Magnum CVX
Pure power!

Axial-Flow
The next step forward

Farmall U Pro
The new customer-tailored all-rounder
We set the standard for efficient power
Others haven’t yet decided what the standard is

While other manufacturers are only now changing to forward-looking SCR technology in order to comply with the stricter exhaust emission regulations in 2014, Case IH is the technology leader and has been equipping its tractors above 100 hp with future-safe Efficient Power technology since 2011.

The advantages:
• No-compromise engine design for maximum power
• Optimised combustion process and exhaust gas treatment for significantly improved fuel efficiency
• Best durability, reliability and extended service intervals due to lower operating temperatures

The introduction of SCR technology yet again underlines the innovative leadership of Case IH
Dear Farm Forum Readers,

Following the record years of 2011 and 2012 we at Case IH are expecting the demand for new tractors and harvest machinery to continue growing in 2013. According to current forecasts by experts such as the Agri Evolution Economic Committee, a global organisation of agricultural technology associations, in 2013 the increase in demand for agricultural technology is set to increase by a further five percent. All over the world, farmers are currently looking for systems to increase yield and achieve increases in performance along the whole farming production chain by implementing modern agricultural technology.

At Case IH we are ideally prepared, not just thanks to the most modern range of Case IH tractors, combines and balers we have ever offered in Europe, but also because of a growing network of service centres and dealerships.

In Europe alone, 20 importers and around 380 dealerships are working for us, with almost four times as many service locations. Together with our dealers we have drawn up an ambitious strategy: by 2015 we want to increase our sales in Europe by 50 percent!

In our core markets we are striving to reach a market-leading position – in the high horsepower tractor sector, for example, with a market share of 15 percent. The key elements for this magnitude of growth will above all be our modern engine and transmission technology, whilst in harvesting our Axial-Flow combines, which continue to increase in performance, are also a core focus.

We also focus on optimum customer service, and not just in the conventional sense. We have put new concepts in place to improve training and consultation. Recently we created two new business sectors for harvesting technology and precision farming to intensify our market activities.

In this issue of Farm Forum we provide you with an overview of what is new at Case IH in Europe, along with plenty of ideas for your day-to-day work. We wish you an enjoyable and informative read.

Yours sincerely,

Gabriele Hammerschmid
Marketing Director Case IH Europe
At SIMA 2013 in Paris, Case IH presented the first models in the new Magnum large tractor series, which can be ordered in Europe from the end of 2013. The new Magnum series features a significant increase in performance, the latest engine technology with Efficient Power, and a continuously variable transmission option. The new series was launched with six models delivering nominal powers of 235, 260, 290, 315, 340 and 370 hp.

Top model with 419 hp
The new range flagship is the Magnum CVX 370 Efficient Power with a maximum output of 419 hp. “The Magnum CVX is currently the most powerful standard tractor available,” says Norbert Zehne, Product Manager for tractors at Case IH in Germany. “It develops a maximum torque of more than 1,800 Nm. As a result it is ideally equipped to deliver the highest power requirements in arable farming.”

Continuously variable CVX transmission
New Magnum tractors are powered by proven 8.7 litre FPT engines that comply with Euro 3b (stage 4a) emissions regulations using an SCR only system. A significant new feature is the optional CVX transmission which has been developed especially for implementation in the Magnum at the Case IH plant in Racine, where it is also manufactured. The continuously variable transmission makes available two top speeds of 40 or 50 kph. The new transmission has four mechanical speed ranges for excellent efficiency when working in the field or for road transport.

Case IH relies on a proven cartridge construction for this transmission, as already used on the Puma CVX models. With this system the entire gear unit can be drawn out of the transmission from the side to make servicing easier. Another highlight is the active stop control that holds the tractor stationary on slopes without having to activate the brakes, providing an extra level of safety.

Dual manual throttle
The Magnum CVX is also equipped with ECO Drive - a dual manual throttle system. The ECO Drive operates the engine/transmission management system on tractors with continuously variable transmissions. In addition to the technological concept of a dual manual throttle system, ECO Drive is also characterised by its highly ergonomic location in the centre of the Multicontroller armrest. The left-hand lever operates the manual throttle, while the right-hand lever covers two functions. If operating the tractor without the PTO the position of the lever dictates maximum engine speed. With the PTO in operation, the position of the lever sets the minimum engine speed at which the transmission management responds and reduces travel speed. There is also the APM (Automatic Productivity Management) system, which is standard on larger Case IH tractors. APM changes the operating range automatically by selecting the most suitable engine speed for each job. The transmission is operated using a shuttle lever to the left of the steering wheel and on the right using a lever on the Case IH Multicontroller, now a standard feature on the Magnum.

Huge hydraulic performance
The new Magnum series is packed with power in terms of hitch lift capacity and hydraulic performance. Hydraulic flow rates of 228 litres and 288 litres per minute are available. In total up to six electronic remote valves
can be supplied, with flow rate controls and timers for both directions. The front hitch on the latest Magnum generation delivers a lift capacity of five tonnes, while at the rear end the Magnum lifts more than eleven tonnes effortlessly.

**More comfort**

Case IH engineers have also implemented further developments on the chassis. As a result the Magnum is fitted with new class 4.5 and 5 suspended front axles. With the new rear axle, tyres up to 2.15 metres can be mounted. The revised cab is now among the quietest in this power class. Available completely upholstered in leather, the cab has a noise level of just 69 dB(A).

The latest generation of touch-screen monitors, the AFS 700 Pro, allows ISOBUS-compatible implements to be controlled very conveniently. The ACCUGUIDE™ automatic guidance system, which can be operated using any of the available correction signals, is also available as the ideal partner for the latest generation of GPS and Glonass antennas.
Case IH has unveiled new features on its legendary Axial-Flow® combines for 2013, including a redesigned cab and a folding auger with an industry-exclusive pivoting spout option, helping to make these high-output machines even more productive. Guided by input from farmers and contractors, Case IH has taken the largest and quietest cab in the industry - and made it even better. The new cabin is offered in either a ‘Deluxe’ version or the advanced ‘Luxury’ cab with a higher comfort level. “Our new, redesigned cabin has advanced even further to set the industry standard in convenience, comfort and ergonomics, and provide the operator with an office in the field,” says August von Eckardstein, Marketing Manager for Axial-Flow® combines in Europe. “Best of all, this new cab feature on all Axial-Flow combine models.”

**New Multifunction Propulsion Handle**
New features of the new cab include a slim Multifunction Propulsion Handle, redesigned to put all key controls within a finger’s reach. There’s also an upgraded right-hand console with simple ergonomic controls and slide rail that allows for adjustment of the AFS display, plus holders for a cup and office items. Multiple convenient storage locations have been added featuring brushed-chrome styling in the luxury cab. Operators can stay tuned in and connected on the go with an iPad or iPod plug-in, and a co-drivers seat opens to reveal a convenient, portable electric refrigerator to keep food and drinks cool. Leg and foot room are now greater thanks to increased seat travel, while a red leather luxury cab seat option provides greater comfort.

**Full Steering Comfort**
The steering wheel is infinitely-adjustable, tilting and telescoping to suit the operator, and providing maximum visibility without impairing the cutterbar view. The new steering column has been reduced in overall width to provide better header visibility. Foot rests are fitted for greater comfort on long harvest days.

**New Seating**
The operator’s seat has been lowered by 4cm and has 7cm more seat travel to provide further cab comfort. Air ride suspension is standard on all 30 Series combines, while a semi-active air suspension seat, targeted particularly at tracked combine buyers, is optional. This uses a sensor and controller mounted inside the seat suspension, with a shock absorber adjusting to provide the level...
of damping required by the terrain, for a better quality ride. “We understand the long hours that operators spend in their combines,” says von Eckardstein. “Our goal was to offer every convenience of an efficient, comfortable working office and make it available on every Axial-Flow model. By introducing more powerful, more intuitive, and more efficient combines, Case IH is helping farmers be ready for whatever harvest may bring now and in the seasons to come.” All models use the state-of-the-art AFS Pro 700 display for yield monitoring and machine and guidance control. The AFS Pro 700 is compatible with all Case IH equipment so can be easily transferred to a tractor cab at the beginning of the next season – for controlling application maps, for example.

Unloading Made Simpler

To make on-the-go unloading more comfortable and safer with wider headers, Case IH has added new auger options. To enable easy unloading from the widest headers, as well as simple transport and storage, a high capacity folding 8.8m auger is now available. Auger folding is controlled entirely by the operator from a simple switch in the overhead cab controls. Unfolding for field use is fast, whilst folding for road transport/storage reduces combine length. The new 8.8 m auger option folds out to 95 degrees for easy visibility when unloading, while when folded access to the rear service deck is unaffected, and the auger is within the width of the combine side panels. The 8.8m auger system is required for all combines specified with 12m and wider headers. The new industry-exclusive pivoting spout option is available for all high capacity unloading auger lengths. It allows the operator to accurately adjust the grain stream in or out by simply using the shift + unloader swing button on the propulsion handle. This allows the operator to position the unloading spout precisely where needed instead of repositioning the entire tractor-grain trailer combination relative to the combine. In this way, the risk of the tractor/trailer spilling grain or coming into contact with the header is reduced, and when laying straw swaths for baling, the tractor need not run on the rows. The electrically-controlled auger spout boosts harvest efficiency by allowing perfect grain trailer filling. The new spout moves the grain stream by approximately 60cm to 90cm, while also providing a spill-proof grain saver feature. When the unloading auger is disengaged, the spout automatically and quickly pivots upwards to prevent any grain from dribbling out. In addition, it allows grain to be directed straight downwards to reduce wind-blow of light crop types. Also fitted are powered grain tank covers, controlled from the cab, to reduce downtime when preparing for transport or harvest.

New Deluxe Chopper

Case IH deluxe chopper packages have been upgraded to include in-cab adjustment of the chopper counter knife bank. Knife position is adjustable in steps of 0 / 25 / 50 / 75 and 100% insertion, via a dedicated switch on the right-hand console. There’s also an in-cab adjustable rear rotor discharge door. In addition to the chopper speed shift lever, it is now possible to switch the combine from ‘chop’ to ‘swath’ in under a minute. No covers need to be opened and there’s no longer any need for the operator to work in the dust. If the emergency stop button on top of the multi-function handle is pressed, the counter knife bank will fully retract, providing an additional measure to protect the chopper and counter knife against foreign objects, such as stones. Less need to reset the counter knives manually means chop quality and even spreading are maintained.

New Chaff Spreader

A deluxe chaff spreader option, which includes in-cab adjustment of the spread distance and distribution, is now available. Three dedicated buttons on the right hand console control these functions.

Efficient Power, Efficient Operation

From the feeding system to the patented Case IH AFX rotor with its concentric rotor cage design, Axial-Flow combines continue to create smooth crop flow, improving throughput and putting more high-quality grain in the tank. As part of the Case IH Efficient Power family, Case IH Axial-Flow 30 Series models feature added hp to power through tough conditions, courtesy of fuel-efficient Case IH FPT Tier 4 SCR engines. Across the Case IH line-up, the same proven power plants deliver an average 10 per cent efficiency advantage over comparable Tier 3 models.

“Case IH has been continuously improving the Axial-Flow ST rotor, always setting the trend as a leader in harvesting.” says von Eckardstein. “Overall, the simple and reliable Axial-Flow design, with fewer moving parts, helps producers stay in the field over a wider range of crop conditions, helping protect both yields and quality.”
The most modern engines
Farmall U Pro tractors are powered by the latest engine technology. A 3.4 litre common rail engine with EGR and DPF delivers powerful drive for low fuel consumption while complying with current emissions standards. The series has been launched with three models with engine power outputs of 95, 105 and 115 hp.

Comprehensive equipment supplied as standard
In addition to the latest engine technology, the new Farmall U Pro also sets new standards in terms of equipment. The transmission has been developed in a joint project with ZF and features innovative details in this tractor category.
For the first time on a tractor in this class, a 32 + 32 Eco gearbox is used with four-speed load shifting, Autoshift and Speedmatching. In Eco mode a top speed of 40 kph is achieved at reduced engine revs (1,750 rpm), contributing to significant fuel savings.

Economical and powerful PTO
The Farmall U Pro is equipped as standard with a four-speed PTO at an engine speed of 1,900 rpm (1,600 rpm in ECO mode), which is ideal for providing fuel-saving power to PTO-driven equipment such as balers, backed by the full power of the engine.

New design of cab: more comfort for the driver
A trademark of the Farmall U Pro is the completely newly developed premium cab with its innovative roof design that makes this tractor recognisable at first glance. Start the engine and it soon becomes clear that the Farmall U Pro sets new standards. The noise level inside the cab is just 72 dBA – best-in-class!

Clear visibility
Cool design: a high visibility window is integrated directly into the front section of the roof, merging with the windscreens. The result is virtually unrestricted visibility of the front loader work area.

Efficient Power concept for operation
As on larger Case IH tractors, the Efficient Power control concept is built around the Multi controller lever which can be used to operate all key functions, including rear hydraulics, powershuttle and powerclutch, four automatic shifting ranges, two different engine speeds and electronic remote valve controls. In addition, the electro-hydraulic functions can be controlled extremely accurately using...
a newly-developed joystick (a mechanical function is also available). This sets new standards, especially in terms of operating a front loader.

**Superb climate**

The new, innovative cab concept ensures that the interior does not heat up excessively during warm weather, and provides optimum soundproofing. The climate control concept has been optimised for pleasant and draught-free ventilation so that no ventilation ports are located above the dashboard. A total of 10 air vents provide optimum air flow.

**Hydraulic power at the rear**

The Farmall U Pro is ideally equipped for handling modern implements with large working widths and loads. It features separate oil circuits and buyer can choose between 60 litre OCLS and 100 litre CCLS pump. Two additional outer lifting cylinders provide optimum lifting force.

**Flexible - front loader ready and with integrated front hitch**

The front hitch area has also been revised so that the hitch is integrated harmoniously into the tractor frame and is designed to be compatible with front loader operations. All Farmall U Pro models are factory-installed for use with front loaders.
In late 2012, Case IH opened its new Experience Centre at the brand’s European headquarters in St. Valentin, Austria. It is designed as an information, training and visitor centre. The Experience Centre, which has been built in the grounds of the Case IH plant, gives an insight into the production of premium tractors and demonstrates the advantages of the latest Case IH technologies. An intensive brand experience is conveyed as a result.

Dialogue with our customers
"We understand and respect what our target group wants and that is why we would like to involve our customers and everybody interested in Case IH tractors,” said Gabriele Hammerschmid, Marketing Director at Case IH, speaking at the opening in autumn. “Our objective is that every customer from all over Europe should visit our plant in St. Valentin and find out more at the new Experience Centre.”

“From customer surveys we know how important it is to witness the manufacturing process close up at least once, in particular to gain a personal impression of our high quality standards,” said Mrs Hammerschmid.

Optimum presentation capabilities
In the new Case IH Experience Centre, presentations can be held in an area of more than 1,200 square metres; sufficient space for several large groups to visit at once. Groups of up to 200 people can be welcomed at a time.

Open plant store
"We are pleased at the increasing level of interest in our new centre’s ability to offer visitors to St. Valentin an impressive all-in experience. This gives us an opportunity to show what perfect customer care means to us.”

The Experience Centre features modern logistics and equipment, including innovative big-screen presentation technology. For the first time it is also now possible to exhibit tractors on a dedicated stand in the visitor centre to give people a chance to check them out at close range. "Depending on requirements, visits to the Experience Centre can be combined with plant tours and tractor demonstrations. This means that we can now convey knowledge and practical know-how as well as demonstrate in the test area how our technology actually works in field conditions,” points out Mrs Hammerschmid.

All set for growth
The Experience Centre is part of the Case IH European growth strategy. The St. Valentin plant has been through a series of upgrades in recent years. Since the European Engineering Centre for tractors up to 270 hp is now located here, there is additional demand for visitor presentations as well as centralised training for mechanics and sales people from Case IH dealerships all over Europe. The modern Training Centre, which holds technical training courses on Case IH tractors, was also opened in the autumn.

World Class Manufacturing
The tractor plant in St. Valentin has been producing in line with the World Class Manufacturing Standard (WCM) for more than two years. This involves a Total Quality Management system that was initially developed for the automotive industry. Case IH is first to implement this standard for manufacturing tractors. Employees also make a major contribution to the success of WCM with their suggestions for improvement.
NEW ASSIGNMENTS FOR ANDREAS KLAUSER

Management at Fiat Industrial - the Case IH parent company - assigned new management tasks at the beginning of the year to the President of Case IH, Andreas Klauser. The Chairman of Fiat Industrial, Sergio Marchionne, appointed Andreas Klauser as COO on the Group Executive Council (GEC). As a consequence, Klauser takes on responsibility for all brands owned by Fiat Industrial in Europe, Africa and the Middle East (EMEA). The Group Executive Council makes all the important decisions at Fiat Industrial. In the new structure Andreas Klauser takes on responsibility for the Iveco brand of special vehicles, including military and firefighting machines, in addition to his function as President of agricultural machinery manufacturer Case IH.

Andreas Klauser has been responsible for the Case IH brand since the end of 2009 and has been in various positions at Case IH since 1990.

FarmForum: Mr. Klauser, where do you see Case IH at the moment in Europe?

Andreas Klauser: I see us well on the way to being the reliable partner for farmers. Today we offer our customers the best product range - a combination of efficiency and reliability - that we have ever had. And we will continue to energetically follow this path with resolve. Following the extraordinary increase in sales last year I see in many countries throughout Europe an increased need for investment in tractors and agricultural machinery, so we can expect above average growth over the next few years. We are bound to see an increase in our new markets, such as Eastern Europe. High performance tractors and combines, as well as systems for efficient tillage, are very much in demand there. Meanwhile, in the core markets of Germany and France, for example, our market research indicates that over the next two years almost 1/5 of all farmers and 1/4 of all contractors would like to invest in agricultural machines.

An important prerequisite for this is of course the ongoing positive development in prices, especially market prices for agricultural produce, for example.

FarmForum: Assuming Case IH continues to follow this path, where do you see the company in five years?

Andreas Klauser: In a few years we will be even larger and stronger than we are today. We will support all customers who want to operate efficiently - regardless of whether they run large, medium or small businesses - with our products, our personnel and our service, meeting their expectations to their fullest satisfaction. We will continue to set milestones with our new technology. One objective, of course, is to transfer our expertise from the big tractor sector to the lower horsepower classes. We are well on the way here with the brand new Farmall series. Within the next 5 years we will also have filled the small gaps that still exist in our current product range.

FarmForum: Mr. Klauser, which strategies will you use to reach these ambitious targets?

Andreas Klauser: We will make sure that our new products are available in good time. Take field work and harvesting for example: we already have innovative machines today that set the industry standard, that are productive and protect the environment. We have the service, the support with spare parts, we have motivated employees - and we are seen as a specialist in harvesting. It is precisely this path that we want to follow and continue to improve in order to provide our customers with the best possible level of satisfaction. We are convinced we are on the right path - and our success proves we are right!

FarmForum: Many thanks for talking to us Mr. Klauser!
Leading agricultural economists from the World Bank estimate that South-East Europe is already one of the top arable farming regions. Excellent chernozem soils and an ideal climate – especially for the cultivation of maize and soya beans – provide outstanding natural conditions for state-of-the-art agriculture on the Danubian Plain. On top of this, the Danube provides an optimum transport link in the region, especially over the Black Sea onto the world market as well as closer to home into Austria and Germany.

High value creation potential
It is therefore hardly surprising that agricultural economists forecast maximum value creation potentials for the area over the next few years on the basis of existing natural resources and the reserves. The only downsides: on the one hand the frequent summer dryness and on the other the persistent political instability in many countries. Alongside Hungary and Serbia, Romania is also one of the top locations in the Black Sea region. A total of 9 million hectares of arable land are available here. In addition to largely excellent soils and sufficient precipitation, there are also adequate fallow areas available for further operational growth. Furthermore this EU country increasingly offers legal certainty and has a land inventory.

Chances identified early
Here is InterAGRO’s field of operations as one of the largest Romanian agricultural groups. Since 1985 the company has developed rapidly. Alongside pure agriculture the company now also devotes itself to food processing - for example dairy and milling products - to energy and fertilizer production and to tourism. The agricultural group for which director Sorin Dogaru is responsible includes a total of two business divisions: in addition to cultivating cash crops, including mainly grain, maize and soya, the company operates a successful agricultural trade focusing on grain storage and marketing. A total of more than 800,000 tonnes of preparation and storage capacity are available for this purpose.

Eleven farm sites set for modernisation
In all, InterAGRO works more than 50,000 hectares of productive agricultural land. If one adds contracting work and machine use, more than 75,000 hectares spread over 11 sites are worked every year.
From smallholder subsistence agriculture in a communist country, Sorin Dogaru has developed his operations in the past 15 years to become one of Europe’s leading arable farming groups. His recipe for success is that he relies not only on personal initiative, but also, and primarily, on the comprehensive introduction of technical progress. Here Sorin Dogaru relies first and foremost on intensive plant nutrition, in addition to the use of modern inputs such as seeds and pest control. Furthermore he’s gone from the very beginning for state-of-the-art technologies in cultivation, care and harvesting processes, with the aim of a rapid reduction in working costs.

**Fast progress**

Thanks to increased efficiency, the company has been able on average to double its yields over the past few years. In the case of maize this means 9 tonnes/ha, wheat just under 7 tonnes and with rape the company is heading for an average of around 4 tonnes yield per hectare.

In the past few years nearly all operations and crop rotations have been converted to state-of-the-art processes. The key machines here are Case IH Magnum and Quadtrac tractors, with power seeding and soil cultivation equipment with working widths of 12 or 18 metres. “The decision to switch to wider working widths has enabled us to reduce mechanisation to less than 1 hp per hectare,” says Mr Dogaru.

**State-of-the-art concepts**

Non-plough tillage is standard at InterAGRO, as is the use throughout of GPS systems, not only for tracking and data logging on the field, but also for the permanent monitoring of the entire machine fleet. “Using telematic systems we have been able to mobilise further reserves and, for example, conduct machine comparisons in real time.”

**Red fleet**

The InterAGRO fleet now includes 11 Quadtrac and 32 Magnum tractors. The machines are used on 12 or 18 metre wide combinations for direct seeding and soil cultivation. Case IH equipment is appreciated for its high level of reliability. As early as 1996 the first Case IH was purchased in the form of a Magnum 7240. This tractor is still in use – and it has now more than 36,000 operating hours behind it. In all, there are more than 500 tractors in the tractor fleet and 135 combine harvesters, mainly Case IH Axial Flow, are in use.

**Clear prospects**

Having optimised the mechanisation over the past few years, Sorin Dogaru is currently optimising the fertilization concept on the farms. Wherever possible, use is made of liquid fertilizers, consisting of urea and ammonium nitrate. In addition to the present low acquisition costs, the main factor that favours the use of liquid fertilizer is its trouble-free logistics. Favourable storage tanks of rubberised plastic and with capacities of up to 100,000 litres make possible trouble-free and, in particular, inexpensive operational storage, including early purchase.

**And where do we go from here?**

“Our goal is, of course, to operate our own integrated processing. That is why we are currently also expanding our processing activities in the area of flour and oil mills, tobacco processing and in the field of dairies and large-scale bakeries. This is what we will be focusing on in the coming years,” Mr Dogaru states confidently. Furthermore he sees further potential in bundled marketing from the region. “It would certainly be helpful for us if there were a central marketing facility, such as a „Black Sea Exchange”, through which all farms operating on the Danubian Plain could market their products.”
Thick fog, cold and damp – a typical morning in November when nobody is happy to leave the house. From the nearby forest in the Osnabrück area near Melle you can hear subdued engine noise and pick out lights in the distance. The closer you get the more the fog lights up, illuminating a clearing among the trees. You recognise a Case IH tractor – but it is quite different from the ones you’ve seen before. Instead of a tractor in vibrant Case IH red, in the middle of the forest stands a Puma CVX 180 all in black.

Unusually black
The engine stops and the tractor interrupts its work. The driver jumps down from the cab and laughs: “Yes, it’s a black tractor! It is black because I have always owned black tractors. I just like the colour.” And there’s something else: the rear of the tractor is taken up by a large crane. With a long forestry grab it handles tree trunks effortlessly. The black machine makes an imposing picture working with heavy trunks in the thick fog.

Flexible for forestry and municipal work
Henrik Meier, the driver of the Case IH Puma CVX 180, is the owner of the forestry services business of the same name in Melle. The forestry company was founded in 1995, initially as a logging business. Today, in addition to general forestry work and log transport, Meier also offers solutions for difficult felling jobs and measures for tree care. Another strong area is chain saw courses. The nationally-approved forestry instructor now holds training courses all over the country. The black Case IH Puma has been in operation at Meier’s business since September 2012. “We have always driven Steyr or Case IH and were always satisfied. In recent years we have been using a Steyr tractor. I decided to go for the Case IH Puma CVX 180 because I wanted to use the vehicle flexibly both in the forest and on the road. With the modifications that have been made, it is also possible to carry out municipal work in the summer months when there is less to do in the forest,” explains Henrik Meier.

Modification to forestry tractor
Meier purchased the tractor through Case IH dealer Kotte Landtechnik in Rieste. In accordance with Meier’s specifications, Kotte contacted the Austrian company Kneidinger to modify the Puma for forestry work. There the tractor was modified to Meier’s requirements in 400 working hours. In addition to the black paintwork, they also fitted an Epsilon-Palfinder logging crane and a nine-tonne radio-controlled winch. The rear hydraulics were also suitably modified. A reverse drive system was also added to enable a quick change between the forwards position and the reverse drive position without switching off the engine or the driver having to stand up.

High traction and ground protection with forestry tyres
The tractor is equipped with special forestry tyres for optimum traction at the same time as protecting the ground. Nokian Forest Rider radial tyres with dimensions of 650/38 are extremely stable thanks to their multi-layer construction and are suitable for use in the forest as well as on the road. Another special feature on this tractor is its use of biodegradable oils and lubricants. This is essential for forestry operations because Meier works in accordance with the RAL seal of approval.

Built on a sound basis
Otherwise the tractor consists of the standard equipment supplied with the Puma CVX from Case IH: the spacious and comfortable cab with unrestricted all-round visibility and powerful lighting, the continuously variable transmission and economical fuel consumption for a nominal power output of 182 hp. “The Puma CVX achieves above average economy, especially in terms of fuel consumption. Unlike during agricultural operations, our tractor is usually operating while stationary and at moderate engine speed,” explains Meier regarding one of the reasons for the low fuel consumption.
THE NEW CASE IH RB 544 –
THE PROFESSIONAL ROUND BALER WITH FIXED
CHAMBER AND COMPRESSION ROLL SYSTEM

With the new RB 544 series, Case IH expands its range of round balers with a series that is especially designed for the growing demands of large dairy farms and contractors. The new high-performance fixed-chamber baler features the new CRS compression roll system and is available in three models for the 2013 season.

In addition to the standard model, Case IH offers especially for contractors a special Silage Pack HD version, with tandem axles, active bale chamber monitor and even higher bale density, as well as the RB 544 Silage Pack, both with combined netting and film wrapping system. All three models are designed for high baling performance, uniform bale density and extremely reliable operation in all crops.

**Uniform and continuous crop flow**

To achieve high baling efficiency it is necessary for the crop to be fed neatly and efficiently to the baling chamber. That is why the new RB 544 has a pick-up with a working width of 2.10 metres (RB 544) and 2.20 metres (contractor version). This ensures that even dense straw swaths, from high performance combines for example, or very heavy silage grass, is picked up reliably. The baler is equipped with five rows of tines in the pick-up to ensure uniform crop flow and maximum productivity.

**Key component: Compression Roll System**

The technical heart of the new RB 544 are 18 precision compression rolls with a diameter of 200 millimetres and a special surface profile for extra adhesion. This feature, in conjunction with the new design, enables very uniform bales to be formed with a high density. Thanks to the new profile of the compression rollers, more intensive contact with the crop is achieved. The compression rollers are mounted on sealed bearings, which are thus protected from damage even in damp conditions.

**Sturdy in all terrain**

Another technical feature is the very low centre of gravity of the baler. As a result it is also suitable for operation in hilly terrain with inclines and side slopes. Depending on individual requirements, large tyres are available to protect the sward and limit ground compaction.

**INNOVATIVE BALE WRAPPING**

With the Silage Pack and Silage Pack HD combined wrapper balers, farmers and contractors can now combine net and film wrapping inside the compression chamber. This has a number of advantages in the field. Because the bale is pre-wrapped in film inside the compression chamber instead of with netting, a more secure barrier against oxygen is provided for silage bales. Wrapping costs can be further reduced as a result. Frozen bales can be unwrapped more quickly because they do not have conventional netting frozen into the bale. The bale diameter is 125 centimetres, or 135 centimetres on the contractor version - Silage Pack HD.

**SMARTPHONE CONTROL CONCEPT**

Standard equipment on the RB includes automatic central lubrication as well as extremely service friendly front body panels. The new RB 544 features a terminal which - like on a smartphone - can be operated at the touch of a finger from the cab. It displays all necessary parameters, which are easy to control, including bale density, PTO speed, number of wraps per bale, netting and film wrapping etc. In addition, job reports can be created for each customer in connection with an automatic bale counter.
Easily portable computers, aka tablet PCs, are not just fun for surfing online at home. In farming too there are numerous applications for which a mobile computer can provide useful assistance on-site; whether it’s for field checks and assessments, herd management inside the shed or for field mapping inside the tractor cab.

Of course tablet PCs are nothing new and they have found a very high level of acceptance since their introduction four years ago – mainly by PC users as a second computer. One disadvantage so far has been that tablets such as Apple’s iPad or Android tablets are not installed with the Windows operating system, the system most commonly installed on most farm computers. A further disadvantage has been that tablets could only use addition programs, or apps, that needed to be downloaded over the internet. Even though the extremely wide range of software applications for tablets has been optimised over the years, hardly any software - apart from a few exceptions - is available for the agricultural industry.

Premiere – Windows on flat portable computers
But now everything is set to change since Windows 8 launched at the beginning of the year. This is the first operating system from Microsoft that is optimised for touch-screens. That is why the first Windows tablets are now available that come close to iPad and Android tablets. What is more, they promise the capability of being able to run all the programs that run on standard PCs. This means that even more applications will be made available to the agricultural sector.

Make sure you have the right version
Watch out though. There are different versions of Windows 8 available for tablets. Tablets with powerful Core processors use the 64-bit version of Windows 8, for example, the same version that is used on current Windows notebooks. There is also a Windows 8 Pro version for business users.

External keyboards can also be connected and
these are often included as part of the deal. There are also Windows tablets that can be operated using a stylus so that handwritten notes can be written directly onto the screen. The stylus can also be used like a mouse to control programs more quickly. The tile layout of the apps also works really well. For most Windows users it takes a little time to get used to.

After that there is a lot that is similar to previous Windows versions, which appears to be the decisive advantage. This is because the user does not need to learn a new operating system, even though some parts of Windows have been revamped and now feature additional functions and a different start interface.

Windows tablets are completely compatible with most existing computer and device structures so that USB drives, printers and other peripherals can easily be connected using interfaces such as USB connections. External software such as farm mapping software and herd management programs can also be installed without problems. The specifications of Windows Pro models are quite sufficient for this in terms of processor performance and RAM capacity. What really catches the eye with these tablet PCs is their high quality design and low weight. Many devices weigh around 600 grams. Nonetheless, battery life is up to eight hours for continuous operation, Bluetooth connection and WLAN as well as optional UMTS.

**Top-quality replacement?**

The question is whether tablet PCs can actually replace a desktop PC. Based on the specifications, they certainly can. However, most users will choose to use them as a second device, especially for professional agricultural applications, in situations where you need a top-quality mobile Windows PC. What is interesting is the range of models available since the launch of Windows 8. Just a few weeks afterwards there are already more than 50 models on the shelves, with more to come. Many manufacturers have announced new devices to be launched this year.

Devices that already have a keyboard as standard equipment are bound to be popular, as is the first tablet to be developed by Microsoft, the Microsoft Surface. Here, the keyboard doubles as a protective cover. The computer manufacturer ASUS supplies a keyboard as part of the package to plug into their Acer W500 device. This means that it can be used as a tablet and like a conventional notebook.
Big tractors
The Fargo tractor plant in the USA has long been known as the home of the legendary Steiger articulated tractors. Today it is the Case IH Quadtrac and Steiger series that leave the assembly line there. We had an exclusive opportunity to witness the manufacturing of the red giants. Only a few Europeans will have heard of the city of Fargo in North Dakota. Occasionally the medium-sized town with 105,000 inhabitants is mentioned in American crime series and thrillers, but that’s about it. Only 140 years old, located near the border with Canada, Fargo does not have any historical buildings, beaches, ski pistes or other tourist attractions on offer. Only a few tractor enthusiasts know the significance of the town in international tractor manufacturing. In 1969 the brothers Douglas and Maurice Steiger set up shop to build their legendary green articulated tractors in precisely the location that their main competitor Versatile operated a plant at that time.

Part of Case IH since 1986
In 1986 Tenneco took over the Steiger business, including the plant in Fargo, where soon after the first red tractors left the assembly line for Case IH. That the 1000 series Steiger launched at the beginning of the 80s was years ahead of the competition was something Case IH was also able to profit from. The 9100 and 9000 series based on the Steiger Panther, Puma, Cougar and Lion 1000 sold so successfully that Case IH soon became global market leader in this segment. The tractors were seen as robust, featured an electronically-controlled full powershift transmission and a level of comfort that was unreachable by other manufacturers at the time. The tractor was built virtually unchanged until the year 2000. In the meantime Case IH launched the first articulated tractor with tracks in 1996: the Quadtrac. What was a source of amusement at the time has since become a worldwide success story. Today the majority of the red tractors leave the Fargo plant with tracks, only around a third are built with wheels. The blue TV New Hollands also roll off the assembly line here and can be retrofitted with Smart Trax units gear as an option.

10,000 Quadtracs
In total more than 1,000 tractors a year are built. 2013 should see Quadtrac No. 10,000 in production – certainly an occasion for a special model in special livery like the gold edition in 2007 to celebrate 50 years of Steiger. In terms of numbers, the USA, Canada and Australia are the largest markets for the Quadtrac. Great Britain is next, where the high horsepower is used for ground-conservation tillage of heavy loam soils, often with one-pass implement combinations that need up to 100 hp for each metre of working width. Behind Great Britain it isn’t France – no, it’s Germany! Here Case IH now sells a good 30 units per year and is well ahead of its yellow and green competitors with tracked tractors. In Italy though, the largest tracked tractor market in Europe, narrow implements are often used in small fields that sometimes have a clay content of up to 90 percent, and at a working depth of up to 50 cm during ploughing, often on steep slopes. That’s where differential-steered tracked tractors are more suitable – more manoeuvrable than the mighty Quadtrac.

Right to the South Pole
Nowadays Quadtracs are not used only in agriculture. The military use the multi-terrain vehicles and you’ll even find some of these red tracked tractors at the South Pole. There the tractors have to prove their worth by dragging expedition equipment over snow – with more than 40 tonnes on the drawbar! Yet it is no longer unusual to see them in action building motorways or canals, where Quadtracs are far superior to Caterpillar and co’s self propelled machinery when it comes to pulling scrapers. We wanted to know how these mega tractors are built. It is very rare that Case IH give journalists the opportunity to see Quadtrac production, but we were exclusively allowed to witness the manufacturing of the most powerful series tractor in the world!

The 400-million dollar dealer
One of the largest Case IH dealers in the USA as well as worldwide is Titan Machinery, whose headquarters are located not far from the Steiger plant in Fargo. The company was founded at the beginning of the 90s by Jack Johnson, the former president of Steiger. At first they focused on tuning (overhauls and performance boosting) old Steiger articulated tractors that were sold in small numbers under the Titan brand. Because production was so expensive, only 12 units were completed. Selling Case IH products proved to be more successful, however. Today Titan has 48 subsidiaries in the states of North Dakota, Minnesota, South Dakota, Nebraska and Iowa and is even listed on the stock market. Together with its subsidiaries in Eastern Europe the company achieved a total turnover of around 400 million US dollars during 2012. In addition to Case IH products, Titan also sells machinery from New Holland Agriculture and Construction as well as from Case Construction. Previously-owned equipment sales is also an important business. Titan even publishes its own used machinery magazine several times a year.
1. The most powerful tractors in the world leave the line at the Case IH plant in Fargo – in 2013 it will be Quadtrac No. 10,000.

2. It all starts with sheet metal. The material store in Fargo is under cover so that raw materials do not need to be de-rusted.

3. The Steiger plant in Fargo has been here for 40 years and today employs almost 1,000 people.

4. View of the modern laser cutting system. Parts for tractors as well as wheeled loaders are cut here.

5. Then it’s on to welding. Larger complex units such as this Quadtrac rear chassis unit are welded by hand.


7. After painting it’s onto the assembly line. Other components are waiting here to be mounted on the chassis. By the way, in Fargo everything is built to order.

8. The lower section of the chassis is finished: the central rollers and outer guide rollers form a flexible unit.

9. Joining the front and rear chassis units, installing the engine and fitting the cab; gradually the tractor takes on its recognisable shape.

10. The tracks, weighing over 200 kg, are fitted at the end of the line. They are tensioned automatically when the engine starts.

11. After 36 hours assembly time in the 63,000 m² plant the Quadtrac sees daylight for the first time.

12. Test drive on-site: transmission, chassis and steering are checked. Drivers also watch out for undesirable noise and vibrations.
Farmers can already use the Advanced Farming System® (AFS) and Case IH AFS Pro 700 or Pro 300 monitors to control ISOBUS-compatible implements. The new Case IH ISOBUS makes software available on the monitor that links the relevant Taskcontroller with the electronic control unit (ECU) on the implement.

"The new ISOBUS Taskcontroller offers various ways of using implements equipped with ISOBUS to profit from the advantages of integrated Case IH technology," explains Uli Sommer, AFS Marketing Manager at Case IH Europe.

"Since the AFS Pro 700 and Pro 300 monitors can be supplied already installed in the tractor cab, our customers have a wide range of capabilities at their disposal thanks to Case IH open architecture. This solution is integrated from the beginning, and not just a retrofit."

**State-of-the-art implement control**
Two-way communication is possible with the ISOBUS Taskcontroller which transmits the control commands from the Taskcontroller in the monitor to the mounted implement. The control commands are then implemented and signals returned to the Taskcontroller in the monitor to report on which steps have been completed. The Taskcontroller in the monitor records the work performed by the implement. This data can then be transferred to the relevant desktop software for archiving and operations management.

**Straightforward measures planning**
Before starting work, steps and procedures can be created using the desktop software and then transferred to the monitor using a USB drive. "This enables the farm manager to pre-programme processes in the office,"
copy them into a USB drive that he gives to the driver, who then transfers the data to the monitor in the tractor," says Sommer. "The Taskcontroller functions can be divided into three key areas TC BAS (base), TC GEO and TC (section). TC GEO and TC SC are based on GPS positions. "If the user opens the ISOBUS Taskcontroller they will see the relevant functionality displayed. Farmers no longer need external hardware, software or installation packages – the entire ISOBUS hardware can be factory-installed as an option. The agricultural industry is turning more and more to the ISO standard, and in this respect Case IH is well in front with the ISOBUS Taskcontroller - making the tractor and implement work together as a powerful team," he adds.

Everything in view
"In the TC Geo function the display can be set so that the coverage map is displayed according to the movements of the tractor and implement in the field," says Sommer. "And if the implement is equipped with partial width switching, the sections can be switched on and off automatically using the automatic overlap control in the TC SC function. Once the job has been completed, the overall results are displayed in the TC BAS function. The job data can then be saved to the USB drive and transferred to the desktop software so that records are updated and the farm manager is supported in making effective deployment decisions."

INTRODUCING THE NEW CASE IH TASKCONTROLLER

**TC BAS (base)**
- Enables reading and writing and provides accumulated total values (e.g. area, total amount of product output, etc.).

**TC GEO**
- Uses a pre-specified map for partial area specific application rates (VRA) and records amounts output (coverage map).
- Up to five different products can be controlled by the Taskcontroller (different application amounts / maps), if they run on the same controller.

**TC SC (section)**
- Switches zones / partial widths on and off automatically based on a geographical position in order to prevent overlapping.
- Supports up to 48 zones / partial widths.

Clear advantages in the field - an example
A farmer uses his desktop software in the office to 1) create a new work process, or 2) generate an application map. The data are saved in IXO.XML format and copied to a USB drive. This drive can then be connected to the AFS Pro Monitor inside the tractor cab installed with activated ISO Taskcontroller software.

The driver hitches up the relevant ISOBUS implement to the tractor and gets ready to work in the field (drilling, applying insecticide or fertilizer, tramlines, baling – the only prerequisite is that it is with an ISOBUS-compatible machine). The driver can then transfer the map for this job from the USB drive to the AFS monitor. The USB drive remains connected to record the job data.

As soon as the work process and implement are ready, the driver can then activate the display and get to work.
The Widmer family lives in Rickenbach in Switzerland, not far from Winterthur, and have been running their own farm since 1932, with operations now including arable farming, livestock and a contract business. Traditionally, the company has been run by two brothers from each generation, each with his own area of responsibility - one for agricultural technology, the other for farming. Jakob Widmer and his brother Roland have stuck to this tradition and intend to hand over the business to their sons too. The oldest son, Jakob Andreas, is already involved since completing his agricultural studies and the other two will follow over the next few years. Jakob Widmer’s wife Ruth is also fully integrated into the management team. She is responsible for all office and organisational tasks.

Pilot farm for integrated production
Since 1991 Römerhof has been one of several pilot farms involved in a project covering the whole of Switzerland concerning Integrated Production (IP). Integrated production stands for a method of farming that combines elements of conventional and ecological farming. They apply methods that enable production of everyday food that are friendly to both the environment and animals. The pilot phase of the project was successfully completed in 1995 - since then around 95 % of Swiss farmers operate their farms effectively according to the IP Suisse model.

Beef cattle on straw
At Römerhof they have 380 beef cattle: Limousin, Charolais, Belgian Blue and German Holstein black and white as well as red and white. Under the meat label Agri Natura (Terra Swiss), known for natural and especially animal-friendly conditions, the cattle are kept in groups in a large, well-ventilated free running shed. Almost 70 % of the covered area is spread with straw; only the feeding area is on a solid floor. They are fed mainly silo maize, grain maize, lucerne and hay. The Widmers buy in the animals, which arrive aged 3 to 4 weeks and remain on the farm for around a year. With a live weight of around 530 kg they are then sent for slaughter.

No problems with western corn root worm
The Römerhof farm has around 70 ha of land. In addition to the forage required for the beef cattle, they grow 21 ha of wheat and 14 ha of sugar beet for market. Then there is around 8 ha of ecological compensation area, which is required to fulfil the requirements of the IP project. Another special feature stemming from this project is the upkeep of a four-crop rotation for planting maize to maintain a balanced nutrient household. As a result it is not possible to plant maize on top of maize. Widmer immediately points out a major advantage of this system: "The western corn root worm is unheard of here."

Big on sustainability
Family-run, traditional, environment and animal friendly – these are the things that make the Römerhof what it is. But that is not everything by a long way. That is because the Widmers believe in sustainability in terms of technical equipment as well. "All the tractors that have arrived on our farm over the years are still here. They have pointed our business in a direction that has enabled us to give our customers continuity and reliability. That is why, even when they get old, they have earned a place on the farm," explains Jakob Widmer. He runs through his workshop and the adjoining sheds - wherever you look there are gleaming vintage tractors. Even the farm’s very first tractor is still there - a black Fordson from 1937 - and an impressive selection of Farmalls from the sixties. "Even back then this tractor showed impressive flexibility," says Widmer.

Mechanisation in the sixties
Jakob Widmer tells how his father faced the challenges of mechanising maize growing in the sixties. Not much was known about the Central American plant at that time, so his father was entering new territory. He needed flexible machinery and decided on IHC since the company could provide everything necessary for planting and harvesting maize. The IHC 806, with a - at that time - spectacular 120 hp, was successfully put to work in the maize fields. Widmer shows a photo from 1969: "In this photo you can see the tractor is fitted with a maize picker. The tractor could..."
be converted into a maize picking machine within an hour using the maize header. IHC made everything possible.” These tractors impressed the family so much that the Widmers remained faithful customers of the International Harvester Company (IHC) as they still are today with its successor Case IH. In the meantime they have built up a fleet of 14 tractors. Starting in the sixties, they have five Farmall models including A, C and H tractors. The fleet then moves onto IH and Case IH tractors from the 70s, 80s and 90s. There are now much younger tractors on the farm too: a Case IH MX 100c, an MX U 135 and an MX 150, as well as a Case IH Puma CVX 160 that arrived two months ago. There are also two combines and a forage harvester from Case IH.

Symbol for contractor business
In addition to the typical bright red Case IH colours, there is another detail that catches the eye when you see the machinery fleet. On the engine hood of each vehicle there is a red eagle swooping in a downwards dive. Jakob Widmer says that this emblem is from the Swiss air force. It is the official emblem of 17 squadron in Payerne. Widmer, who is a recreational pilot, is good friends with the professionals at the squadron and has been given permission to use the emblem for his contractor business. “We are recognisable from further away with our mascot. At first glance people can see whose tractor it is. The eagle tells our customers what our business can supply them with: precision, reliability and uniqueness,” says Widmer proudly. Then he looks up into the sky. Perched up on top of the silo you can also clearly see the symbolic emblem.
When your entire 1,200 acre farm is into continuous winter wheat, and a single premium milling variety at that, being able to complete harvest quickly is paramount and the choice of combine critical.

“The key to growing continuous milling wheat is to have enough capacity to harvest the crop within a very short space of time. Last year when we bought a neighbouring 260-acre farm we upgraded to the latest Case IH 8120 Axial Flow® combine,” explains Henry Siggers, the fourth generation to farm at Leapingwells Farm, Kelvedon.

“What makes our situation different is that we have grown wheat here continuously for the last 43 years, although its role has changed significantly. Although the milling premium has varied from £5 to £35 per tonne since I started in 2004 it has provided a reliable source of additional income. Cordiale, the variety we have grown since then, is well suited to the farm, performs well under all conditions, from very wet to very dry, has good standing power, always meets a milling standard and produces a premium. None of the other varieties we have evaluated in on-farm trials has matched Cordiale, which has averaged 9 – 10 tonnes/ha over the last five years.

Better than a grain dryer

“We were so impressed that we ordered a new Case IH 8120 for the 2009 harvest and operated it for three years. We upgraded to the new 8120 model in 2012 when we bought additional land. The new combine allows us to harvest more when the weather is favourable and saves on drying. We spent considerable time looking at the economics of installing a new drier but decided the money would be better spent on the larger combine.

“The 8120 provides high output, which is really important,” Henry explains. “Once harvest starts we are out there at every available opportunity. We can easily cover 100 acres a day and having the larger combine means we can afford to wait until conditions are right with grain moisture at 17% or less.

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“The new machine benefits from new technologies that allow us to operate faster and more efficiently, including automatic guidance and yield mapping. The heavy-duty 30 Series header has a larger cross auger which does a better job of feeding the crop into the rotor, and the central skids keep the header level on uneven headlands or across tramlines. The grain tank is also significantly larger, the AFS screens are very easy to use and the cab is very comfortable.

“The fact that the Case IH Axial-Flow is the only combine you can unblock from inside...
Hawk Group, one of the largest construction equipment and agricultural equipment hire companies in the UK, has ordered a further 60 Case IH Maxxum and Puma models to add to its modern hire fleet. The order includes Maxxum, together with Puma 145, 160, 185, 215 and 230 CVX models.

Since the 1960s the Hawk Group has developed into one of the largest construction equipment and agricultural equipment hire companies in the UK, employing over 700 people with an annual turnover exceeding £100 million. Its hire fleet now consists of 275 tractors with an average age of less than 12 months.

Hawk Group purchased its first Puma in 2009 and following a successful trial placed an order for another 12 units. This was followed by a further 80 Pumas, including some with options such as front linkages and PTOs.

Commenting on Hawk Group’s latest investment, Andrew Annandale states:

"Hiring appeals to an increasing number of farmers as it enables them to make maximum use of their capital resources. We hire to farms throughout the UK, from Cornwall to Scotland. The tractors we offer are those which our customers have told us they want. Case IH are very reliable, customers like them and the brand has a very good dealer support network, which is crucial given that we have machines working throughout the country. "The Case IH Puma is very reliable and well-liked by operators. The models which we have on our fleet are all high specification units, most with full powershift 50kmh transmissions and some with front linkages and PTOs for specific applications..."
A special charity auction will take place for the first day of Cereals 2013, where former England Rugby Union Team Captain Phil Vickery will be the star attraction.

Farmer’s son Phil will present the successful bidder with the keys to a unique Silver Edition Magnum 340 when this special tractor goes under the hammer on the Case IH stand. Case IH is donating all income above half the £174,465 list price to The Prince’s Countryside Fund’s emergency relief fund, of which Phil is an ambassador and which supports farming and rural crisis charities.

Based on the 374hp Magnum 340, flagship of the Magnum range, this special tractor – the only UK example – has been produced by Case IH to mark 25 years of Magnum production at its factory in Racine, Wisconsin. Since the original Magnum was produced there in 1988 this highly-respected model has been at the forefront of high-horsepower tractor design and continues to set industry standards in terms of its technical innovation, power and performance.

Charles Blessley, UK Marketing Manager for Case IH, stated: “We are delighted that Phil Vickery has agreed to assist us to raise money for such a worthy cause and recognise a landmark in the history of a tractor which has made such a valuable contribution to UK agriculture. Auctioneer Bill King, Director of Cambridge-based firm Cheffins, will wield the gavel. He adds: “This un-registered, UK-specification Silver Magnum will appeal to a wide range of potential bidders, from farmers looking for a powerful working tractor to add to their fleet to collectors who will want to preserve its factory-original condition”.

Further details about the Silver Magnum and the auction are available at bit.ly/Magnum-auction
RESEARCH HIGHLIGHTS TRACKS’ BENEFITS IN REDUCING SOIL COMPACTION

Research looking at the effect of tracked and wheeled tractors on soil compaction could benefit farms throughout the UK, according to the farmer’s son from Hertfordshire who carried out the work. Edward Watson conducted the investigation last year as part of a BSc (Honours) Degree in Agriculture with Mechanisation at Harper Adams University College.

“The dreadful weather in 2012 has caused many farmers to re-evaluate the relative merits of tracked and wheeled high-horsepower tractors, but the lack of data involving current technologies has made it virtually impossible to make accurate assessments,” Edward states.

“Significant differences exist between the different types of tractor, as well as the different track systems.

“Soil compaction costs UK agriculture £400 -£500 million annually and rectifying the damage can increase the energy, time and costs involved in producing a crop by up to 300%. The significant soil compaction caused by large tractors can mean that up to 90% of the energy used in cultivations goes to repair damage inflicted by machinery in the first place. Other large equipment such as combines can add significantly to the level of soil damage.

“Last year on our own farm we were looking to change our existing twin-track tractor for a 500hp-plus wheeled tractor. I was keen to find out more about the implications in terms of ground pressure and soil compaction, but the only research I could find dated back to the 1970s/1980s and had been done with small steel-tracked ‘crawlers’ or wheeled tractors. These were so different that I decided to carry out scientifically-accurate research.”

Edward Watson assessed three different tractors with similar horsepower: a 507hp STS Steiger 500 articulated tractor with four equal-sized wheels was compared with a 491hp twin-track machine and a 535hp Case IH Quadtrac STX 535 with four independent track units.

Each was driven over sensors placed 50mm, 250mm and 450mm deep across an area of known uniform soil structure at a constant 5km/hr, first without an implement and then pulling a 7m Vaderstad Topdown minimal tillage cultivator, replicated three times.

While the twin-track and wheeled tractors caused similarly high mean pressures near the surface, the Quadtrac created substantially the lowest, making it least likely to cause detrimental compaction. It caused significantly lower peak pressures (3.88 bar) at 50mm deep, compared to the twin-track (5.12 bar) and large wheeled machine (4.87 bar). The mean pressure was also significantly lower under the Quadtrac (1.38 bar) than the twin-track (1.94 bar) and wheeled (1.98 bar) tractors.

Commenting on the research Paul Freeman, Product Specialist with Case IH, states:

“Tracked tractors have changed beyond all recognition in recent years. The Quadtrac’s four independent tracks have obvious benefits over wheeled tractors and avoid the significant drawbacks of twin-track machines which, amongst others, can suffer from power loss and inefficiencies, scuff the soil when turning and are less accurate to steer.

“The Quadtrac transmits its power with virtually no slip, compared with 10%-12% slip for a wheeled machine of the same power. That greatly reduces soil damage and compaction, makes the most efficient use of fuel and provides higher outputs under a wide range of operating conditions.

“The ‘tracks v tyres’ debate is also increasingly relevant to combines, which are becoming larger, heavier and more powerful. In addition to the improving traction and reducing compaction, tracks provide significantly greater stability, reduce the swaying motion caused by wide headers, result in a more even cut height and enable smoother operation. The number of Case IH Axial Flow combines being ordered with tracks has been increasing each season and we see this trend continuing.”

Edward Watson and Paul Freeman, Case IH
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