between 40 and 45%. 'It is therefore important for it to be harvested in as intact a form as possible. That results in there being plenty of air left in bulk heaps, and that prevents or at least slows down the formation of mould', stated the contractor from experience. For drying purposes, the stubble is covered with fabric, leaving the top of the heap open. A chimney effect (flue action) causes the warm, humid air to rise to the top.

If there is scope for drying stubble artificially directly after the harvest - for example in the container of a biogas system - then the chopper can be engaged on the thresher, enabling shredded stubble to be harvested. This not only increases the bulk density but also makes it easier to market the resultant product as animal shed litter.

As part of his service, Uckelmann wishes to dry the chopped stubble at 70°C. This extends the storage characteristics of this raw material while at the same time killing off germs - a key aspect, of particular importance to poultry farmers. 'You can also shred dried stubble using a straw mill', explained Dr. Peter Hiller, a poultry expert in the Chamber of Agriculture for Lower Saxony [*Landwirtschaftskammer Niedersachsen*].

ST. VALENTIN TRACTOR PLANT AWARDED THE TITLE OF THE 'FACTORY OF 2014'

PRODUCTION IMPROVEMENT AND 'LEAN PRODUCTION' ARE HONoured BY THIS JURY OF EXPERTS / VICTORY IN THE TOUGHEST PRODUCTION COMPETITION IN AUSTRIA MEANS VERY GREAT RECOGNITION FOR THE COMMITMENT OF THE ENTIRE WORKFORCE

The CNH Industrial plant at the St. Valentin site has been awarded the title of 'Factory of the Year', designating it as the most efficient production facility in Austria. This is the fifth time that this competition has been held, and it is considered to be the toughest competition for the manufacturing sector in Austria. It is hosted by Fraunhofer Österreich and the trade publication Industrie Magazin. 'When we were awarded the title of 'Factory of 2014' in early November, our plant moved up the league table alongside the list of previous winners, which include BMW Motoren, Bosch AG, Magna Steyr and other renowned Austrian production facilities', stated Plant Manager Andreas Kampenhuber with pleasure.

CONVINCING RIGHT ACROSS THE BOARD

'Right from the on-site evaluation, we were able to convince the jury with our efficient and professional processes and production operations. Indeed, the jury was evidently fascinated by the positive attitude and motivation level of the entire workforce, all firmly committed to continuous development. It gives me particular pleasure that the jury specifically chose to highlight the professionalism and passion of our employees', stated Christian Huber, CEO of CNH Industrial Österreich. At the final round on 6 November in Vienna, Plant Manager Andreas Kampenhuber, in a direct comparison with the other nominated companies,

Fabrik 2014
Der Preis für die effizienteste Produktion

was able to deliver a convincing and powerful presentation that entirely convinced the jury, propelling him to joint first place alongside *Opel Österreich*. 'We would like to thank the whole team at St. Valentin for their hard work and motivation, and for their consistent ability to deliver superb work every single day. We could not have been awarded 'Factory of the Year 2014' without the hard work and support of our entire workforce', stated Kampenhuber.

SECOND GREAT AWARD FOR THE NEW MAGNUM 380 CVX

SUCCESSFUL START IN EUROPE: THE INNOVATIVE CASE IH MAGNUM 380 CVX IS NAMED 'MACHINE OF THE YEAR 2015' AT THE SIMA TRADE FAIR IN PARIS / AFTER ITS SUCCESS AT EIMA 2014 EXPERTS FROM TERRENET ALSO PRAISE ITS TECHNOLOGICAL CAPABILITIES



Following the awarding of 'Tractor of the Year 2015' at the EIMA trade fair in Bologna in autumn last year, the Case IH Magnum 380 CVX has now been awarded the title of 'Machine of the Year 2015' at the SIMA trade fair in Paris. 'This double victory makes us really proud. It only occurs rarely for the same machine to win both prizes one after the other like this', enthused Andreas Klausner, the President of Case IH at the SIMA awards ceremony. The 'Machine of the Year' prize, first awarded back in 1997, is a very coveted award and it is bestowed for superlative technological performance levels in the agricultural sector. The award-winning Magnum 380 CVX was chosen by a panel of 19 independent European trade journal-

ists. The list of innovative machines originally submitted for this prize extended to 94 applications in 17 categories; the Magnum came top in the segment for tractors with power ratings of 280 to 400 horsepower (hp).

IMPRESSIVE TESTIMONY TO CONTINUOUS INNOVATION

The Case IH Magnum series was first unveiled in 1987 and it has improved continuously ever since. Performance and productivity have improved step by step throughout that time, fuel economy and emission levels have been improved, comfort for the driver has been enhanced and the overall economic viability for our customers has been optimised', explained Product Marketing Manager Dan Stuart. 'Without exaggerating, we can state that 27 years of Magnum tractors - and two awards of this calibre directly after one another - is clear testimony to the levels of accomplishment achieved by our engineers. Furthermore: 27 years of Magnum tractors also stand for ac-

ceptance and recognition by the most demanding test drivers and on the most arduous test tracks imaginable - and by that, I mean farmers and agricultural contractors going about their daily work', stated Stuart emphatically.

The new Magnum 380 CVX runs with a continuously variable transmission, the easy and pleasant to operate multi-controller, a new LED lighting package and, needless to say, the innovative Rowtrac option. This enables the benefits of tracked drives to come fully to the fore in terms of traction and soil protection. 'The fact that the Magnum 380 CVX has now received its second award in direct succession - and has done so shortly before and during the 'International Year of the Soils' - all of this demonstrates that our innovative lateral thinking is recognised by trade experts who are familiar with all of the challenges, trends and developments associated with agricultural technology. We are happy that all of this has today been rewarded with this 'Machine of the Year 2015' prize', stated Stuart in conclusion.

ALSO CONVINCING ON THE SILO

QUADTRAC 620 NOW EVEN MORE EFFICIENT FOR AGRICULTURAL CONTRACTORS

NEW AREAS OF APPLICATION FOR QUADTRAC FOR CONTRACTORS AND LARGE FARMS /
OPTION OF FRONT-MOUNTED HYDRAULICS, AVAILABLE WITH IMMEDIATE EFFECT / SILO FILLING AND
ROLLING AS WELL AS MUCK-SPREADING APPLICATION NOW READY FOR PRACTICAL USAGE.

With immediate effect, an optional front-mounted hydraulic system adds to the range of applications of this large tractor. As well as the familiar applications in arable farming where the Quadtrac has proven its capabilities as an unrivalled tractor - particularly when maximum ground protection is required alongside high levels of traction - there is now a host of new applications available too. In silo grain harvesting operations, the Quadtrac 620 has already proven itself to be an efficient solution for the filling and compacting of silos. Equipped with front-mounted hydraulics and a corn dozer blade measuring five metres in width, it is capable of spreading up to 53 cubic metres of harvested crop in one continuous pass. Furthermore, the uniform distribution of weight and its high net weight combine to deliver optimum compression without additional ballasting.

FUEL CONSUMPTION REDUCED BY EIGHT LITRES PER 100 KM

Practical experience shows that a Quadtrac with this power rating is able to replace two conventional wheeled tractors. In a practical test, the Quadtrac 620 involved also proved to be much more fuel-efficient than its predecessors - on average it consumed eight litres per 100 km less than comparable big tractors. In a direct comparison with other wheel-driven roller vehicles, the Quadtrac also excelled in terms of gradeability, even with tall silo towers. This therefore significantly extends the range of possible applications for the Quadtrac as well as its cost effectiveness when used by farming contractors or on large farms with biogas and/or milk production. Case IH experts see other applications for the Quadtrac, e.g. the spreading

of organic fertiliser. The low ground pressure makes this capable concepts for the removal and transportation of slurry and digestate. 'Then there are the familiar benefits of the Quadtrac concept. With a high-performance chain of transportation providers, this application assures great soil protection credentials. The possibility of driving on areas of land earlier in the year, and later into the night, further enhances the efficiency of this process, and delivers more sustainability, particularly in respect of the changes in legal parameters governing the transportation of slurry', was the judgement of Case IH Product Marketing Manager Norbert Zehne.

The Case IH Quadtrac can harvest 53 cubic metres of crop in a single pass.





AFS INNOVATIONS

GREATER PRECISION AND SIMPLER MACHINE MANAGEMENT

NEXT-GENERATION RTK+ CORRECTION SIGNAL SERVICE AND THE NEW FILE TRANSFER FUNCTION ON THE AFS CONNECT TELEMATICS SYSTEM ARE THE TOP NEW DEVELOPMENTS FOR AFS™ ADVANCED FARMING SYSTEMS.

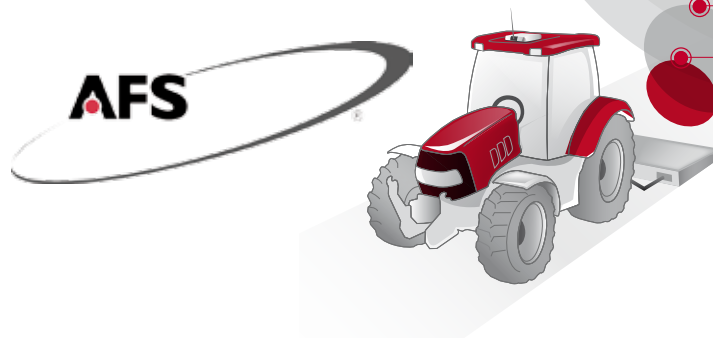
RTK is the benchmark for ultimate precision in all kinds of agricultural activity and Case IH maintains a continuously growing network with more than 500 regionally distributed base stations. 'Regardless of whether you are dealing with special cultures such as field vegetables, a Controlled Traffic Farming System with permanently defined lanes or simply the lane-to-lane precision required for efficient working – RTK defines the standard within this sector. For that reason, Case IH is introducing the next generation of RTK signal with the designation RTK+ where the 'Plus' stands for the additional benefits over the current version of the RTK signal. RTK+ is compatible with most of the lane guidance systems currently available on the market and is therefore available to many farmers who are not customers of Case IH. Even more precise and reliable RTK signals

RTK+ is on permanently and is therefore always available for customers when needed. Just as with mobile telephony, an automatic changeover and seamless coverage of the reception area takes place as machines move between the reception areas of the individual base stations. The driver no longer needs to alter settings on the screen display when moving from one area to another because Case IH RTK+ provides a comprehensive network for convenient, precise and reliable RTK signals.

I SECURE NETWORK

All base stations within a local RTK network are connected to a central server at Case IH. The server uses processes such as CORS, SSR etc. to calculate a specific set of correction data for the current working location of the tractor or combine harvester. This correction is then

provided in various formats via GSM. This assures a maximum level of compatibility with all devices. That in turn guarantees 100% RTK precision at all times, regardless of the distance to the nearest base station. 'This process delivers clear benefits to logistics and harvesting operations for contractors, machine rings and large, growth-oriented businesses', explained Ulrich Sommer. The Case IH engineers devised RTK+ as a decentralised network. 'If one base station malfunctions, the closest base station to it automatically takes over its workload without any adverse impact on precision. This ensures that farmers with arable farming businesses, growers of field vegetable crops and special cultures, farmers with meadow land and livestock operations as well as contractors and machine cooperatives that use RTK+ can benefit at all times from 100% signal availability', explained



EGNOS 20 CM

'Lane-to-lane' - generally available signal for simple applications such as manual lane guidance with a light (photoelectric) barrier.

RTX RANGE POINT 15 CM

'Lane-to-lane' and 50 cm repeatable precision. The perfect entry signal for all work, from sowing to harvesting.

RTX CENTER POINT 4 CM

'Lane-to-lane' and 4 cm repeatable precision

RTK 2.5 CM

'Lane-to-lane' and 2,5 cm repeatable precision, even over a period of many years

Uli Sommer, Product Marketing Manager Case IH AFS. The new Case IH RTK+ technology was tested thoroughly in 2014 in the key markets: 200 customers and a total of 95 base stations in the UK, Spain, the Benelux countries, Austria, Germany, Denmark and Bulgaria have participated in this successful pilot trial. RTK+ will be made available to customers in these countries in the course of 2015.

AFS CONNECT TELEMATICS SYSTEM – NO LONGER ANY NEED FOR A USB PEN DRIVE

The new Case IH AFS Connect™ TeleMatics system that received its successful market launch in the second quarter of 2014 uses global positioning systems and mobile telephone technology to receive data relating to the location and current status of farm machines and vehicles. At the Advanced Level of AFS Connect, 40 to 80 machine parameters can be monitored (this number depends upon the model of tractor or combine harvester). These data are stored in a strictly confidential way on the AFS Connect Web Portal and are updated on a minute-by-minute basis. If so desired, they can be interrogated by the user via a PC or from mobile devices. A great deal

more by way of data is also available on the AFS 700 monitor, including field boundaries, lane lines and job data, to name just a few. To update this farm management software with this information, it used to be necessary to export the data from the monitor on a USB pen drive. For farms with many machines or large fleets of machines, this could prove fairly time-consuming. Now the new file transfer function comes into play. The content of the USB pen drive can be interrogated from machines using this function via the AFS Connect Portal and can then be transferred directly into the farm management software. Thanks to the file transfer function, it is no longer necessary to collect in all of the USB pen drives from the different machines, then to reconnect them to their respective monitors after all of the data has been imported. The AFS Connect file transfer function guarantees a perfect overview at all times of all precision farming data from the fleet of farm machines and vehicles.

With the new file transfer function on the Case IH AFS Connect™ TeleMatics system, the farm manager has all key data to hand at all times. This new file transfer function will be available as an optional service package for the Advanced Level of AFS Connect in the first quarter of 2015.

CASE IH AFS NEWS:

RTK+ CORRECTION SIGNAL SERVICE

- Compatible with most of the lane tracking systems currently available on the market.
- Seamless signal coverage, no new login required when entering the reception area of a different base station.
- Continuous coverage, possible signal failures being compensated for by the next base station.
- Full RTK precision with an RTK+ network, independent of the distance to the base station

AFS CONNECT TELEMATICS SYSTEM WITH FILE SYNCHRONIZATION

- Time saving with new wireless file transfer function - no more need for a USB pen drive for file transmission purposes
- Data can be exchanged in real time between an office-based computer and the machines in operation out on the farm

CASE IH LEADS THE WAY TO EFFICIENT HARVESTING AT THE SUGAR CANE HARVESTER CAMP IN MAURITIUS

SUGAR CANE INSIGHTS

SUGAR CANE HARVESTER CAMP FOR KEY CUSTOMERS IN THE SUGAR CANE AND BIO-ETHANOL SECTORS / APPRECIATED COMBINATION OF THEORETICAL AND TEST-DRIVE SESSIONS / FOCUS ON LARGE-SCALE SUGAR CANE PROJECTS

Case IH presented its powerful agricultural equipment solutions for the sugar cane industry at the Africa Sugar Cane Harvester Camp that took place in Mauritius. The event was successfully attended by the most relevant representatives of corporate customers and large agro-industrial farms operating in the sugar cane and bio-ethanol sectors in several African countries, including Sudan, Mozambique, Tanzania, Kenya, Zimbabwe, Nigeria and Sierra Leone.

The Sugar Cane Harvester Camp provided participants with insights on advanced farming practices for large-scale sugar cane production and presentations of the Case IH offering which includes the Austoft 8000 Series of industry-leading sugar cane harvesters. Attendees had also the chance to test-drive Case IH sugar cane harvesters and high-horsepower tractors during real, in-field working operations.

The Camp was organized by Case IH in collaboration with its local dealer, Mechanization Co. Ltd., and with the support of La Moisson Limitée, local contracting company and Case IH customer for more than 40 years, which provided the machines used for the demonstrations.

Matthew Foster, Vice President at Case IH and responsible for Europe, Middle East and Africa, understands this is a strategic event for the company: 'The sugar cane sector has become increasingly competitive and diversified and at Case IH we want to make sure that farmers are well equipped to tap any new growth opportunity.' 'With this event, we wanted our customers to understand the full advantages of having Case IH machines running in their fields,' continues Foster. 'In fact, our brand can leverage on a heritage that no other company has. Case IH is the originator of sugar cane harvesting technology and, with

its long-established reputation for high-output equipment, confirms itself as the ideal partner for large-scale sugarcane farmers.'

FOREFRONT SOLUTIONS FOR LARGE-SCALE SUGAR CANE AND BIO-ETHANOL PROJECTS

The Sugar Cane Harvester Camp is testament of the company's continued commitment to the sugar cane industry. As the originator of sugar cane harvesting technology, Case IH is drawing on more than 50 years of experience in this sector and, today, is a world leader in sugar cane harvesting solutions.

'The sugar cane industry is an important customer segment for Case IH globally, and in Africa and the Middle East in particular. We are excited to continue our work expanding our presence in this potentially very productive area of the world,'



said Marty Chamberland, responsible for Global Strategic Initiatives for Case IH, who presented the company and its history.

Case IH offers the most advanced and reliable sugar cane harvesters in the market. The Austoft 8000 Series are the industry's highest capacity sugar cane harvesters and ideally suited for the most demanding productivity and performance needs.

'These machines have exclusive features that further improve their outstanding efficiency,' said Yoann Clarisse, Case IH Harvester Product Marketing Specialist,

EMEA Region, who conducted the test drives. 'The Autotracker automatically adjusts the harvester basecutter height through sensors in the hydraulic suspension system. It reduces saccharose losses by up 33% and roots damage by 27% while it preserves the next year's field production. Furthermore, the cutting chamber is more protected thanks to the reduced ingress of soil and rocks. The Autotracker is an exclusive of Case IH and it is also available in seeding billet mode.'

'The SmartCruise adjusts the engine revolutions according to load demand without hydraulics operational losses and with consistent benefits in terms of fuel consumption, longer engine life and reduced downtime for maintenance,' added Clarisse. 'This is crucial for most of our customers, as they need to run harvesting operations 24/7. Some of our sugar cane harvesters are required to work for more than 7,000 engines hours per season. Moreover, the unique Antivortex system increases the removal of all extraneous matter, and reduces caneloss through the extractor fan'. In addition to the high-capacity Austoft 8000® Series, the company offers the Austoft 4000 Series, specifically designed for small up to

medium sized landholdings but also well suited for big plantations with reduced row spacing, where versatility and excellent maneuverability are key-factors.

Case IH's industry-leading harvesters are complemented by a full range of equipment for sugar cane operations that includes the renowned Steiger, Magnum and Puma Series of high horsepower tractors, self-propelled sprayers, tillage and seeding complexes, balers and other attachments.

For farmers and growers looking for maximum efficiency and ultimate control on the entire crop production cycle, Case IH Advanced Farming Systems (AFS) are at the forefront of precision farming for more than a decade, with a line-up of accurate guidance solutions, management software and telematics systems.

I ADVANCED FARMING PRACTICES AT A GLANCE

The Sugar Cane Harvester Camp offered a rich program of activities, which included daily training sessions, product presentations, in-field demonstrations and a visit to the Mauritius Sugar Research Institute, a highly organized institute that aims to enhance the competitiveness of the local sugar cane industry.

I HANDS-ON EXPERIENCE OF THE INDUSTRY'S BESTS

The event offered more than just theoretical knowledge, as attendees had the opportunity to test-drive a selection of Case IH machines under real, day-to-day working conditions.

'Puma 225 CVT tractors proved their versatility and powerful performance during heavy tillage, seedbed preparation and transport operations. With Continuously Variable Transmission, these

tractors demonstrated to provide the ultimate in smooth, stepless shifting and to deliver the best-in-class fuel efficiency and high productivity levels,' added Clarisse.

I MAURITIUS, THE RIGHT LOCATION

Mauritius was the ideal location to host the in-field demonstrations. Sugar has been cultivated in the island for nearly 400 years and it remains one of the pillars of the country's economy. The tropical climate here of is in fact particularly well suited for the growth of sugarcane, with high temperatures all year round, heavy rainfalls and sunlight during the growth period. However, the volcanic nature of the island means that rocks are an issue and, in spite of regular de-rocking of the field, they require hard-at-work, reliable equipment to run non-stop throughout the entire harvesting season, that lasts from June to December.

'We have been relying on Case IH sugar cane harvesters for more than ten years,' commented Denis Lagesse, manager of La Moisson Limitée, 'and we keep going back to them for their outstanding productivity and reliability. We chose our most recent purchases, the Austoft 8000 and Austoft 8800, for their high capacity and performance, as well as the comfort in the cab, which means our operators are more efficient and productive.'

'Another reason for our choice was the SmartCruise system and our expectations have been more than met: with these sugar cane harvesters we have seen a significant reduction in fuel consumption of around 20 %!', enthusiastically concluded Lagesse.



NEW APPLICATIONS IN PRECISION FARMING

OPTIMISED ARABLE LAND TO ENHANCE WATER EFFICIENCY

CASE IH IS PRESENTING NEW PRECISION FARMING APPLICATIONS FOR THE LEVELLING OF FIELDS, AND FOR THE PRECISE ROUTING AND RELOCATION OF DRAINAGE CHANNELS.



There are several good reasons for preparing agricultural land to an optimum standard to ensure that water, an important production factor, can be used more efficiently. Especially in the light of the increasingly frequent occurrence of extreme weather events, for example torrential rain, and also with a view to preventing severe depletion of water and nutrients from the top soil, water management is gaining in importance with the objective of making more efficient use of water across the surface areas of agricultural land.

Specifically with this in mind, the Advanced Farming Systems (AFS) division of Case IH is now presenting a new and integrated system for optimised water management that comprises new software solutions and components of the Case IH Advanced Farming Systems for precision agriculture. The new water management system enables water management measures to be calculated, planned and implemented. One example would be in the laying of drainage facilities or the levelling of a platform into which Case IH AFS components such as monitors and auto-pilot systems can be integrated.

OLD PROBLEMS - NEW SOLUTIONS

'The technologies employed in Precision Farming now facilitate new processes for optimising water management. That enables higher yields and quality standards to be achieved. Especially through the reduction of pools of stagnant water, the achievement of uniform seepage and better plant development through the ability to drive on field surfaces at an earlier date. Two fundamental measures have a key role to play in this. Firstly, fields have to be levelled. This is to eliminate hill-ocks on which water is scarce, and depressions where stagnant water can collect, or to deliberately lead away surplus water through the laying of drainage systems - we can now carry out both

functions to a previously unachievable level of precision', explained Maximilian Birle, Product Marketing Manager for Case IH Precision Farming Systems.

VARIOUS DIFFERENT MODULES

Depending on the application, various different modules are available. For example, the new WM-Topo module enables all topographical data to be collated rapidly and easily. Data that can then be used to calculate surface areas as a basis for the next step - water management operations. The precise measurement of boundaries, internal field points or section lines is a very efficient process. Even relatively inaccessible parts of a field such as areas that cannot be reached by vehicles can be recorded without any problem using the mobile measuring rod.

PLANNING A SURFACE CONTOUR ON THE MONITOR

In another step, the data collated can be used for precision planning purposes. The Opti-Surface module makes it possible to plan drainage areas or levelling operations in 4D mode, i.e. in all directions. 'Even before actual implementation, this means that a multi-dimensional design of the surface area is available that can be used to calculate workloads, for example in terms of the precise amount of earth that needs to be moved. Important criteria for subsequent implementation and billing for that work by agricultural contractors', explained Birle.

PRECISE CONTROL

The Fieldlevel II module then makes it possible to level the surface areas of fields in a targeted manner, in accordance with virtual planning, for example through the use of large bulldozer blades. Here, the precision of the finished job can be measured to within two centimetres. This great



Practical experience using the new water management system show that yield improvements of up to 20% on recently levelled fields are possible despite retaining the previous water problem.

precision is achieved through the use of the Case IH RTK+ network on which real-time kinematic correction data can be transmitted by mobile radio / i.e. wireless devices.

The WM-Drain module was specifically developed for the cutting of drainage channels. This enables drainage channels to be cut to a previously unachievable standard of precision. The trenches required are cut by the milling tool to a precision standard of less than two centimetres - depending on the planned height profile. In addition, precise documentation is now available for the first time ever in respect of the drainage channels laid. Important data for relocating these at a later date, e.g. for servicing or for service-related work.

I CONVENIENT AND SECURE RTK NETWORK

Over the last few years, Case IH has built up a comprehensive network right across Germany - comprising more than 150 RTK stations. All of these stations are now networked with one another on the new RTK+ network, and they feed correction data into a VPN network that is in turn transmitted by mobile radio. Innovative buffer technologies, for example xFill, deliver good reception reliability, eliminate shading ('out of coverage') problems and good and repeatable levels of precision. This RTK network delivers the height references required for terrain design and these too achieve precision standards to within less

than two centimetres. 'That makes this system a great deal more practical to use than the laser systems that were commonly in use before', explained Birle at a practical demonstration in northern Germany. The reference of the GPS RTK+ signal was not affected by temperature, dust or wind. Where lasers are only used for flat surfaces and for the control of just one machine, the Case IH GPS RTK system can be controlled precisely across an area featuring different uphill and downhill gradients for water management purposes. In addition, several vehicles can use these signals at one and the same time. The surface water plan can be produced to have several inclines and gradients. Technical requirements: tractors equipped with a Case IH AFS system, e.g. the latest XCN 2050 terminal. Depending on applications, the system can also be equipped with other additional options, e.g. a slope compensation feature for the routing of drainage channels, or other GPS antennas for bulldozer blades with a big working width for even greater precision. Initial practical experience demonstrate that increased yields of up to twenty percent can be achieved on recently levelled fields that were previously subject to water problems. In addition, heavy rain then carries away smaller volumes of fertiliser or herbicides than before. 'Important aspects that are gaining increasingly in importance', explained Birle at a practical demonstration.



ENERGY AND ARABLE FIELD WORK

EFFICIENCY AND TECHNOLOGY FIT INTO THE CONCEPT

FARMER AND ENERGY PRODUCER HARALD SCHMIEG FROM GERICHTSTETTEN HAS MULTIPLE STRINGS TO HIS BOW. WHEN IT COMES TO ARABLE FARMING, HE PLACES HIS CONFIDENCE IN CASE IH TECHNOLOGY, NOT LEAST BECAUSE OF ITS GREAT EFFICIENCY AND OPTIMUM LEVEL OF SERVICE SUPPORT.

On a guided tour of the farmyard and land of farmer Harald Schmieg, located in a scenically beautiful part of the Hohenstädter Grund near Gerichtstetten one thing rapidly becomes clear - this farmer has a very entrepreneurial approach to business, he is driven by clear visions and he implements these in an ambitious manner.

At an early stage after taking over the farm, he recognised that he was obliged to make traditional operating concept 'fit for the future' - for example with tethered housing for the cattle. 'At this point, we knew that the only way forward was towards specialisation, and that we had to penetrate new markets', explained Schmieg as he reminisced.

I 'IT MUST MAKE SOUND FINANCIAL SENSE'

Very quickly, the course was plotted and set. Instead of cattle, he switched to pig-rearing in

the newly constructive external climate shed, pigs are reared for the Schwäbisch-Hall producer group, but only after the market situation turned profitable. 'During foreseeable low-price periods, we shall also dispense with this shed facility', announced our farmer with the sound financial judgement.

I ENERGY - THE NEW 'STRING TO THE BOW' OF THIS FARM

At an early stage, right at the end of the Nineties, he also recognised the opportunities afforded by sustainable energy sources, and was one of the first farmers to engage in the business of generating electricity from solar power. This started with a solar power system on the roofs of his traditional farm buildings. 'At that point, we identified the growing demand within the farming sector, and we founded a purchasing community to service farmers with modules, then later with a turnkey

service. Later, this led to our opportunity to enter the photovoltaic components trade', recounted Schmieg.

I PROFESSIONAL SERVICE PROVIDER IN MATTERS OF SOLAR POWER

For the last 12 years, he has been sole proprietor of *EKS Solartechnik GmbH*, that acts as a partner right across Germany for all products and services associated with solar power. This not only includes a broad product portfolio of leading PV system manufacturers but also individual project planning, support during all stages of a project right through to turnkey handover of completed systems. In addition, Schmieg and his team undertake service and maintenance work.

I ARABLE FARMING OPTIMISED

However, arable farming remains an important

For the last twelve years, solar power has been another key revenue source for farmer Harald Schmieg.





supporting pillar in his business. 'Over the last few years, we have been able to extend the amount of land we cultivate on a continuous basis, and we are now up to about 200 hectares. Mind you, one thing has been clear to us throughout this period: Some of the shell limestone land is very stony, and an appraisal of its productive capacity yielded a score of 25 - 50 'soil points'. We also have great fluctuations in the soil characteristics of the truncated terrain, so we cannot afford any cultivation luxuries', explained the arable farmer. Enhanced efficiency and low work completion costs are an important prerequisite here to achieve economical crop yields from wheat, corn, barley and rapeseed and - traditional within this region - spelt - which is enhanced to provide unripe spelt grain. 'Here of course, cooperation is a vital aspect of any meaningful approach to cost reduction. We cooperate with a neighbouring farm very closely. We have for example outsourced the entire pesticide application process and we focus on just a few areas that we then tackle with great gusto to get the job done swiftly'. To this end, Schmiege relies on a fleet of Case IH and STEYR tractors. The latest addition is a new Puma with rated power of 185 hp, and since this harvest, an Axial-Flow 6130. 'Our experience shows that the agronomically viable window is getting progressively smaller, due not least to climate change. To this end, we must keep great fire-power ready and available to make optimum use of that window when it arrives - whether for fertiliser spreading or, and most especially, during harvesting work. The Case IH machines are a perfect 'fit', and not just because of their price-performance ratio. The efficient technology, for example with fuel-efficient FPT engines, is very much in harmony with our operating philosophy. Here, maximum efficiency is delivered'.

I COMPACT AND NOT MANY DRIVEN PARTS

'When purchasing the new combine harvester, we did of course take a look at a wide range of different concepts. However, the Case IH Axial-Flow 6130 scored highest in several respects. A compact design, gentle and loss-free threshing action and, most especially, the drive concept - all of this really appealed to us', was the verdict of our farmer.

'The same applies to tractors. The entire operating concept is simple, intuitive to operate, very reliable and employs low-maintenance technology, paired to a robust build quality: this is what makes the tractors from the St. Valentin production facility so special', appraised Schmiege. He also named the very reliable level of service support as an important factor. On his farm premises, Schmiege has this work performed by Bach Landtechnik. 'Naturally, the dealer has a decisive role to play nowadays, not just in terms of sales but also in terms of ongoing support. The machines and vehicles require more maintenance and the investment costs are rising significantly. A great deal here depends on having a level of service support that I can rely upon', stated Schmiege firmly.

I AND WHAT COMES NEXT?

No-one should be surprised that Harald Schmiege is already implementing the next tangible projects in his programme of further development. 'My son is about to go and study Agriculture and would like to continue running the family farm, i.e. we can still look to tackle new projects. I see a great demand for the further improvement of solar power systems, particularly in respect of in-house energy needs. That delivers significantly greater energy autonomy. The combination of supplying

On his 200 hectare arable farmland, on which he uses the Case IH and STEYR fleet, efficiency improvements and low work completion costs are important factors.



power to the national grid and servicing domestic needs is one that, in our view, necessarily leads to greater economic viability. For example, new technologies enable us to store surpluses that we can then, for example, make use of during the evening hours. I believe that a concept of this kind fits very well with a great many agricultural businesses. That makes it possible to achieve energy autonomy levels of up to 70%'. Furthermore, this industrious farmer is now also embarking on a new project. He has taken on the project planning of a community-owned wind farm in the region. 'This also fits very well into our business model. Wind power also demonstrates that active environmental conservation and profitable investments absolutely can go hand-in-hand, so I am making my own contribution towards the transformation of energy sources that is certainly going to prove necessary at some point.'

THE INNOVATIVE CONCEPT FOR MAXIMUM PERFORMANCE AND EFFICIENT SOIL PROTECTION

CASE IH MAGNUM ROWTRAC

THE NEW CASE IH MAGNUM ROWTRAC COMBINES THE ADVANTAGES OF WHEELED AND TRACKED DRIVES, AND IN THE PROCESS, OUTPERFORMS BOTH VERSIONS IN TERMS OF MANOEUVRABILITY, TRACTION AND SOIL PROTECTION.

Case IH is convinced that this trailblazing concept for a standard tractor will become progressively more popular with farmers who own large areas of arable land because its success depends to a great extent on its ability to perform all of its assigned tasks efficiently, on schedule and in a manner that protects the ground well too. Together with the wheeled version, the Magnum 380 CVX Rowtrac was recently voted 'Tractor of the Year in 2015' by a jury comprising 23 independent trade journalists from 23 European countries.

INNOVATIVE CONCEPT FOR EXCELLENT PERFORMANCE AND VERSATILITY

The powerful Magnum Rowtrac is as manoeuvrable and versatile as a wheeled tractor, yet it drives like a tracked vehicle. It is available with track widths of 610 mm or 762 mm and both versions deliver superlative traction, minimum ground compression, even when turning under load, greatly enhanced smooth driving characteristics and even better ride comfort. 'The United Nations have declared 2015

to be the 'International Year of Soils' - so we are particularly proud to be able to unveil this tractor this year. The Magnum Rowtrac is based on the experience acquired by Case IH with tracked drives, still unrivalled by any competitor, since the market launch of the legendary Quadtrac in 1997. It adopts the principle of ground contact at four points to reduce the extent of soil compression. The triangular drive units with positive-connection drive transmit traction across the ground', explained Dan Stuart, Product Marketing Manager at Case IH, responsible for tractors in Europe, south western Asia and Africa. Power transmission is optimised by special rear axle tracked drives with pendulum suspension. These retain flat ground contact and ensure that traction is not adversely affected by the load on three-point linkages or adjustable drawbars. Unlike on a machine with only two tracked drives and no tyres, the Magnum Rowtrac only leaves slight track impressions during headland turns, i.e. it delivers optimum soil protection. 'Compared to a vehicle with just one tracked drive on each side, the ground contact pressure of the Rowtrac is a great deal less because it greatly

reduces weight relocation issues and of rocking along the longitudinal axis. Furthermore, traction can be optimised using the differential lock fitted to the Rowtrac as standard equipment, even under arduous operating conditions - a function that vehicles with only two tracked drives on each side simply cannot perform', stated Stuart emphatically.

HIGHEST TRACTION AT MAXIMUM EFFICIENCY

Three models are offered (310, 340 and 380), all driven by the Cursor-9 engine manufactured by FPT Industrial with a swept volume (cubic cc) of 8.7 litres. The Magnum 380 CVX Rowtrac achieves its nominal power rating of 380 hp at 2000 rpm, and this increases to 435 hp when Power Boost is activated. The engine delivers its maximum torque of 1806 Nm at engine speeds of between 1400 and 1600 rpm. 'A top feature of this more powerful and efficient six-cylinder engine is its Hi-eSCR downstream exhaust processing that satisfies level IV (Tier 4 Final) of the European exhaust emission directives. This uncomplicated and efficient system also enables





Case IH to achieve engine oil change intervals of 600 operating hours', explained Dan Stuart. Customers can choose between a full-powershift transmission or the continuously variable CVX transmission. This has four mechanical driving ranges that provide it with a high mechanical efficiency rating. This operator-friendly transmission facilitates power transmission at speeds of 0 to 40 km/h, without the driver having to actuate a lever or a switch. On the CVX transmission, the driver can pre-select three variable speeds which enables him to optimise the operating speeds to the desired kind of operation.

I PRODUCTIVE AND COMFORTABLE

The Automatic Productivity Management (APM) system from Case IH provides an optimum balance between engine and transmission, and the Active Stationary Control prevents the tractor from rolling backwards on a gradient without the driver being required to operate the clutch or brake. With the Case IH Headland Management Control (HMC) system, the driver can record headland functions, enabling him to increase his working efficiency greatly during repetitive sequences of field work.

'Ride comfort is one of the most important aspects for engineers at Case IH', said Stuart. 'For this reason, the all-round-visibility cab with its impressive internal volume of 3.1 m³ and its 6.4 m² of window surface, providing excellent visibility to all sides, with an interior noise level unrivalled by any competitor, measuring just 67 dB(A), is a particular highlight of the Rowtrac. Added to this is the fully integrated Bluetooth radio and telephone system as well as an updated

Multicontroller. Maximum driver comfort is also achieved through the standard cab suspension that absorbs vibrations and stabilises the cab, thereby reducing to a minimum its horizontal and vertical movements. With five adjustment options, the driver can select the optimum level of ride comfort for himself, and semi-active damping regulates seat movements automatically.'

I HIGHEST STANDARDS OF PRECISION, EFFICIENT LIGHTING

Precision farming technologies are now almost indispensable for powerful tractors. For that reason, the Magnum Rowtrac is available with the cost option of an integrated AccuGuide automatic steering system, a component of Case IH's AFS technology. 'This system receives the correction information via antenna 372, which is compatible with GLONASS and GPS satellites. And the xFill technology further improves the reliability of the system by its ability to over-ride any failure of the RTK signals e.g. when switched off, for up to 20 minutes', stated Stuart with emphasis. The optional Case IH AFS Connect TeleMatics system employs a combination of global positioning system and wireless technology to transmit and receive data relating to the machine, the crop and the job in hand.

'To be able to continue working safely and comfortably after night falls, the Magnum Rowtrac is also equipped with an impressive lighting package and an optional 360-degree lighting system comprising 14 LED and three HID headlights', added Dan Stuart.

Case IH assumes that the first Magnum Rowtrac tractors can be supplied to customers in Europe, south western Asia and Africa by the end of 2015.

MAGNUM ROWTRAC AT A GLANCE:

- Combination of wheeled and tracked drives.
- Maximum manoeuvrability and versatility plus excellent ride characteristics.
- Maximum traction at all times with differential locks installed as standard equipment.
- Five-point front axle suspension for greatly improved ride comfort.
- Maximum torque of 1806 Nm between engine speeds of 1400 and 1600 rpm, up to 435 hp engine power with Power Boost.
- The engine complies with the requirements of exhaust emissions level IV (Tier 4 Final) through the use of Hi-eSCR technology without a particle filter
- Full-powershift or continuously variable CVX transmission.
- Comfortable all-round-visibility cab with updated multicontroller.
- Available with the cost option of an integrated automatic AccuGuide steering system from Case IH.

2015 IS 'INTERNATIONAL YEAR OF SOILS'

SOIL PROTECTION AND ENHANCED EFFICIENCY – BUT HOW?

THE 'INTERNATIONAL YEAR OF THE SOILS 2015' INVOKED BY THE UNITED NATIONS IS AN OPPORTUNITY FOR CASE IH TO PLACE THE TOPIC OF 'SOIL PROTECTION', LONG AN IMPORTANT ONE, MORE FIRMLY UNDER THE SPOTLIGHT.

The 'Advanced Farming Forum' convened during the International Green Week (IGW) in Berlin was the launch platform for multi-faceted campaigns and appearances by Case IH, whose presence at trade fair and field days this year are all being held under the motto 'RETHINKING soil protection'.

In the dedicated discussion forum, Prof. Dr. Thomas Weyer from the University of South Westphalia in Soest and Dr. Michael Weissbach from Grasdorf GmbH were the external speakers, alongside Norbert Zehne, Product Marketing Manager for Case IH Tractors, Andreas Retting, Product Marketing Manager for Case IH Harvesting Technology and Martin Schönberg, Product Marketing Manager for Case IH AFS, provided a wealth of new ideas for driving across arable land in a soil-conserving manner, and the use of TeleMatics to optimise fleet management.

I SOIL PROTECTION IS AND REMAINS AN IMPORTANT OBJECTIVE!

Even though the situation in countries such as Germany is comparatively good on a global scale in respect of damage to soils as a result of erosion, compression, salting, humus losses or degradation, there are still plenty of potential opportunities here - as in the other industrialised countries of Europe and the world - to protect soils even more effectively. In the view of Prof. Dr. Thomas Weyer, a key factor that may in future gain in recognition is the impact of climate change on the humus content of soils in the form of more frequent transformational changes and correspondingly higher humus losses. 'The straw must remain on the arable land', was one point in the summary given by this scientist.

To maintain stable soil microstructure and to

have a correspondingly free exchange of gas and water, maintaining the organic texture of soils is important, as is the avoidance wherever possible of compression and compaction. 'Wheel loads, contact surface pressure, roll-over frequency as well as slip and shearing are key parameters here. If the air capacity is only 5 percent of volume and if the saturated water conductivity level is then only 10 cm per day, then we have asked too much of that soil', stated Weyer. Even if the adage is true whereby 'Sustainable agriculture is not simple – and simple agriculture is not sustainable', the scientist nonetheless concluded his lecture by providing a simple rule of thumb: 'With 600-series tyres and reduced tyre inflation pressure, compliance with a maximum wheel load of 6 tons on damp soil and of 10 tons on dry soil protects the sub-soil from becoming compacted.'

I SINGING FROM THE SAME HYMN SHEET, AND IN TERMS OF SYSTEMS

Dr. Weissbach from Grasdorf GmbH, a renowned manufacturer of tyres, rims and accessories, directed the discussion during his lecture towards the significance of adopting a holistic approach: while measures to protect soils through the use of key machines are in widespread use in the agricultural sector, towed implements and trailers and the logistics chain involved in the removal and transportation of arable land still suffer from neglect in this regard in many instances. 'Soil protection has to encompass the entire process of plant production, and be implemented accordingly', was the credo expounded by this expert. It is therefore totally contra-productive to remove cereal crops from arable land using trucks with road tyres.

Effective interruption of traction instead of slip was the central topic in the second part of the presentation by Dr. Weissbach. It emerged that 'High slip destroys the soil structure at the surface, and this is propagated by shearing action into sub-soil layers'. 'Through the optimisation of traction transmission - also through the use of ballast loads - not only reduces the incidence of slip but also costs less in terms of fuel and working time', stated Dr. Weissbach. However, caution was advised in respect of ballast loads for on-road driving: 'Here, always pay attention to the permitted GVW of the tractor and trailer combination, and remember that every kg of ballast reduces the available payload', states this expert who also concluded by referring to the significance of having the front axle characteristics of tractors set up correctly to minimise the incidence of slip.

I WELL DISTRIBUTED ACROSS A LARGE SURFACE AREA

With an introductory diagram and some memorable numbers, Norbert Zehne, Product Manager for Tractors, was able to demonstrate the benefits of tracked drives: A standard tractor with 650-series tyres at the front and 900-series at the back has a footprint of about 1.64 m², whereas the Quadtrac with its road-approved tracked drive with a width of 762 mm delivers an impressive 5.6 m². The increase in vehicle speed achieved through the use of tracks is relativised by the larger contact surface area. Ground pressure here can almost be halved when compared to the standard tractor, despite a vehicle weight of 27 tons. 'Even our new Magnum that was awarded the title last autumn of Tractor of the Year 2015 also cuts a fine figure for itself in the Rowtrac variant available in Germany since 2015: As a standard tractor

with a tracked drive on the rear axle, the Rowtrac achieves an impressive footprint of 2.65m². That reduces slip and ground compression at one and the same time', stated Zehne.

I GREAT IMPACT AND SOIL PROTECTION IN HARVESTING TECHNOLOGY

'Three core factors determine the requirements governing modern harvesting technology. The first of these is the physics associated with soil characteristics and with the weight of the vehicle, then there is the time constraint imposed by the 'harvesting window' and, lastly, there are the legislative requirements', stated Andreas Retting, Product Marketing Manager for Case IH Harvesting Technology. 'When combine harvesting, weight cycles arise in the course of which, depending on the fill level of the train hopper, the weight of the vehicle can vary by as much as ten tons. With the dynamic suspension characteristics of our tracked drive, this weight on the large models is distributed as well as possible across the soil surface. Penetrometer tests have shown that this greatly reduces the build-up of compression forces at sub-soil levels' stated Retting with emphasis.

I PRECISION PLANT CULTIVATION THINKING OUTSIDE THE BOX

Under this motto, Martin Schönberg, Precision Farming Manager at Case IH, set out a wide range of possible ways for TeleMatics to improve vehicle efficiency to a significant extent. 'The aim of our TeleMatics solutions is to combine simple and intuitive handling with intelligent communication between user and vehicle. This makes it possible to record, transmit and make optimum use of data. By way of example, this expert explained that dealers can, with the consent of the farmer, log into the TeleMatics and assist in the setting up of the vehicle. 'This gives the customer peace of mind, and his confidence in the dealer then grows', stated Schönberg. With agricultural contractors, this system enables them to compare two vehicles working side by side in a field. By means of an on-line variance check via the TeleMatics, the work settings on all vehicles can be optimised', explained this expert.





HIGH THRESHING PERFORMANCE AND TOP QUALITY CONVINCING SOYA THRESHING WITH AXIAL-FLOW

HIGH AND LOSS-FREE THRESHING PERFORMANCE DURING THE HARVESTING OF SOYA BEANS /
VERY GOOD HARVESTING QUALITY WITH EXCELLENT GERMINATION CAPACITY
THRESHED USING GRADES OF CROP SOURCED FROM **SAATBAU LINZ**

The soya bean is renowned as the queen of leguminous grain crops and it is in great demand at the present time in many of the cultivation regions of Europe, not least in the quest for new sources of protein supply.

This increased interest in the planting of soya was strengthened by the new possibilities for soya in the context of 'greening', i.e. the planting of soya as an ecologically sound and preferred crop. In Austria, Saatbau Linz provides the most appropriate and highest yielding grades of this crop.

It has to be said though that the soya bean also imposes special challenges on the harvesting process. If soya is stored for too long in excessive quantities, or if the lower pods are too low, high

levels of crop loss can ensue rapidly. Great significance therefore attaches to having the optimum harvesting process, as well as the right threshing time and and correct level of crop humidity.

I SUITABLE FOR USE AS A SEED CROP - EVEN FOR THE PLANTING OF SOYA?

For years, the axial-flow combine harvesters made by Case IH have proven their capabilities in respect of increasing the yields of seed crops, not least because their threshing operations are gentle, resulting in low levels of grain disintegration. Against this background, the suitability of Case IH Axial-Flow combine harvesters were demon-

strated to customers at a practical threshing day at the end of September, also attended by staff from Saatbau Linz, the seed crop supplier. A new Case IH Axial-Flow combine harvester was employed at this demonstration: the Axial-Flow 7240, equipped with the new Flex header 3020. The test area involved was a soya bean field with an average yield of 3.5 tons per hectare - harvested at 16 percent crop humidity. This once again enabled the axial-flow combine harvester to showcase its strengths, e.g. in respect of the performance capability of the axial flow rotor. The optimised ST rotor on the new 240 series guarantees ultimate performance, also with the soya harvest, for example being able to deliver great

**I CHECK WITH GEORG LANDERL,
CASE IH HARVESTING TECHNOLOGY SPECIALIST IN ST. VALENTIN**

TIPS FOR SOYA THRESHING

The new Flex 3020 cutter array was specifically developed for enhanced performance, and to prevent losses during the harvesting of soya beans. It features a flexible blade bar.

throughput even under poor harvesting conditions. Thanks to the gentle threshing process and the effective screening out of residual grains, the axial-flow principle also helps to prevent grain loss in the field, including with soya crops, and to reduce the level of chaff in the grain tank by a substantial margin, as the practical tests were able to demonstrate.

Even at low rotor speeds (400 rpm), high crop harvesting speeds were achieved in the front area of the rotor and these gave rise to an effective and protective centrifugal separation process for the grains. As a consequence, no additional components were required, such as external accelerator drums.

The new 3020 Flex header contributed towards this success, and it extends the range of Case IH cutting gear options for this year's harvest. It was developed specifically to maximise productivity and to prevent losses at the soya bean harvest and of all seed crops that need to be cut close to the ground.

This new cutting gear distinguishes itself from other models by virtue of its new and flexible cutter blade bar. This comprises a fully adjustable attachment system that adjusts in response to surface irregularities - even at low height settings - without digging into the ground. The ground clearance of the cutter system can be adjusted manually, or optionally from the cab of the combine harvester, and this has proven to be very successful during the threshing of soya bean crops in 2014, at times under very arduous harvesting conditions with heavy stock and high humidity.

To demonstrate a comparison for preservation of intact grain, a hand-rubbed sample was contrasted to a soya bean harvested by the combine harvester. The manually harvested sample on the field delivered 98 percent normal, 2 percent abnormal and zero percent dead seed crop. When delivered to the storage facility at *Saatbau Linz*, the value of the soya harvested using the Case IH axial flow harvester was recorded at 96 percent normal, four percent abnormal and zero percent dead seed - so no real difference in terms of grain disintegration and reduced germination properties. 'Values that, especially for the last year with a widely divergent range of germination levels and poor weather conditions during the ripening period right across Austria are right at the top of the league table', was the verdict expressed by Georg Landerl, a harvesting technology expert at Case IH in Austria.



FARMFORUM: Mr Landerl, what do you need to bear in mind when threshing soya?

GEORG LANDERL: Soya is ready for threshing from the mid-point to the end of September. Modern grades have improved threshing quality considerable. For example, the crop is now much less prone to disintegration during the process. Our experience indicates that the optimum humidity for threshing purposes lies in the 13 to 15% range. Below that level, the proportion of crushed grain tends to increase. Having said that, when you harvest at the end of September, that tends to coincide with high levels of crop humidity and saturated soil, all of which can adversely affect harvesting operations.

FARMFORUM: What do you need to bear in mind when during combine harvesting operations?

GEORG LANDERL: In comparison to other threshing cultures, soya beans grow down to low on the stalk, i.e. the first pods may be just a few centimetres above ground level. A low cut is therefore essential, especially to prevent harvesting losses. Naturally, this is where the entire Case IH AFS system comes into its own. The steering system enables the driver to concentrate wholly and completely on the harvesting process. In all cases, the Axial-Flow system is much more economical than any other harvesting system in terms of crop wastage. Of course, it is important to set the reel position and speed correctly - particularly to ensure that the pods do not collide with the reel tines. When threshing soya, it is possible to drive a little faster than usual. Because the proportion of straw is less than you get when, for example, threshing cereal crops, the Axial-Flow system copes without any problem at all. That in turn delivers optimum utilisation for threshing and cleaning components.

FARMFORUM: Is it worth fitting specific cutting units?

GEORG LANDERL: Their cost-effectiveness naturally depends on the size of area involved in soya threshing operations. Specific cutting units, like our new Flex header 3020, are becoming standard equipment to an increasing extent on farms that cultivate soya crops. It was designed specifically to increase productivity when harvesting soya beans. To prevent seed loss, it is able to cut very close to the ground - and it does this at high capacity levels under all conditions. In addition, a flexible cutter beam can be used. This has a completely adjustable suspension system that was developed to follow changes in ground contour at low heights without digging into the ground. Its flexibility can be adjusted manually or, as a cost option, from the cab. This close-to-ground-level harvesting capability is easily capable of achieving a 10-15 percent increase in yield for soya beans, meaning that this cutting unit becomes profitable even when used on small soya fields. The cutting unit can also be switched into a rigid mode and can then be used on all types of cereal crop.

FARMFORUM: Many thanks for this talk.

NEW CASE IH FARMALL 115 U PRO ON AIMI FAMILY'S DAIRY FARM

IN THE SERVICE OF THE 'KING OF CHEESE'

FARMFORUM HAD THE OPPORTUNITY TO TAKE A CLOSER LOOK AT THE 'JOB DESCRIPTION' OF THE FARMALL 115 U PRO AND AT THE RESULT OF THE JOB: PARMIGIANO REGGIANO – THE 'KING OF CHEESE'.

For Cesare Aimi, day-to-day work has changed considerably since the new 'family member', a Case IH Farmall 115 U Pro, entered service on the Aimi family farm in Zibello in the province of Parma last year. The 75 hectares dairy farm of Cesare and his father Claudio Aimi is privately owned and in the hands of the family for more than 100 years. Medium textured soils, 15 °C average annual temperature and about 770 mm of annual precipitation make for excellent forage growth conditions. The natural bacteria that are harvested with the forage in this region are the

basis for the production of Parmigiano Reggiano, a speciality cheese that was first introduced by Benedictine Monks as early as 1200 after Christ.

NO MORE THAN GRASS AND MILLED CORN

Special rules apply to the production of Parmesan cheese, including the complete ban of 'chemical' food additives. Silage is not allowed as feedstuff in the production of milk for Parmesan cheese. On the Aimi family farm, grass and corn are therefore grown and harvested as the only fodder for the

dairy cows. Whilst grass is either fed fresh or conserved as hay, corn is milled and then added to the fodder ration. The family's Farmall 115 U Pro takes an active part in just any of the jobs related to fodder production on the farm: Ploughing and seedbed preparation, sowing, fertilisation, cutting, conditioning, baling, transport tasks ... and this list is by no means complete.

'When the time had come to consider the purchase of a new tractor, we evaluated different brands, the features provided and thus the overall value of a potential investment', says Claudio



The Aimi family has specialised in the production of quality milk for the production of Parmigiano Reggiano – a premium cheese product.



Aimi. 'In the end, the decision was not a difficult one. We felt that power and performance in general and hydraulic power in particular were as convincing as the compact dimensions, the agility and the comfortable operation with the multi-controller', Claudio explains. 'We have operated this tractor for about 600 hours to date', adds Cesare Aimi, 'and we are fully satisfied with our choice.'

■ HIGH RELIABILITY AND RETURN ON INVESTMENT

Even though the Aimis produce milk for Parmigiano Reggiano as a true premium product that is manufactured in a cooperative nearby, decreasing milk prices have cast some shadows over the economic perspectives of the farms in the region. 'That is why we are so pleased with the low consumption and maintenance requirements of our Farmall U Pro', highlights Claudio. 'In addition to the excellent value for money that we get with this tractor, we are all very fond of the operating comfort. Having all important functions combined in the multi-controller for one-hand-operation makes farm work a lot easier than it used to be. And our son Cesare for sure also likes listening to the radio when he is out in the fields, with the low noise level in the cab allowing for maximum 'hearing pleasure'. All of us are very pleased with the whole package', says Claudio Aimi. When scanning the market for an all-in-one solution for the replacement of the old tractors which are just used for some minor farm yard tasks nowadays, trustworthiness and proximity of local dealerships is often seen as a decisive argument. 'We have a long standing relationship with our dealer, Mazza in Parma, we are very content with the professional service we get, and we are aware of the fact that Mazza is a

certified professional dealer in the Case IH 'Red Excellence' Programme. And yet, we did not buy our Farmall U Pro because of a good relationship with our dealer – which we indeed have – but because this tractor perfectly fits our farming needs', highlights Claudio Aimi.

■ LOOKING AHEAD

As Claudio and Cesare Aimi use their tractor more or less for all farm jobs that need to be carried out, they are well aware of the Farmall's capability and performance. 'Yet there is a constant need to become ever more efficient, to possibly increase the farm size and the number of dairy cows in the years to come, and this could also lead to considerations with regard to a second Case IH tractor in a somewhat higher horsepower segment. These are still kind of 'dreams of the future', but if we succeed in further expanding our business, a Case IH Puma 165 with short wheel base might become a good 'sibling' to our Farmall U Pro', muses Claudio Aimi.

'I am sure this would fit our farm and our way of working very well – but it is no more than a first thought at the moment, as we indeed are very content with our Farmall tractor. It has been an excellent investment, and I would not trade it in for anything else – except if Case IH offered the Farmall 115 U Pro with suspended front axle and CVT. I could imagine falling for that option', says Claudio, and he adds: 'If I had a free wish, however, I would opt for people starting to realise – and honour – the quality and peculiarity of the 'King of Cheese', of our Parmigiano Reggiano. It is a traditional high quality product that deserves more appreciation, particularly when the rare material is produced with so much dedication to quality – and a Case IH Farmall U Pro', he adds with a smile.





FIRST-HAND EXPERIENCE

NEW MAGNUM ROWTRAC PUT THROUGH ITS PACES IN WARWICKSHIRE

COMBINING THE INDIVIDUAL BENEFITS OF WHEELED AND TRACKED TRACTORS, THE NEW AND UNIQUE CASE IH MAGNUM ROWTRAC 380 CVX WILL START MAKING ITS WAY TO CUSTOMERS AT THE END OF THIS YEAR.

FarmForum spoke to the only UK farmer in the UK with extensive first-hand experience of this novel newcomer, which its manufacturer says will open up a completely new sector of the market. Based on the Case IH Magnum 380 CVX, holder of the prestigious 'Tractor of the Year 2015' award, the Magnum Rowtrac is claimed to outperform both tracked and wheeled tractors of similar power by delivering a unique combination of advantages which its manufacturer believes will prove increasingly popular with arable farmers and contractors. Powerful and efficient, the Rowtrac combines

the manoeuvrability, handling and versatility of a wheeled tractor, yet floats over the ground like a tracked machine. This attractive blend of talents allows it to provide superior power delivery, greater efficiency, minimum soil disturbance even when turning under full power, a much smoother ride and enhanced operator comfort. "Based on my experience with the Rowtrac last autumn, and that of my team, I believe that it will be an ideal choice for many UK arable farms," says David Jones of J. H & M.M. Jones, who put the only one to come into the country through its paces at his Hatton Bank Farm, Stratford upon

Avon. Constantly looking for ways to improve the efficiency of his farming operation, which extends to 1100ha and encompasses a wide range of soil types, from sand to Red Marl, he is focused on minimizing the impact of machinery and operations on soil structure.

I QUADTRAC AND TRACKED COMBINE

"I appreciate the benefits of tracks in reducing wheelings and soil compaction, which was that led me to buy one of the first Case IH Quadtracs, a 9380, back in 1999," David outlines. "We bought

a tracked combine three years later to reduce compaction and the need for remedial cultivations after harvest.

"Both of these machines helped to reduce the impact which field operations had on the structure of our soils, while the Quadtrac 9380 enabled us to work much more effectively in terms of having the power and traction to improve timeliness. When the time came to change it I bought a larger Quadtrac STX450 and four years later upgraded to an STX 530.

"I like to keep all of our machinery up to date, and four years is the normal time for a Quadtrac, but in 2012 when the STX 530 was due to be changed I chose to keep it to support a new STX 600. The window that we have to work some of our soils is very narrow and the steep banks that we have on the farm must be worked when conditions are right, so the value of keeping the STX 530 was, to me, greater than its trade-in value. It now has over 4000 hours on the clock, but working the two tractors together enables much more timely operations and is a great help in dealing with blackgrass.

"Both Quadtracs run on 36"-wide tracks, giving a ground pressure of 5psi-6psi, which is less than when I walk over the ground. The good thing about the Quadtracs is that we can easily ballast them according to the job that they are doing, adding up to 2000kg of front weights for heavy cultivations, but removing it for drilling to minimize compaction and fuel consumption.

"We don't plough in our rotation, at least for now, and use a variety of implements behind the two Quadtracs, a Vaderstad TopDown TD600, as well as a TopDown TD700, which are fitted with tungsten points and run at up to 10" deep. Our combine are fitted with 28"-wide tracks and leaves very little compaction, so where the soils are suitable we used a 12m Carrier 1225 to a depth of 2" and then drill with our 8m Vaderstad Rapid.

INTERESTED IN ENGINEERING

"My involvement in evaluating the Magnum Rowtrac last autumn came about because I have been involved in the Case IH Focus Group for Quadtrac since 2000 and taken part in a number of pre-series developments and clinics. I participate because as an owner operator I take a great deal of interest in the way that products are engineered and like to help do my bit to improve them, which is why I was keen to evaluate a pre-production version of the Rowtrac.

"The tractor had been used for evaluation purposes in the United States and when it arrived on the farm last August, just before we were due

to start drilling winter wheat, there were around 600 hours on the clock. Case IH left me to decide how the tractor would be used and I was keen to see how it stacked up against my Quadtracs.

"The first thing that impressed me was the smoothness of the CVX transmission, which took the tractor from standstill up to 40 kmh very quickly, quietly and efficiently. It was the first Magnum that I had driven with CVX and straight away I could see the benefits.

"Being used to much more powerful tractors I was skeptical as to how the Rowtrac would perform, given that it had 'only' 380hp and tracks on just the rear axle, so the footprint was much less than a Quadtrac. Its first job was drilling wheat with our 8m Vaderstad Rapid and I was very impressed. The forward speed was 2kmh down on where we would have been with either of the Quadtracs and I missed having a big reserve of power on our steep banks, but on normal terrain it was just fine and would comfortably maintain 14kph to 15kph. The Rowtrac's balance was also very impressive and it handled a 4m TopDown on a friend's farm with absolutely no issues – traction and forward speed were a great match.

"One of the benefits of the Rowtrac was the fuel efficiency of its FPT engine, which benefits significantly from using AdBlue technology to reduce emissions and fuel consumption. The tracks are another very noticeable advantage – they build on the Quadtrac's tried-and-tested design but with the benefit of rubber suspension. At the front of the tractor the combination of wide radial tyres and front axle suspension really cushions the ride, which eliminates the vibration that you would otherwise experience with a rubber-tracked machine on the road, even at 40kph. It also makes the tractor very much easier to control at speed and therefore much safer, which is very important.

"Years ago I had a Magnum MX270 and we even struggled to put that amount of power down on some of more difficult fields and soils. That simply isn't an issue with the Rowtrac, which is much better balanced and operates with much lower levels of slip than a similarly powered wheeled tractor, so the amount of compaction and soil smearing is much lower.

"We are unique in Warwickshire in that we have half a dozen or so fields that are over 100 acres, and our average field size is 60 acres. Nevertheless, headlands represent 25 per cent of our total area so it is enormously important to take as much care of them as we can, which means minimising compaction and leaving them as level as possible so that water does not collect in the hollows, causing seed to rot. Like the



The Rowtrac will have a place on many UK arable farms, says Warwickshire farmer David Jones.

Quadtracs, the Rowtrac will turn on a sixpence, which is of real benefit because it saves time and the combination of wheels and tracks leaves the headlands much more level than a twin-track machine, so there's nowhere for water to congregate.

SURPRISING CAPABILITIES

"We carried out over 200 hours of evaluation work with the Rowtrac last autumn, across a wide range of soils and applications, including heavy cultivations, seedbed preparation and drilling, as well as road work with a large trailer. The tractor's capabilities surprised us, even when pulling a large, high-draft implement such as the 6m TopDown.

"By the end of our time with the Rowtrac I had reached the conclusion that it definitely has a place on arable farms, in any number of situations. Perhaps they might currently operate an older wheeled or tracked tractor and want to upgrade, but cannot justify the cost of a new one or do not like the idea of a twin-track machine. Perhaps they simply do not have the infrastructure for a very large tractor yet need something with greater traction and performance than a high-horsepower wheeled tractor can deliver.

"The Rowtrac is very versatile and will, I believe come to be viewed in much the same way as the Quadtrac was when it first came out. When we first saw the Quadtrac on the Case IH shown stand we just couldn't see how we would ever use one. Now we have two and can't imagine life without them!

"The Rowtrac is very similar. It both surprised me in terms of how well it performed, handling implements far larger than I would have imagined was possible, yet at the same time it reminded me just how good a Quadtrac really is. Don't mistake it for a Quadtrac, because it isn't, but I believe that compared with a twin-track machine its performance, versatility and light footprint on the soil will be a pleasant surprise."



CONTROLLED TRAFFIC FARMING

12.5M HEADER A KEY ELEMENT IN REDUCING SOIL COMPACTION

SPECIFYING A 12.5M HEADER ON THE CASE IH 9230 AXIAL-FLOW COMBINE WHICH THEY PURCHASED NEW FOR THE 2014 HARVEST REPRESENTED THE START OF A LONG-TERM PLAN TO REDUCE WHEELINGS, IMPROVE SOIL STRUCTURE AND INCREASE YIELDS FOR ONE LARGE FARMING ESTATE IN SUFFOLK.

While interest in Controlled Traffic Farming has gained a strong following during the last few years, only a small number of farmers have, as yet, adopted a full CTF system. Primarily the reason why is one of cost, because changing all machinery to fit in with the system can be prohibitively expensive, which is why most farms work progressively towards CTF, buying equipment only as and when it comes up for replacement.

One farming business adopting such an approach is Dennington Hall Farms in Suffolk, which produces 1110 hectares of combinable crops on heavy clay and clay loam soils in the North

of the county. They had considered such a move for some time and in 2014 took their first step towards reducing the physical and financial cost of soil compaction with the purchase of a 571hp Case IH 9230 Axial-Flow combine which is equipped with the largest-available 12.5m header to provide a full 12m cut width, together with suspended tracks on the front axle.

"The heavy nature of the land that we farm makes it vital to do as much as possible to minimise compaction," states Robert Rous, whose family has farmed at Dennington Hall for more than 700 years. "Doing so produces numerous benefits and not just in terms of improving crop yields

and quality. A more open soil structure saves time when preparing seedbeds by improving the output of cultivation equipment, reducing the amount of fuel used and reducing costs because wear and tear on soil-engaging machinery is so much less.

"The combine is the most expensive machine on the farm and the greater the area that it can cover in a season the lower the cost per hectare, so we have always purchased the largest available at the time," Robert explains. "Because of their weight, combines can potentially cause the most damage to soil structure and to help reduce compaction we retro-fitted a set of tracks to our



Robert Rous, owner of Dennington Hall Farms in Suffolk...



...his daughter Laura Rous...



...and Guy Martin, who operates the Axial-Flow.

previous 35'-cut combine. Although that went some way to reducing the problem it was only a partial solution, so when it came due for replacement last year we decided to look more closely at what else was available.

"We had used another make of combine for more than 30 years, generally changing every five years, but after experiencing a number of issues with our previous machine I spoke to a number of our neighbours who operate Case IH Axial-Flow combines and heard nothing but good reports about their performance and reliability. I always like to try any machine that we are thinking of buying and had demonstrations from New Holland, Claas and John Deere.

"They were all good, but overall we felt that the Axial-Flow had clear advantages and would best suit our future requirements. It was a bonus that the 9230 also provided the most attractive deal from a financial point of view, particularly as we could claim a valuable additional rebate by purchasing it through Fram Farmers, the farmers co-operative of which we are members.

"One of the main reasons for choosing the Axial-Flow was that its design is so simple and avoids the complexity found in other machines, so we felt that it would be more efficient, more reliable and cheaper to operate. Another key factor was that Ernest Doe Power, our Case IH dealer, is only three miles away in Framlingham and has an excellent combine specialist in Tim Butler-Henderson, who is well known for his expertise in Axial-Flow combines."

■ FAMILY BUSINESS

Laura Rous, who helps her father to manage the family farming business, adds: "We produce 1100 hectares of combinable crops, including 690ha of winter feed wheat, 350ha of oilseed rape and 70ha of beans, so it was important that the Axial-Flow was able to cope with a range of crops and conditions. During 2014, our first season with the 9230, we harvested a total of 9700 tonnes of combinable crops, 23% more than the previous

year, over 1110.15ha and 167 fields. The output was limited because our average field size is just 7ha, but having started harvest on 16th July we finished on 24th August, harvesting an average of 11.7t/ha across all fields and up to 14.4t/ha from one 60ha block.

"Moving completely to a CTF system would have been too much of a step to take, so instead we decided that working towards reducing soil compaction across the farm would be more manageable in the short-term. A key point about the new Axial-Flow 9230 was that it could be equipped with the 12.5m Case IH 3050 VariCut header, the largest on the market at that time. In conjunction with RTK GPS that allows us to cut a full 12m of crop on every pass, which maximises the combine's output and minimises wheelings." The Axial-Flow has performed extremely well and the 28.5"-wide (724mm) suspended tracks have provided a much more comfortable ride for operator Guy Martin, who says the 9230 represents a significant step forward.

■ MAXIMISING PERFORMANCE

Developed to match the requirements of 12m Controlled Traffic Farming (CTF) systems the unique Case IH header follows the trend towards ever-larger working widths and ensures that the Axial-Flow's engine, threshing and cleaning systems all operate at full capacity and efficiency. This paves the way for fewer passes, reduces the time spent turning on headlands and in conjunction with the combine's front tracks greatly reduces soil compaction and improves stability.

One of the key features of the latest Case IH Axial-Flow models is that, in addition to well-proven Case IH standard tracks which reduce ground pressure in soft field conditions, they also offer the option of fully-suspended tracks. Proven for many years on Case IH's legendary Quadtrac, flagship of the company's tractor range, the tracks used on the Axial-Flow provide maximum traction, greatly increased flotation

and a narrower transport width compared with wheels, just 3.5m on 610mm tracks.

Available in widths of 610 mm and 724 mm, these feature four idlers which operate in two pairs. The design allows the tracks to adapt more accurately to ground contours, providing a much smoother, more stable ride, both in the field and on the road. In addition to a larger ground contact area, which reduces ground pressure, the new fully-suspended tracks also improve stability, ensuring that even the widest headers remain level under the most difficult field conditions. The overall width on 610mm tracks remains under 3.5m.

Dennington Hall Farms operate the Axial-Flow combine in combination with a 16-tonne Richard Western chaser bin which is pulled by a Case IH Puma tractor, ensuring that the combine never has to stop to unload. Running in the tramlines, it takes grain from the combine to 14t and 16t trailers waiting on the headlands, so ensuring that they do not cause unnecessary compaction in the main part of the field and always run back to the yard full to maximise efficiency.

Seedbed quality is regarded as paramount and wheat is established using a Min-Til system, with a 5m Vaderstad TopDown operating 8-10 inches deep, followed by one or two passes with an 8m Carrier cultivator before a set of Cambridge rolls is used ahead of the 8m Vaderstad Rapid. After harvest, tramlines are taken out using a Simba Solo across the full width to level the soil ahead of the Top Down.

"We probably won't go to a full CTF system because we have some fields that by their nature will always have to be cultivated on a diagonal, so that is the area where we have to decide what we will do in future, Robert Rous explains. "Our aim is more to establish a workable Reduced Traffic Farming system and over the next couple of years we intend to move further towards reducing wheelings by changing our existing 32m fertiliser spreader, either for a new 36m twin-disc machine or by moving to liquids."

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