

Valtra *Team*

Valtra Customer Magazine • 2/2002

VALTRA

New Valtra tractors for
the forest use



Valtra A series:
multipurpose power
and agility



New T series

– a tractor for all times



Free poster!



Valtra T Series

Versatility, Effectivity and Economy, Page 10

Isle of Man Dairy Farming	4	Valtra S – real ace	21
A good footstep for Valtra in China	6	More Power with lower emissions	22
Valtra’s A Series	7	Triple victory in Euro Cup	24
Much more for your money with TwinTrac.....	8	Valtra also runs Garden Pulling.....	24
New Large Tractors from Valtra	10	Controlled Creeping	25
Each cab cready an individualised product in the factory	14	Agriculture in the UK	26
New economical and efficient Fortius engines	15	Kent contractor diversifies to meet future requirements	28
Sweden’s first S260 goes to a large pig farm	16	Valmet 361D – “New attractive look”	30
Valtra goes down to the woods.....	18	Recipe: Roast lamb Thai style	31
Up to 15 tractors in action during peak times.....	20		



Valtra S260 to a big pig farm
Page 16



More power with lower emissions
Page 22



Agriculture in the UK
Page 26

Editorial

Welcome to the first issue of the English language Valtra Team. It is ten years since Valtra commenced operation in the UK under the Valmet UK banner. In that time UK and Irish sales have expanded from just a handful to a significant and, importantly, increasing market share. Our growth in the UK and Ireland mirrors Valtra's product development and sales internationally. While ten years ago the product range was somewhat limited, during the intervening years it has been expanded: Operating systems have developed, new features have been included and new models introduced. Today, as can be seen in the following pages, Valtra are world class manufacturers and our tractor range, extending from 60 to 260hp, is amongst the best in the world. Indeed we believe it is the best.

The most recent example of Valtra's ability to innovate comes with the introduction of the T Series: Seven six cylinder tractors between 110 and 200hp. The new look is obvious. What is not so obvious are the extended service intervals – now 500 hours, reduced fuel consumption, increased hydraulic capacity, labour saving controls – both for driving the tractor and controlling implements and the lower noise levels (inside and outside) and greater driver comfort. All designed to reduce driver fatigue while increasing productivity and profitability. Everything the larger arable farmer, dairy farmer and contractor could require. There is much more on T Series elsewhere in the pages of this magazine so I won't go into detail here.

There have been changes here in the UK too. From that initial handful of sales from a small number of dealers Valtra UK and Valtra Ireland have developed a comprehensive network of well trained, well equipped dealers. Our market share continues to increase as sales grow in a surprisingly buoyant market. How long our markets will remain buoyant is a matter for conjecture but one thing is for certain: We will continue with our planned growth. It is our belief that, apart from having a reliable product range to meet customer requirements, customer support will be the next most important factor. To meet this demand we have reorganised our field staff into four regions: Ireland, Scotland and the North of England and East and West England. A pair of product support and after sales personnel will support each regional manager. These regional groups will, in turn, have the support of specialists at our Runcorn head office and from Finland.

You, our customers, told us what you wanted in the next generation of Valtra tractors and we delivered with the T Series. You indicated your ideas for product support and we believe we have met your requests. It is our intention to continue to meet your needs – that is the only way any manufacturer can survive so keep talking to us. We will listen - and do our best to meet your requirements.

Mark Broom

Managing Director
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Valtra Team

Valtra Customer Magazine

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Isle of Man Dairy Farming

- Free of EU regulations but not problem free

If you're not from the British Isles you can be forgiven for not knowing where the Isle of Man is.

This historic island sits a little to the north of centre of the Irish Sea more-or-less half way between the Cumbrian coast and the Ards Peninsula in Northern Ireland. Around 30 miles (50km) long by 12 miles (19km) wide the land rises from sea level to 2 000ft (620m) and ranges from flat arable fields through hilly grasslands to inhospitable rough grazing on upper mountain slopes. Although the Gulf Stream influences Isle of Man weather, as any Manxman will tell you (or indeed any

island dweller) a calm, windless day is rare. Rare too are frosts and snow but on the other hand summer temperatures never rise to the heights experienced on the mainland. It is possible to experience all four seasons in a single day – winter or summer. Farming is physically harder than on the mainland and has to be undertaken much more in sympathy with the weather.

It was against this background that, in early 1997 just three years after becoming Farmers Weekly Dairy Farmer of the year, Andrew Sanders moved his family, home and Sandisfarne herd of Holsteins from North Herefordshire to Ballalough, roughly in the

Andrew Sanders with part of his award winning Sandisfarne herd of Holsteins

middle of the island. The reason for the move was simple enough: UK milk quotas were preventing Andrew from developing the full potential of his cows. While the Isle of Man is a part of the British Isles it maintains an almost independent status as a British Dependency. The Queen is head of state but the island is governed by its own parliament, the Tynwald, which having been in existence for at least one thousand years is the oldest continuous Parliament in the world. The Isle of Man is not a member of the EU – no milk quotas - and no subsidies either, other than a small amount from the Manx Government. There are one or two minor benefits; tags and passports are supplied free of charge, as is the removal of fallen stock.

Today Ballalough, at an altitude of 450ft, extends to 600 acres of stony clay loam over shale mostly down to grass with about 100 acres of cereals for cattle feed. This supports 280 milkers and 220 followers. Andrew is free to develop his herd genetics and resulting milk production without the worry of over production and the cost of quota leasing or purchase. The herd average is currently 12 200 litres/lactation.

So everything in the garden is rosy?

As Andrew will be quick to relate the short answer is no! Just like the mainland, milk prices from the only creamery on the island have dropped to a low of 13½p/litre while the average for the year has been about 15p. This against a production cost of around 20p/litre. Part of the problem is that only about 20% of milk produced by around 70 dairy farmers is consumed on the island. In the past most of the surplus has been processed into commodity cheese fetching only about £1,600 tonne. Fortunately new management at the creamery is developing the production and marketing of Manx branded mature cheese which is sold to leading supermarkets at around £4,200 tonne and there are plans to extend the production and marketing of Manx branded milk products. Will this help bring about future prosperity? The answer is that it will probably help, the other side of

the equation is constantly improving management. By the end of this year an island-wide farm assurance scheme has to be in place. Andrew believes that the expense of becoming accredited will force a few producers to join the steady stream of farmers leaving dairying, and the problem of over production should be eased a little more.

One of the problems leading to high production costs, around 2p/litre higher than the mainland is the booming Island economy; there is no unemployment. Thanks to tax regulations, growth in finance based businesses paying high salaries has boomed. This has had a knock on effect through housing, sport and leisure and retailing. Andrew finds it hard to find and retain good quality staff at sustainable wages: He and his wife Sue take their turn at the three times daily milking through the 16/32 herringbone. Another problem is transport. Fuel, fertilisers and concentrates all have to be shipped in from the mainland, adding to the cost and management problems. During the tourist season, particularly the motorcycle Tourist Trophy fortnight some unusual management problems can arise; tourists and their requirements take priority on the boats while cattle feed is well down the list and can be late arriving. This problem can be exacerbated by bad weather causing ferry cancellations. The same can apply when moving breeding heifers off the island as livestock may not be transported if the wind is above force four.

Basis of milk production at Ballalough is quality grass; the cows are grazed from March to November and high dry matter round bale silage forms the basis of winter rations with four thousand bales are produced between April and October. Depending on grazing regimes for cows and followers and distance from the farm up to four cuts are possible. The bales are fed through a complete diet feeder mixed with home produced cereals and bought in concentrates.

Mathew Sanders works with his father but would feel a lot happier if he felt his future was more secure.

Andrew believes in the use of contractors rather than investing in machinery but his ideals are frustrated by a combination of factors. Lack of larger scale contractors with suitable machinery, (themselves at the mercy of a non-existent labour market) and island weather being the major stumbling blocks. As a result he has had to invest in rather more machinery than he would have liked.

Power house of the farm is three four cylinder Valtras; 6400 (100hp), 6550 HiTech (100hp) and an 6850 HiTech (120hp) chosen for their build quality, size and power to weight ratios, manoeuvrability and low maintenance costs. Such maintenance as is required is carried out by JDW Engineering who, as far as Andrew is concerned, do an excellent job. A round baler with chopping mechanism, mower, bale wrapper and

...continue on page 25



A good footstep for Valtra in China



In such a large country as China a strong and professional after-sales network is very important. In January 2002 a group of Valtra's own service men in China were trained in Finland.

The order was preceded by a yearlong examination by the Chinese agriculture ministry, which studied carefully all the tractors that were being offered. The positive outcome of this examination opened the doors for Valtra to begin exporting to China.

Valtra has established a strong and professional after-sales network in China, which played a major role in securing the deal for Valtra. The order also includes a new training package for the end-users of the tractors, who will be instructed in the use of the latest tractor technology on farms in northwest China.

Individualised solutions for enormous fields

China is a very important and rapidly growing market for Valtra. The Chinese market emphasises the importance of customer service and individualised solutions. During the autumn, the number of service cars in northwest China will be increased in order to strengthen further the competitive position of Valtra tractors in the region. Valtra's main market regions in China are in the northwest, northeast and southern parts of the country. In addition to Beijing, Valtra is located in Urumqi and Luoyang.

The area of cultivated fields in China is about sixty times that of Finland, where Valtra tractors are made. The agriculture sector and related work employ approximately 800 million people in China. Valtra's dedicated and customer-oriented efforts in China have paid off. The 100 000-hectare Friendship Farm, one of the largest farms in the world, has itself already taken delivery of its own Valtra 8950 tractor.

Valtra has been active in the Chinese market for two years. Last spring Valtra got a new major order, an addition to a previous one for around 150 tractors, valued at USD 9.6 million.

The new order of 140 units are Valtra's 160/200-horsepower 8950 HiTech models. All the tractors were delivered to northwest China in Xinjiang, just in time for the autumn harvest season.



The Chinese agriculture ministry studied carefully all the tractors that were offered. In autumn 2001 a delegation of the Bureau of State Farms and Land Reclamation visited Valtra tractor factory in Finland.



Valtra A Series

Valtra A65	46 kW/63 hk
Valtra A75	54,5 kW/74 hk
Valtra A85	64,5 kW/88 hk
Valtra A95	72 kW/98 hk

In the design of Valtra's A series, versatility has received a strong emphasis. Slim, and equipped with suitable tyres, the A-Valtra fits into surprisingly narrow and low places. The advantages of the machine's narrowness come to the fore on uneven terrain, and particularly in forestry tasks, while its lack of height has been commended in municipal engineering tasks in which underpasses and other low spaces did not slow it down. The mirrors on the sides of the cabin are easy to turn inwards, thus facilitating backing into narrow places.

Naturally, the driver's seat turns 180 degrees, enabling, for example, ergonomic use of the grab loader. Two heaters in the cab guarantee a workspace which is at once fresh and heated to the ideal temperature.

The new Valtra A behaves as if it were specifically made for frontloader tasks. Its ideal weight distribution and agility enable the efficient use of a number of frontloader-fitted devices and, with its modern, elegant design, the Valtra A constitutes a powerful, visually pleasing product.

■ **Visa Vilkuna**



The answer for those looking for multi-purpose power and agility:

Valtra's A Series

Valtra has developed the new A series of small machines, largely on the basis of feedback from, and the wishes of, the customer. The new A series has a number of properties that enable ever easier and more productive work.

The core of the power transmission is the synchronised 12+12 reverse gearing. As requested by users, and in keeping with the Valtra style, the position of the reverse point lever, either on the right or the left side of the driver, can be chosen according to his/her personal preferences and the tasks in question. The importance of individual choice is emphasised again when the tractor is being equipped with various special tools for truly versatile, multi-purpose tasks.

The gearbox certainly contains the desired range of speeds for all tasks. For slow, precision, special tasks, there is a very low speed of under 0.9 km/h. A speed of close to 38 km/h is sufficient for guaranteeing smooth operation and moving quickly from one object to another. Valtra's efficient hydraulic brakes guarantee flawless braking, even with big loads.

Our three and four cylinder tractors are at their best in farming and forestry tasks that require agility, compact size and excellent

pulling power. Valtra's A series also offers an exceptional combination of power and agility for contracting, property maintenance and municipal engineering tasks.

The smallest machine in the model series is the three-cylinder A65. Correspondingly, the biggest is the four-cylinder A95. Following the ISO 14396 standard, motor power ranges from 63 to 98 hp, and there is plenty of torque, proportionate to the size of engine.

The versatility and range of possible options of the A series, for various tasks, is exceptionally broad. In machine management, instead of a mechanically controlled lifting device, you can select the precise electro-hydraulic Autocontrol lifting device, turning the Valtra into an awesome performer when using, for example, a plough. With an electronic lifting device, machine efficiency and productivity improve. Proof of the superior qualities of the AC lifting device can be found in our numerous victories in ploughing competitions around the world.

The Valtra A series now features a 12F/12R synchromesh transmission with synchromesh shuttle. To meet personal preferences or operational requirements, the shuttle lever may be located on either the right or the left side of the driver.

Much more for your money with

TwinTrac

Valtra introduced TwinTrac; the factory fitted reverse drive system some years ago. Now, since the introduction of Valtra tractors into the UK farmers and contractors are embracing this simple system that extends tractor use while reducing operator fatigue. Here we offer a sample of some usual and not so usual TwinTrac operations.

Scandinavia, an established market for Valtra where hedge and verge trimmers are often mounted on the lift linkage of reverse drive tractors for which Spearhead introduced their Twiga range. Spearhead are now experiencing interest in trimmers for reverse drive tractors from UK operators.



A second leading manufacturer of hedge and verge trimmers, McConnel, has also introduced a trimmer to operate specifically with reverse drive tractors the initial engineering development for which was undertaken on a Valtra HiTech 6550. Once work is finished the driver simply parks the trimmer in transport position, swivels the seat and sets off home.



Moving up the scale, brush cutters are capable of destroying a small tree. It is not sensible to drive a tractor radiator first into this type of environment. Nor is it sensible to work using the conventional steering wheel while twisted round monitoring a rear mounted implement. The answer? TwinTrac reverse drive.



Larger trees require heavier, more powerful solutions. A Sigma Power tractor fits the bill perfectly turning trees and scrub into a fine mulch through which plant regeneration takes place.



For vegetable growers a TwinTrac Valtra fitted with an inter-row hoe allows the driver to be right on top of the job. Replacing a lift linkage stabiliser with a hydraulic ram connected to a spool valve gives more than adequate control.



On the grassland farm large mowers result in exceptional productivity with all the machinery within the forward vision of the driver.



TwinTrac machines may also be used to power fully mounted forage harvesters.



Toady more than ever it is important to make maximum use of machinery, particularly high value capital equipment such as a tractor. TwinTrac is just one way in which farmers and contractors can maximise investment in a tractor.

■ Roger Thomas

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**European Championship
in Tractor Pulling 2002**

Matti Herlevi



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PARTEK

Valtra is a Partek Brand

Versatility, Efficiency, Economy

New large tractors from **Valtra**

The T series, entering serial production in the autumn of 2002, is a splendid combination of cutting-edge technology, valuable customer benefits and safe Valtra versatility. The newly introduced series features extremely versatile six-cylinder machines of between 120 and 209 horsepower.

When the T series was being designed, special attention was given to the seamless combination of modern work implements with the tractor. Handling the new T series tractors is easy, further increasing work efficiency. The Valtra power control includes solutions and features not found in other tractors, the T series also introducing innovations to the already highly esteemed Valtra engines. Intake air intercooling, Viscofan and low revs at nominal power significantly reduce fuel consumption. Valtra is also once more the trendsetter in design; even a large tractor can look graceful.

Maximum Benefits from the Hydraulics

In Valtra's new T series, controlling the Auto-control linkage, which has a lifting power of 7.7 tons, is even easier than before, because the main controls are found on the armrest. The armrest of a Valtra is now a veritable control centre for work implements, because

Valtra's powershift works smoothly in all conditions and shifts automatically during most work according to pre-programmed settings. The greatest benefit from powershift automatics can be gained during work that requires a great deal of shifting.

you can operate both the linkage and most of the work hydraulics easily, without having to move your arm. The linkage naturally features Drive Balance Control, which uses the mass of the work implement to stabilise driving. Switches for raising and lowering the linkage can be found both inside the cabin and on both mudguards. The linkage and valves of the work hydraulics form a single package in the T series, all electronically controlled. There is no mechanical connection between the hydraulics and the cabin, which increases comfort and lowers the noise level. The twin pump's high-pressure 90-litre output provides speed and low response times to the operation of the hydraulics.

The valves of the T series work hydraulics are load-sensing type. This means that the valve will only take the required amount of oil from the system – the rest is available for the other valves or the linkage. Simultaneous

actions required by modern work implements are easily carried out. All valves also feature the so-called floating position, which allows, for example, work implements following the ground level to function as desired.

Valtra hydraulics are, naturally, controlled by electronic control switches. In addition to electronic control being easy and silent, the hydraulic blocks feature extremely versatile programmability. Each of the standard four hydraulics blocks can be programmed for the output (l/min) and flow time required by a given task. This individual programmability brings unparalleled additional power and productivity into contract and cultivation work. Control of the front loader can also be switched to the joystick on the armrest, resulting in an ergonomically correct working position.

Work implements using the auxiliary hydraulics valves can, alternatively, also be





Stylish design of the new T series is combined with modern tractor technology, excellent practicality and versatility.

controlled from the side panel, using push buttons to control the flow of oil from the desired quick connector.

Multiple options for Power Control

In the T series, changing the driving direction is smooth and fast – you only have to move a lever without having to press the clutch pedal.

The same lever operates the parking brake, which means that you'll never forget to disengage the brake. Thanks to the unique traction release system of Valtra, you can stop the tractor by pressing the brake pedal or letting the revs drop below 1 000 RPM. You can start off again by pressing the accelerator or removing your foot from the brake pedal. Additionally, the T series Valtra engages the four-wheel drive when you start off or change the driving direction, eliminating wheel slippage that can break the field surface.

The Powershift works smoothly and briskly in all conditions, automatically shifting to a higher or lower gear as necessary. You can let the system shift according to the pre-programmed factory settings, or you can easily program your own settings, based on your experience and needs. It is up to the operator to decide which alternative gives the better result, or whether to select manual Powershift control.

When using the Power Shuttle to change driving direction, you can choose the most suitable of the three Powershift quick gears for the forward and reverse directions. The benefits of programmability are emphatically demonstrated, for example, in faster front



The 100 % electronic control of the hydraulic of the work hydraulics is a unique feature and provides a good basis for all work.



The new electronically controlled hydraulics allow the power of the advanced implement technology to be fully harnessed.

loader work. Regardless of the programming, the operator can always shift gears using the normal push buttons, because in all cases the operator is in control of his or her Valtra.

Own excellent engines

Valtra's diesel engines are based on own construction and manufacturing. The engine, specifically designed for tractor use, is also very popular as the power source of other tractor models.

Engine RPMs have been the subject of careful study at Valtra, and the engines have been customised to serve their users. The large models feature nominal revs of 2 100 RPM, which makes the tractor quieter and improves its fuel economy. The EcoPower model, the T140, has a maximum rev level of a mere 1,800 RPM. Work is also smooth at lower rev levels, because the engine provides titanic reserves of torque.

The fuel system and filtration have been redesigned too. Total costs are also reduced by the lower rev levels, as it has been possible to lengthen the maintenance interval

Valtra's engine offer

- Better performance at lower cost
- Lower fuel consumption
- Oil change interval 500 hours
- Reduced engine smoke and lower level of exhaust emissions
- Lower thermal stress – longer life time on lower revs
- Even start at low revs
- Less gear changes





The large cab provides ample space, and allows working in different directions. All controls are ergonomically positioned.

Valtra's TwinTrac equipment allows you to change driving direction without leaving the seat. TwinTrac increases tractor's versatility, working capability and performance.

to 500 hours. We have also considered the wintertime operation of the T Series, and renovated the charger, starter motor and the air intake preheating.

Comfortable cabin

The operator's comfort, ergonomics, and the resulting productivity are at the familiar, high Valtra level. Visibility from the cabin is excellent in every direction, and Valtra's TwinTrac two-way driving equipment allows for the operation of the tractor in virtually all conditions. The Valtra T Series cabin shows a clear influence from the S series in its design, as well as other details.

Both doors have been retained in the T series to ease climbing into the tractor. Thanks to the pillar exhaust and the backwards narrowing bonnet, forward visibility is excellent. The cabin is spacious and natural working positions easy to find. With an even floor, the operator may turn the seat to the side and all the way backwards without having to leave it.

The cabin's two heaters and the AC, if necessary, keep working conditions pleasant. Electronically controlled hydraulics allow the cabin to be insulated from the rest of the tractor, making it even quieter. New technology allows the main controls of the hydraulics to be located in the armrest, which naturally follows the seat. The ergonomics of the Valtra T Series remains excellent during all kinds of work.

In terms of layout, the side panel controls are as clear as Valtra's new instrument panel, the necessary gauges and displays being easily found. In the top-of-the-line model, the T180, the instrument panel is connected to the control electronics of the engine and the power transmission via a CAN-bus, making it easy to provide the required speeds and other information on various tractor components on the instrument panel's graphical display. Surface areas and travelled distances can be measured, and the size of the readouts on the display may be adjusted.

■ Visa Vilkkuna



Valtra T Series

Valtra T120	80 kW/120 hp
Valtra T130	98 kW/133 hp
Valtra T140	104 kW/141 hp*
Valtra T160	116 kW/158 hp
Valtra T170	125 kW/170 hp
Valtra180	128 kW/174 hp
	139 kW/189 hp**
Valtra T190	128 kW/174 hp
	139 kW/189 hp**
	154 kW/209 hp***

- * **EcoPower**
- ** **Powershift 2 and 3**
- *** **Sigma Power**



Ville Mäkinen, Inspector, sees to it that the cab for the S model operates flawlessly. All mechanical functions are tested by hand, and electrical equipment is checked with a tester connected to a computer.

A family business grown into a group

Maaseudun Kone supplied Valmet with the first cab as early as 1964. Founded in 1950, the company at first manufactured a variety of farming machines and, since 1963, safety cabs for open tractors. In the beginning, the company manufactured cabs for several tractor brands but later specialised in providing them for Valtra and, today, Valtra is the company's sole client.

– The cab factory was hived off as its own company in 1979. Today, in addition to its subsidiaries, the Group comprises the farming machine manufacturer Junkkari Oy, the trailer factory Juncar Oy and the plastic parts factory Junkkari Muovi Oy. The total number of employees is approximately 450, and turnover is EUR 70 million, says Suomalainen.

Seamless co-operation

The tractor factory in Suolahti and the cab factory in Ylihärmä work in seamless co-operation. Even the smallest details, from R&D to transport, are compatible. Both companies use the same, inter-connected design systems in their R&D and, in this way, R&D documents are available for all design-



– The manufacturing of the cab is started (approximately) two days before the tractor is assembled in Suolahti. In other words, the cabs do not wait in the warehouse for long, says Tero Suomalainen, Production Manager.

Each cab already an individualised product in the factory

Valtra's customer order system also works at the Maaseudun Kone cab factory. In the windshield of each cab there is a cab card which reveals the name of the client and the accessories and equipment ordered. Cabs are manufactured on the basis of orders some two days before the tractor is assembled.

The cabs of Valtra tractors manufactured at the Suolahti factory are made at the Maaseudun Kone factory in Ylihärmä. The name of the future owner, similarly to the tractor and motor factories, is indicated on each cab that moves along the line. In addition to the name, the card also describes the equipment and colour selected by the client, and the exact date and time when the cab must be at the assembly line at the Suolahti factory.

– Our target is to have a lead of approximately two days on the tractor factory. Finished cabs will not therefore stand waiting in the warehouse more than a few days, at most. The cabs leaving the factory are often taken directly into production, says Tero

Suomalainen, Production Manager at the cab factory.

The factory produces as many cabs as there are tractors, that is, approximately 50 a day. The assembly line operates only on a day shift, but the production of sheet parts and the paint shop work in two shifts, and welding even in three. There are approximately 200 employees.

For a long time, cabs were manufactured on two assembly lines: one produced cabs for the 100 series, and the other for HiTech, Mega and Mezzo tractors. While a third line is to be opened along with the T model, cabs for the S series will continue to be assembled by hand.

ers in electronic format. Finished cabs are loaded directly from the production line into a waiting truck and from the truck to the line in Suolahti, without having to be packed or removed from the pallets. Between five and six truckloads of cabs are driven to Suolahti every day.

– Some people may think it is strange that we do not directly market our cabs, but that demand completely depends on the sales of Valtra tractors. My view of the co-operative arrangement is that our marketing investments essentially rest upon aiming at as good and efficient work in the manufacture of Valtra cabs as possible. When Valtra tractors are mentioned in the media, we feel that it closely touches us, says Suomalainen.

Even good telecommunications connections do not replace personal relationships. Traffic runs almost daily along the nearly 300 kilometres distance between Maaseudun Kone and Valtra, to various negotiations and meetings. The Valtra people know the cabs well, and the finished products are regularly displayed to the employees of Maaseudun Kone.

■ Tommi Pitenius



Robot welder Arto Niemelä checks that the co-ordinates of the welding robot have not changed during the holidays.

New economical and efficient Fortius engines

Sisu Diesel Inc., the subsidiary company of Valtra, launched new 3-, 4- and 6-cylinder Fortius engines during its 60th anniversary of the factory. The new engines (up to 340 hp) have increased power and torque levels, lower noise levels and pollution, are more economical and have better durability. Valtra T180 and T190 tractors have Fortius engines.



Heart of the new engine is EEM2, electronic engine management system, which controls accurate injection pressure and timing depending on temperature, loading and speed of the engine. The system also tells the customer about faults and servicing requirements. EEM2 is programmable and tractor can be specialized for different kind of use.

New engine is more comfortable also for the driver. Power and torque are 10 to 20 per cent higher than in earlier models, especially in start-up. Engine has a quick response and quick revving, because connecting rods are 17 per cent lighter with fracture-split big ends.

Fuel consumption is about 10 per cent lower in practice, and noise level 4 to 5 dB lower. Because the overall performance is better, the same job can be done with less revs which means increasing economy and longer engine life. Service intervals are longer, too.

The Fortius series also has a new stylish design. Valve covers are made of die cast aluminium and plastic shield protects injectors from dirt.

The electric heater of air intake is controlled automatically by the EEM2. Engines start and run better in cold conditions and the loading of the battery during start-up is reduced by up to 50 per cent. The new main fuel filter which has much better capacity is easy and clean to change without tools.

New filter and fuel injection requires high quality fuel.

Fortius engines meet the second stage emission requirements of the both EU and US.

Linnavuori engine factory, located in the town of Nokia, in Finland, celebrated its 60th anniversary in September. The factory was built for aircraft manufacturing in 1942, during the Second World War. First diesel engines were manufactured in 1947. At early years Linnavuori factory produced engines for tractors and locomotives. Producing of marine diesels started in 1950's. Since that, factory have built engines for snowmobiles, fire pumps, trucks, combine harvesters, forest machines, container carriers and armoured personnel carriers.

This year Linnavuori factory will built some 25 000 engines. Net turnover was 113 million euros and number of personnel 590 in 2001.

■ Tommi Pitenius

Sweden's first S260 goes to a large pig farm

Dag and Monika Skure, who farm at Mycklinge near Västerås, were the first lucky owners of Valtra's large S260 tractor. Mycklinge is one of Sweden's largest pig farms and operates what is generally referred to as a "Sow Ring". In other words, Mycklinge is the "Hub" and the farms which borrow or, to put it more correctly, rent the highly pregnant sows are the "Satellites".

Dag and Monika have devoted most of their lives to pigs. They have built up an enormous pig operation at Mycklinge over a period of 20 years. Of the total of around 3 000 pigs housed in the fine pens, 2 300 are sows in the Sow Ring.

Hybrid three-way crosses

It is easy to be impressed by the fine and relatively new pens. The animals move around freely in groups and appear to be thriving and thoroughly contented. Today's modern pig herds invariably consist of cross-bred animals, and fattening pig herds are more often than not three-way crosses between the Swedish Landrace, Yorkshire and Hampshire breeds.

– We also have our own satellite of 20 sows and a breeding herd, a hybrid herd of 250 sows, from which we produce a thousand or so hybrid gilts (young female pigs ready to be mated) for recruitment to the hub, but also for sale.

– We have sixteen farms that take our sows, and several more are keen to join, says Dag.

Probably the easiest way of explaining the concept of sow rings is to say that the hub, in this case Mycklinge, owns the sows and looks after them itself, including mating, until three weeks before they are due to farrow. They are then sent to one or other of the contracted satellite farms, which lease or rent the sow, let her farrow and look after her piglets for the first five weeks, before being brought back to the hub to be mated again and eventually sent to a new satellite.

Mycklinge farm has 230 ha of arable land of its own. 10 persons in total, including family members, work at Mycklinge.

The new arrival, a Valtra S260, impresses with its size, alongside Mycklinge's other Valtra tractors.





Dag Skure and his eldest daughter, Tina Sjödin, inspect their sows.

Co-operation and exchange of experience are two important words for Dag. There is an exchange of experiences with other sow rings, and the farm co-operates quite closely with its neighbours. They share their seed drill with one neighbour, for example, and they combine for others. One slightly special feature of Mycklinge is that the entire farm is run using minimal cultivation techniques.

– I have practised minimal cultivation for around twenty five years, and I believe that it works very well in conjunction with our use of natural manure as a fertilizer, says Dag.

New tractor for autumn cultivation

An S260, the first in Sweden, was delivered to Mycklinge in the middle of the summer, and we can tell you that this was a major event. Dag had actually counted on being able to use it for his spring cultivation, but in view of the low initial rate of production and the strong competition between many countries to secure the first examples, Mycklinge's large new tractor had to make its debut in autumn cultivation. The tractor can expect essentially to pull the large liquid manure spreader and the large cultivator.



Monika Skure (r) and her daughter Tina Sjödin, who are responsible for the hub, each with her own expectant sow?

– Developments are progressing at such a pace at present that we have no idea today what this tractor will be used for in another two years, interjects Dag, when we discuss the level of equipment of the tractor.

He mentions the front hydraulics, a feature which has become very popular in recent years, and one to which the implement manufacturers have still not managed to adapt entirely.

In other respects, this tractor has everything that you could wish for, not least in terms of comfort. It has a suspended cab, for instance, a sprung front axle and air conditioning in the spacious cab, which also has only a single door and no opening windows. The air conditioning system means that the desired cab temperature is maintained, once it has been set, regardless of whether it is very hot or very cold outside.

– The working environment is very important for those of us who have employees, says Dag, because if you are going to spend a long working day sitting in the tractor and also perform challenging work, then you must be able to demand good working conditions.

Apart from the new arrival, which replaced a Valtra 8550, there are two other Valtra models on the farm, a 6850 and an 8950.

– We strive constantly to optimize our situation, and as we know nothing about what form agricultural policy will take in the future, we are equipping ourselves for the future. Co-operating with our neighbours is one approach, and more efficient machines are another, says Dag Skure, before lending a hand to load sows on the livestock transport lorry that distributes the highly pregnant sows from the hub to one of the waiting satellites.

■ Eric Andersson



Valtra goes down to the woods

Valtra's customers have always used their machines in forests as well as on fields. This is made possible by the Valtra's basic structure, which is especially suitable for forest use: high ground clearance and a machine weight almost evenly distributed on the front and back axles, guaranteeing the grip of the tyres in the forest and on wet surfaces.

The importance of forest use for clients varies according to the country in question. It may be the principal working environment of the contract machine or it may also be the secondary occupation of a farm specialising in farming or stock raising. Whatever the situation, Valtra offers fascinating solutions for those inclined to forest work.

As the first tractor manufacturer in the world to do so, Valtra offers a comprehensive product selection, from the 8-ton forest trailers in the host line to professional driving and felling machines for forests to be thinned.

Professional F Line

Valtra's driving and felling machines are based on the frame-steered Valtra X120 with an entirely new Forest 2002 cabin. The machine has been designed and tested together with forest contractors. From the very beginning, cabin ergonomics, visibility and overall driver comfort have been the dominant design factors. The result is a comprehensive system for thinning forests in which the designer's artistic view is combined with the engineers' technical know-how.

The power transmission in the basic machine is Valtra HiTech, proven apparatus





Cabin ergonomics, visibility and overall driver comfort, coupled with high machine productivity, were the determinant design factors in the new F line's cab.

in which no slide or transmission line losses occur. This is reflected in lower fuel costs, which reach savings of up to four litres per working hour, compared to competitors' products.

Due to HiTech, the start is soft, and the movements of the machine are controlled with handles and a pedal, similarly to those of large machines. The cleverest aspect of the combination lies in the fact that both the driving machine and harvester are classified as tractors, which enables a transportation speed of 40 km/h on the road. There is no need for a separate pallet, and it saves on insurance costs. Valtra's new harvester and driving machine combination is a professional tool whose overall cost-effectiveness is directly visible in the bottom-line.

Agri-Forest Line

The principal idea in the design of Valtra's Agri-Forest line was to enable the raising degree of utilisation of the tractor by making



The principal idea in the design of Valtra's Agri-Forest line was versatility. After quick removing of implements in the front or rear the tractor is ready for work on the field or in the forest.

the properties of the machine more versatile. Since modern farming tractors are ever more often equipped with a front loader, Valtra developed a practical frame fit for the rear, through which equipment to be connected there could be quickly fastened and removed.

At the end of a forest drive, the basic tractor for fieldwork is "peeled" out of the Agri-Forest by removing the front loader and the frame fit from the rear. When work on the field is finished, the forest features can be quickly restored. The more versatile the tasks on the farm, the greater the benefits of the Agri-Forest for the Valtra owner. It is possible to build frame fits for each Valtra machine, from the M100 series onwards. In the X series, the hydraulic power can also easily be increased with front mounted pump solutions.

Skidders

In Central Europe, the cut-to-length method does not suit all forests, trees sometimes



Valtra tractor with winch equipment is an ideal solution in conditions where the cut-to-length method does not suit to the forest.

growing in places inaccessible for a harvester. The forest worker fells the trees and the trunks are skidded in one piece by the roadside, using a machine – a tractor gives the best results. In this case, the tractor must have winch equipment either at the front or back. The basis of the skidder is more and more often a Valtra, whose ideal weight distribution, good ground clearance, and easy and more cost-effective equipment alternatives for conversion into a skidder than in competitors' examples, have increased in popularity.

Forest Trailers and Cranes

Never before have Valtra's clients been presented with such a comprehensive line of forest trailers to choose from: you can choose from forest trailers of 8, 10, 12 or 14 tons. The 8, 10 and 12 ton trailers provide the host line with excellent equipment for wood driving. Four-wheel drive is available for the 10-ton and 12-ton trailers. The 14-ton trailer is designed to contract and has a unique triangular fastening for Valtra's back axle, while the roller haul from the bogies provides excellent working properties on different types of terrain. Four-wheel drive, as a feature of the trailer, is completely removable while driving on roads, which improves the possibilities for extended short-haul transportation and provides the maximum benefit from the road travel properties of the towing machine.

Valtra's forest trailers are equipped with Valtra's own loaders. The world-famous brands of Cranab and Loglift are now also available via Valtra's sales network, attached to the forest trailer at the factory. The package is ready for work as soon as it enters the farm, no time being wasted on waiting or finding a place in which to install parts, since servicing and spare parts are provided from the same place as tractor servicing.

Valtra's comprehensive forest range is a carefully built and designed package whose products, selected by the customer, help him concentrate on the essentials, that is, profitable work.

■ Markku Vornanen



A hearty welcome greets Agrar GmbH Oldisleben's 11th Valtra tractor – and the hand-carved wooden tractor model that was included in the delivery from Finland.

Up to 15 tractors in action during peak times

Agrar GmbH Oldisleben is a 9513-acre farm consisting of three operational units situated in North Thuringia, Germany. Itself a former representative for Eicher tractors, this agricultural enterprise is highly discriminating in its choice of machinery, paying particularly close attention to the quality of soil treatment.

Agrar GmbH Oldisleben's three farm units are located about 220 m above sea level in Unstrut valley, a slight depression amidst the hills of northern Thuringia. According to Managing Director Adalbert Engel, the defining characteristic of the soil in this area is the inhomogeneity between higher and lower regions. Whereas floods are common in spring, early summer is typically a time of drought. The average annual precipitation measures only 450 mm.

A working combination

Under the above conditions, the three units of Agrar GmbH Oldisleben cultivate a total of more than 8600 acres of arable land and 833 acres of meadowland, focusing mainly on grain farming and certified organic fruit-grow-

ing. Additionally, the company is keeping a herd of 265 brood cows as well as 250 milk cows. The product assortment is rounded off by 500 brood sows. During peak times, this variety of livestock and produce requires the use of all available tractors.

Agrar GmbH Oldisleben has set up its own repair workshop for the company fleet, which consists of one Claas Challenger 75E, two Case tractors and 11 Valmet and Valtra models. Adalbert Engel points out that it is a rather difficult task to find the right machine for the regional conditions. Many models turn out to be too weak or incapable of keeping up the crucial working speed in heavy soil or on slopes.

Convinced by Valtra engines

All new purchases are well considered. Due to the distances between the company's various premises, transport costs form a sizeable part of total expenditures. The workload in the organic farming sector is particularly high. It is therefore prerequisite that the tractors be robust and versatile. The Valtra connection was established in the early nineties when Agrar GmbH Oldisleben itself was still a representative for Eicher tractors. The deci-

sion to invest in Valtra tractors was originally triggered by their Valtra engines; these days, Valtra's front axle suspension makes for a convincing purchase incentive as well.

A challenge to every machine

Adalbert Engel knows what makes a good tractor. Today, the farm's assortment of Valtra models comprises of one 8400, one 8450, four 8550s, three 8600s and an 8150 – the latter being the farm's smallest Valtra and having already worked for 13 500 operating hours – as well as a large Valtra 8800, which has 11 500 hours on its counter so far. Without exaggeration it can be said that Agrar GmbH Oldisleben is a challenging farm for every tractor. Which, to Adalbert Engel, may be just another reason for keeping 11 Valtras among his fleet.

■ **Sonja Löst och Heike Stolle**



S series achieved a unique record in single-pass combined seed and fertiliser drilling test which was arranged in Finland this summer. Large-output programmable hydraulics, ease of adjustment, and 24 h driver ergonomics are key characters in S series.

The bi-directional cab has an optional, specially designed adjustable steering column and all pedals for reverse driving. Drivers seat turns 230 degrees changing automatically the direction for driving controls and steering.

Valtra S – real ace

Valtra pays a lot attention to the versatility during the basic design of tractors to improve output for farmers and contractors who are under cost pressure. The new S series is the ultimate example and adapts well to all types of work from heavy-duty tillage and harvesting to transport.

Versatility has been the guideline for major design decisions. The 8.4 litres 191 kW own engine has electronic engine management (EEM). S series driveline consists of a turbine clutch combined with a modernised synchromesh transmission with four powershift steps and a heavy duty 50 km/h rear axle.

The heavy-duty frame carries EHR controlled three point linkages in both ends having enough lifting force, 10 tons rear and 7.5 tons front as well as PTOs. The load-sensing hydraulics has sufficient 140 l/min flow for all modern implements. There are seven

electronically controlled and individually pre-programmable auxiliary valves and 34 kW "power beyond" straight hydraulic flow to the implement.

All vital parts, as monitoring, controlling and diagnosing, of the Valtra S series tractors are linked together by modern CAN-bus.

The new level of ergonomics

The glasses of the cab are curved and there is only one door. The wide and high rear window is fixed because there is no need to open it. In fact, it is in vertical position. The noise level is low because the cab is tight and closed. Cab has automatic climate control and air suspension. Continuously used controls for power shift, power lift and working hydraulics are located to the adjustable arm rest. The tractor terminal for pre-programming the hydraulics and other pre-programmable operations like powershift automatics, front axle suspension, work lights etc. are placed to a side panel.

Programmability increases productivity

Turbine clutch assists the acceleration up from standstill to working speed just by using the four powershift steps either manually or by pre-programmable automatics. The main shuttle lever is located under the steering wheel and as an important safety device it acts as a handbrake, as well.. The power-assisted booster brakes including options for both air and hydraulic trailer brakes.

Speed management by a cruise control makes it possible to automatically keep constant the set engine and PTO speeds as well as travel speeds.

Applying hydraulics the driver can either use the average factory setting with no need to set anything else than the power lifts or the industry leading capacity for pre-programming of the hydraulics. The programming can also be done individually for both ports of the valve block. Numerous different functions can be pre-programmed, stored and recalled when implement, conditions and driver related settings will change.

■ Visa Viikuna

Valtra S series

Valtra S230	169 kW/230 HP
Valtra S260	191 kW/260 HP

Stricter fuel requirements for working machine diesel engines

More Power with lower emissions

Diesel engines are undergoing drastic development. In addition to technological competition, legislation on emissions from work machine engines has induced such development. The restricted emissions are nitrogen oxide NOx, hydrocarbon HC, carbon monoxide CO, and PT particles. The principles underlying the reduction of emissions are the same as for road traffic engines.

We need higher fuel injection pressures, more precise and optimised fuel injection advance adjustment, and efficient turbocharging and intercooling. Besides lower emissions, new technology, turbocharging, intercooling and more efficient fuel injection systems enable power density, that is, clear increases in output per litre and torque, without raising the thermal or mechanical load rates of the motor.

High-pressure fuel injection devices to become more common

High fuel injection pressure requires pure, high-quality fuel oil with a lubricating additive agent, since modern high-pressure fuel injection pumps are lubricated with fuel oil. For this reason, the diesel fuel oil filtering technology in the engines is also being renewed. High-quality filters of 5 microns and efficient water separators are needed to guarantee the flawless operation of high-pressure fuel injection devices. New joint pressure fuel injection devices already use filters of up to 2 microns. The main development trends of all engine manufacturers are very similar.

Fuel oil has traditionally been used in work machine diesels. Its quality has lowered to some extent, since heating oil does not require special features for the continuous burning technique.



However, a conflict is arising concerning fuel oils in work machine diesels. Oil companies want to reduce fuel quality for reasons of cost, since the heating boilers allow this. Work machine motors require the same high-quality fuel oil as that used in road traffic.

Major oil companies already offer engine fuel oil for work machine diesels. Technically, engine fuel oil is of the same quality as road traffic fuel, meeting the requirements of the EN 590 standard, but it is dyed a reddish colour and taxed as heating oil.

According to the EN 590 standard, the cetane number of typical, good-quality engine fuel oil is 51 or higher, with a sulphur content of less than 0.035%. In addition, the proportion of heavy polyaromatic hydrocarbons is limited in engine fuel oil, and its lubrication and corrosion resistance additive agents comply with the standards.

A poor cetane number and a large number of heavy polyaromatic hydrocarbons weaken cold starts and increase smoke emissions, the accumulation of carbon and operating faults in the motor.

A high sulphur content increases exhaust gas particle production and, mixed with water, the formation of corrosive sulphuric acid.

Poor or missing lubrication and/or corrosion resistance additive agents cause wear and a shortened service life in high-pressure fuel injection devices. At worst, they cause them to seize up. In such cases, the engine stops immediately and, in practice, the entire fuel injection pump must be replaced.

Engine fuel oil for work machine diesel

The tank of a work machine should always be filled after driving, as a smaller volume of air in the tank reduces the amount of water condensation during temperature changes. It is preferable to change the water separator/coarse filter and main filter too often rather than too seldom, thus avoiding the operational disruptions that might otherwise occur. Accessory filters must not be used as filters, as their quality varies considerably. Cheaper prices often mean up to 50% less filter paper, of coarser quality.

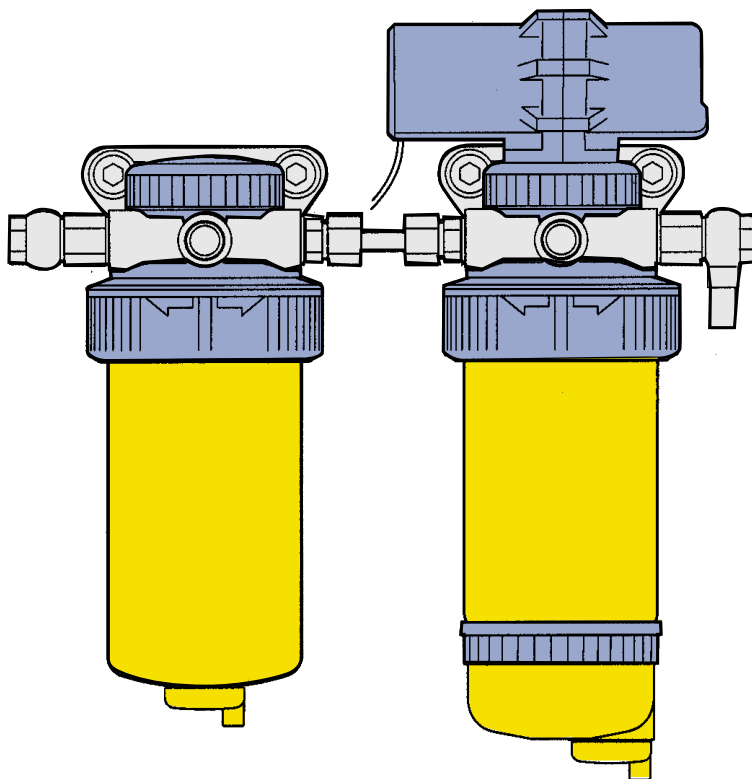
Using engine fuel oil is also beneficial in older diesels, since in this way wear and carbon accumulation are reduced. The slightly higher price is compensated for by fewer

disruptions to the motor, lower fuel consumption, and a longer service life. Special offers of cheap fuel oils, particularly from unknown suppliers, should be avoided.

Adding engine oil or two-stroke oil in diesel liquid fuel is not recommended. The lubricating oil is heavy in hydrocarbons, which increases carbon build-ups when burned, and its lubricating additive agents are not necessarily suitable for the lubrication of fuel injection devices. In addition, two-stroke oil easily mixes with any possible water in the tank and washes it away, increasing the risk of damage to the fuel injection devices.

Using engine fuel oil is economically beneficial, despite its slightly higher purchase costs. The same developments and needs exist elsewhere in the world too. In some European countries, such as Sweden, Denmark, Germany and Austria, road traffic fuel oil is already used in work machines. In these countries, fuel injection pump and nozzle damage are clearly more rare.

■ Mauno Ylivakeri



High injection pressure needs effective fuel filters. Pre-filter and water separator (right) has the capacity of 30 microns and main filter has capacity of 5 microns. Customer can change new filters without tools and without fuel leak to the ground or on the hands.



Matti Herlevi , European Champion in Pro Stock class achieved with Caesar a full pull with his first pull.

Valtra also runs Garden Pulling

Three years ago the Danish Valtra Garden Pulling team began rebuilding a garden tractor at home in the garage. They soon discovered, that if they should be in front in terms of developing this "sport", they had to build a quite new tractor.

Inspired by the Finnish Valtra Pulling team, that they had seen in action during the European Championship in Herning, Denmark, Knud Blomgren and Lars Knudsen (both 26 years old) started to build up a brand new Garden Pulling tractor in Valtra design. They intended it to be right in front of the class of Garden Pulling modified 500 kilograms. Around 1 500 hours has been spent on building this tractor.

During the Danish Championship in 2001 the result was a fine leading place, and during this years Danish Championship, they gained the second place.

Last spring Knud Blomgren sent an e-mail to their Finnish "idols" - the Herlevi family - with the desire to have one of their second hand Valtra driving costumes. After a few days they received by mail Pekka Herlevi's former driving costume, which Knud and Lars now uses during all rallies, where they compete.

The Danish Valtra Garden Pulling team for the time being works at a secret plan to build a new tractor of 180 hp for the next season, so that next years Danish Championship could go to Valtra again. Just now there are about 12 active Garden Pulling teams "modified 500 kilograms" in Denmark.



The characteristics of their "little" Valtra tractor is: 135 hp 2V2VKi engine with a 1 000 cm³ displacement. The maximum speed is 75 km/h, and the net weight is 500 kilograms (including the driver).

Another victorious year for the Valtra Pulling Team

Triple victory in Euro Cup

The Herlevi family gained a triple victory in the tough Pro Stock 3500 class. The father of the family, Pekka, won the gold medal by scoring 40 points, daughter Johanna became second with 35 points, while the son, Matti, came third with 34 points.

– The season went very well, although the races were close from the very beginning. That's why it was impossible to imagine winning the class', says Pekka Herlevi.

By and large, the Valtra tractors driven by the Herlevi's achieved full pulls in all of the season's races, except at Herning, Denmark, where the soil was extraordinarily hard.

Gold and Bronze in EC Pulling

Matti Herlevi with his Valtra became European Champion in the Pro Stock 3500 class in Bakel, the Netherlands, in September. To cap it all, his sister Johanna took bronze and his father, Pekka, came fourth.

With his Caesar, Matti achieved a full pull with his first pull, like ten other drivers out of the fourteen racing within the class. Finally, he succeeded in beating the others with a

pull off of 82.41 metres. Martin Nicholson from Britain, with his Rough Justice, was placed second with his 80.26 metre pull off. Johanna, with her Doris, pulled 78.12 metres and Pekka 78.08 metres with his Sigma Power.

Matti was European Champion last year too. Johanna won silver last year and gold in 1998. Pekka took bronze last year and came second in 2000.

The Tractor Pulling European Championships 2003 will be held in Alahärmä in Finland on 6–7 September, with 10 000 spectators expected. The European Championships in Bakel, the Netherlands, attracted around 15 000 spectators.

...continue from page 5



Andrew Sanders choose Valtra tractors for their reliability and economy

telehandler make up the range of silage equipment. Other important equipment at Ballalough includes a fertiliser spinner, muck spreader, topper and harrows. One job done under contract is ploughing, an operation where timing is not quite so critical.

When Andrew took over Ballalough it had been a sheep farm. Starting from a clean sheet he has been able to build a modern system of yards and cubicles. What has not changed too much is the field system. A number of track ways have been put down and a causeway built to connect the two sides of a steep valley but the fields surrounded by stone walls covered in grass – Manx banks – remain quite small. The value of these as shelter from the almost constant wind was quickly appreciated even though they do make the operation of machinery difficult. The banks and hard-to-cut corners make for good wild life refuges on an island devoid of foxes, badgers and deer.

The move to the Isle of Man has obviously been no picnic for Andrew, Sue and their family. Following a degree in agriculture at Harper Adams University College son Mathew has joined his father and mother on the farm but is a little disenchanted with what the future may hold. Like most mainland farmers Andrew continues to improve milk yields by steadily improving overall herd genetics in the hope that eventually farming's fortunes will turn full circle and provide a decent living and return on capital once again.

■ Roger Thomas

Controlled Creeping



The day when tractors can be set to work on any task without a driver is not yet here – although some manufacturers have made major strides – but the system installed on this lettuce harvesting outfit on Merseyside, does go a stage further than simple stop-start systems.

Designed for creep speed operation, the Vegetable Harvesting Systems' control kit fitted to T.W.S. Fieldfresh Produce's Valtra 6400 allows remote control of steering, throttle, gear splitter, PTO engagement and, of course, stop and start.

Tom Wilson of Fieldfresh, said the extra facilities were becoming essential when the tractor was to go from such as lettuce harvesting onto sprout harvesting where steering, throttle speed and PTO knock-out were often necessary.



The control centre has buttons for stop, go, fast, slow, steering and an emergency stop button. There are two other emergency buttons, one on the end of the boom and one on the trailer

Although fitted on a 100hp Valtra 6400 – the first which suppliers H L Tractors have been called upon to kit out – the remote package will of course suit most tractors but the price depends on the precise specification and the tractor and can cost either side of £5 000 00. VHS now have around 90 units working around the country.

Most are on wrap-around harvesting rigs and therefore more or less permanent, but the company says it is not a difficult job changing over to trailed harvesters, or even a planter. Stop controls are fitted all around the whole unit but there is just one main control for steering and speed etc which is on the harvesting arm.

Reproduced with the permission of Farmers Guardian. Pictures by John Eveson

The tractor may be used remotely with other equipment.

The dryer eastern areas produce high quality cereals.

Agriculture in the UK

The United Kingdom (England, Wales, Scotland and Northern Ireland) at 244 014 sq km is a relatively small landmass with terrain varying from flat plains to mountains up to 13 000 feet (4 000 m). Rainfall in the west of Scotland can be considerable, around 2 500 mm annually, in the south east of England much lower, around 400mm annually. In this varied landscape live a population around 60 million.

The area farmed is a little over 18.5 million hectares. Something over 4.4 million hectares produce arable and horticultural crops while 11.2 million hectares of grass and rough grazing supports 10.6 million cattle and calves (dairy and beef) and 36.7 million sheep and lambs. The pig population is around 5.8 million and there are 164 million fowl. Remaining land is taken up by woodland, set aside and

UK farms range in size from small family units to agribusinesses of many thousand hectares.

common rough grazing. The agricultural work force is ½ million, or 2.2 % of the working UK population.

So those are the statistics, what is the reality ?

UK agricultural production can be split on a roughly north-south axis. In the wetter areas of the West of England, Wales, Scotland and Northern Ireland it is based on grass for livestock. Moving to the drier east, so arable

farms become more predominant. Generally speaking smaller family farms are more in evidence in the west while larger agri-business operations predominate in the east.

Like other developed world countries, UK farmers suffer from depressed prices producing minimal returns against capital and labour. Most farmers are particularly aggrieved with the current Government, feeling it is doing little to help. This against the perception that farmers are better supported elsewhere in Europe and other developed countries. The recent abolition of the Ministry of Agriculture Fisheries and Food did little to improve morale, particularly as MAFF has been replaced with the Department for Environment, Food and Rural Affairs. A title that ignores farming and, by implication, underlines farming's lack of importance to the Government.

Most UK farmers accept they cannot compete on price with food from areas with lower production costs and many are exploring niche markets, adding value with on-farm manufacturing or by turning to new or unusual enterprises. Many also accept that there is a maximum yield and that going beyond this will damage the environment. Whether



Mixed farming in the West Midlands. Potatoes, cereals, apples, soft fruit and hops are all in this pictures.

or not this position has yet been reached is debatable but the main body of public opinion outside agriculture feels that much more should be done to nurture the environment, an opinion espoused by the Curry Commission report on the Future of Food and Farming. There has been much argument on whether farmers in certain areas should become glorified park keepers, supported by government funds to farm at levels that sustains the environment but which may not be profitable. Certainly the Curry Report has provoked debate, with support and criticism levelled at just about every chapter. Whatever individual feelings are, one message is coming over loud and clear: The UK Government must start providing positive guidance at once. It should promote British food, applying the same levels of control over imported products and not simply a draconian regulator of domestic producers.

One senior British statesman and large organic farmer, Prince Charles, has appealed for the gulf between producers and consumers, to be closed. Speaking at the Royal Show he warning that if the farming industry declined much further the UK could face serious problems, pointing out that the division between too much food and too little was very thin. Commending the Curry Report, Prince Charles also suggested that UK agriculture had to change.

More recently the UK Government has announced that £500 million will be available over three years. This should enable the Department for the Environment, Food and



Rural Affairs to deliver some changes, along the lines of the Curry Commission report, necessary for a sustainable future for farming and the countryside generally. Only time will tell if Curry's ideas are the right ones.

With CAP payments made in Euros, purchasing power has diminished after conversion to sterling. Support paid by the US government to its farmers has helped suppress commodity prices. On-farm hygiene requirements required by UK assurance schemes are more stringent than those in other countries; a cost borne by UK farmers but not those exporting to the UK. This list goes on and doubtless many complaints are recognised by farmers elsewhere.

So is that it? Well not quite

Not all is gloom and doom in UK agriculture, indeed there are a number of bright patches. The Government is making the right noises about developing industrial, non-food crops of various types. High quality British cereals are sort by maltsters and bakers here and elsewhere, albeit at lowish prices. High quality meat from UK farmers is on menus in many of Europe's superior restaurants with the exception of France. Milk producer groups are working towards greater control

by acquiring larger processing facilities. Livestock genetics provide a good source of income from around the world for certain farmers.

Interestingly, farmers are investing in new equipment and breeding animals. For the second year in a row, tractor sales are up, a trend mirrored in field equipment. Unfortunately seasonal sales graphs have changed from following a reasonably predictable path, to one with little resemblance to previous years. As a result manufacturers have difficulty in predicting sales with some farmers disappointed. While a number of farmers quit livestock farming as a result of Foot and Mouth Disease others took the opportunity of a stock-less farm to install new milking parlours or other equipment.

So if the outlook for UK agriculture is this gloomy why do farmers continue to invest? There are a very few farmers looking for a loss leader to reduce the tax on income generated elsewhere. Importantly, there are also those that believe that the UK's farmland will have to be farmed and that first class farmers will have a future. Quite what sort of future it will be, only time will tell.

■ Roger Thomas



Production in the harder mountains of Scotland and Wales is limited to hardy livestock and forestry.

Foto: Scottish Viewpoint

Kent contractor diversifies to meet future requirements

Having graduated from Hadlow College, Kent in 1984 and returned to the family farm, Trevor Heathcote quickly realised the small farm would generate insufficient income to support him and his parents.

Investing in a tractor and baler Trevor commenced contracting and today, not quite twenty years later, Farm and General Services Ltd as Trevor's company is now called, has a considerable fleet of tractors, telehandlers, self propelled sprayers. In fact machinery for every type of farm crop with the exception

of roots, "That's because there are so few grown in Kent" Trevor comments with a wry smile.

Having already expanded from a one-man-band, Farm and General Services Ltd. was incorporated in 1992 following Trevor's purchase of a contracting business near Dover. The company is now based just down the road from the family farm at Stanford Bridge Farm, Pluckley a few miles from Ashford. It was at this time Trevor also expanded seriously into the construction industry after successfully tendering for work on the nearby M20 link between Ashford and Maidstone. While agriculture will remain the core business civil engineering has increased in importance. Currently Farm and General have men and equipment working on the construction of the new high speed Channel Tunnel Rail Link from Folkstone to London, a project due for completion in 2007.

Staff levels have also grown; there are 14 full time personnel and seasonal labour can bring the workforce to around 40 at the busiest times. The impressive machinery fleet includes 26 tractors, 4 telehandlers, combines, self-propelled forage harvesters, a fleet of high capacity muck spreaders and, for construction work, four 360° excavators. – We also use the excavators to load muck spreaders, Trevor explains. Compared with wheeled or tracked loaders they create very little mess or damage in the field.

While it is Trevor that matches staff and machinery with client's requirements and undertakes quotations for new work, a key to Farm and General Services success is an efficient administrative organisation run by office manager Jonathan West. Farm & General Services Ltd. is ISO 9002 quality assured and the company's records can provide complete tractability of operations performed and

Trevor Heathcote appreciates the hard work and loyalty of his regular staff and provides them with a good working environment





Compost from composted organic waste collected from Council civic amenity recycling sites is a useful addition to difficult Wealden soils

materials used on customers farms and sites. It is Jonathan and his team that purchase supplies, see to the invoicing, other paperwork and pay wages.

Included in the records are detailed machinery maintenance costings and it was these records that prompted the purchase of the first Valtra tractor back in September 2000. Unhappy about the high running costs incurred by some of his tractors, Trevor investigated alternative makes and as a result purchased a 160hp Valtra 8550 from local dealers Southern Harvesters. This tractor has now clocked up over 2 600 hours with maintenance costs of just £1.48p per hour. Well below the Company's £2.00 target. Following the success of this first machine the Valtra portion of the tractor fleet has grown and now includes three 8550s, a couple of 135hp 8350 Ecopower machines and a four cylinder 100hp 6550. While it is true to say not all have managed to stay permanently under the £2.00 / hour maintenance costs, those that have exceeded this target are recording ever lower rates as maintenance bills are spread over greater hours. As a result of this reliability factor Farm and General Services have found it unnecessary to purchase additional warranty insurance beyond the standard one year; yet another saving.

Lower fuel consumption has also been noted since the purchase of the Valtra tractors.



Hauling grain, straw, muck, building and demolition materials, its all in a day's work for Trevor's Valtras

Changes in weather can mean tractors working for more than one customer on more than one job during a day, and unless the tractor can be refuelled between each job it is difficult to monitor exactly how much fuel has been used on each task. However, the Valtra drivers and Trevor are of the opinion that fuel consumption is considerably less than other makes on the fleet. A factor particularly noticeable when two machines are working side-by-side on the same operation. There is also a general consensus of opinion that, for a given engine power, the Valtra machines pull much better than the other tractors and that, with front suspension, the ride is also extremely comfortable.

A more recent business diversification has been the setting up of Countrystyle Composting for which the company operates a small fleet of trucks. Skips containing organic household and garden waste are collected from Kent County Council's civic amenity re-cycling sites and transported to the composting area near Pluckley. Here the material is ground, stacked and turned regularly. After 12 weeks the compost is graded and the finished material spread on the 1300 acre company farm. Here a 1,000 acres is down to cereals while 300 acres of grass supplies grazing for around 400 beef cattle. The Wealden Clay soils in the area are noted for being difficult to manage and the compost is a useful conditioner.

Farm and General Services equipment is easily recognised over much of Kent and East Sussex.

So what of the future?

Trevor acknowledges that predicting the future for UK farming is like peering into a very foggy crystal ball. In his corner of South East England an ever increasing percentage of homes are owned by people who commute to London and the large towns in the area to work. Many of these have purchased a few acres of land and have become 'hobby farmers' and there is a market, maintaining these smaller farms. Other landowners have pooled their resources and often their land too, using contractors to work the land and thus avoid investing in machinery that may be under utilised. Building developments are chewing away at the customer base. Despite these and other changes there will always be work for an enterprising contractor is Trevor's firm contention.

■ Roger Thomas



Valmet 361D

– “New attractive look”



Grey colour was added to the attractive outlooks. The 2.7 litre three cylinder engine delivered 46 hp SAE/2000 rpm. The gearbox had six speeds forward and two reverse. The tractor weight was 1820 kg. The first safety frames were fitted to this model in 1963.

Just before Christmas 1960 a new model was introduced. The successful 359D that had been made for two years was followed by the 361D, which with good reason can be called the break-through model of diesel powered Valmet tractors.

In developing the this model the designers had looked for new prospects. An industrial designer was used for the first time in creating the new tractor. The harmonic lines were drawn by the designer, Mr. Pellinen. The message of the advertisements was that “Valmet has a new attractive look”.

Engine power went up over the years and Linnavuori diesel engine factory kept developing the three cylinder type further. The new engine version 310 B was rated at 42 hp DIN or 46 hp SAE at 2000 rpm. Already at that time the cold starting ability of Valmet became an important argument, starting at

minus 25 degrees without extra devices. The injection system of this model was made by Bosch.

But the renovation of outlooks and engine was not all. A trailer hitch became standard, mud guards were stamped and there were two rear tyre options for 11-28, 13-24 and 14-24.

One year later Valmet 361 got a differential lock, an hour meter and cushioned seat. The lock was made easy engage. It was also possible to keep the lock engaged constantly. A very important feature was that the lock was easily disengageable in all situations.

This model was manufactured in Finland until the mid of the 60's; the impressive number of 14,796 were made altogether. The successor was Valmet 565 “Synchro” but it is another story.

■ Hannu Niskanen



Roast lamb Thai style



The United Kingdom has become home to more than just the English, Welsh, Scots and Irish. Ever since those wild men from the east – the Vikings – started to settle, these islands have drawn people from all over the globe for all sorts of reasons. Historically we British have always liked our roast beef - and lamb and pork so here is a modern twist to an old favourite. Of course it will taste best if British lamb is used but if this is not available local lamb will do.

Serves: 2-3

Cooking time: For the joints of –
250-350g (8-12oz) allow approx. 30-35 minutes per joint
350-400g (12-14oz) allow approx 35-45 minutes per joint
For larger joints, weigh and calculate: 25-30 minutes per 450g/½kg (1lb) plus 25-30 minutes
Temperature: Gas Mark 4-5, 180°C, 350°F

Ingredients

Lamb: mini joint or boneless roasting joint of lamb
1.25cm (½") fresh root ginger, peeled and cut into thin strips
1 red chilli, seeded and cut into thin strips
2 x 15ml sp (2tbsp) Thai red or green curry paste

Method:

Cut slits into the joint and push in strips of ginger and chilli. (Remember to wash your hands after handling the chilli). Weigh the joint and calculate the cooking time. Place joint on a rack in a roasting tin. Open roast in a preheated oven for time shown above. 20 minutes before the end of cooking time brush the joint with the curry paste. Return joint to the oven and repeat 10 minutes later.

Serve the joint with roasted onions, potato slices, peppers and chillies.

Suggestion: If you like this recipe try substituting the Thai curry paste with a curry paste of your choice.



Valtra Service

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