Valtra Team

CUSTOMER MAGAZINE 1 2013

VALTRA N142

VERSATILITY IS ITS STRENGTH

page 6

EDITORIAL

It's only a few months since we were shivering at LAMMA – but it was worth it to hear the very positive remarks about the Valtra product line and our dealers. Also since the last issue of Valtra Team we have seen both the N93 and N103 come on line. Our N93 at 99 hp is available with both a three speed HiTech powershift transmission and the HiTech 5, five speed powershift transmission. The same applies to the N103 at 111 hp. Importantly the introduction of HiTech 5 on the N93 means TwinTrac is available on machines less than 100 hp, potentially a highly significant offering for many farmers and contractors. TwinTrac is a very useful Valtra feature much under rated in the UK and Ireland. Indeed we have dealers and customers that buy tractors with the feature to enhance the resale value; they're a much sought after tractor by continental dealers. Why is TwinTrac so under utilised?

As many of you will know **Alan Sanderson** has moved on to the position of Valtra Sales Support Manager for the UK and Ireland. I'm delighted to announce we appointed **Gareth Jones** as his replacement before Christmas. Gareth, well known to dealers and some customers in the West and South West, has been with Valtra for some ten years and we all wish him well in his new position.

LAMMA was cold. Now as March draws to a close there is still snow in parts of the UK. Let us hope we stop shivering soon and that the remaining months of spring will be warm, promoting growth of crops and livestock and a happier frame of mind all round.

Mark Broom
National Sales Manager

19 Valtra 100 years old.

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Beam support **Innovation**

Beam support

STABILISES FRONT LOADERS

Valtra is the only tractor manufacturer that offers factory-fitted front loaders with beam support. The beam support is attached to the nose section and stabilises the front loader during heavy use.

Beam supports have traditionally been a popular feature in Scandinavia, as they provide an obvious advantage when a snowplough is attached to the front. Without the protection provided by the beam support, the beams can be damaged if the snowplough hits an impediment concealed beneath the snow.

The advantage of beam supports is not restricted to snowploughing, however. They are also beneficial in other front loader applications, such as loading, sweeping, grabbing fodder and other assorted tasks.

www.valtra.co.uk

News

The new plant covers a total area of 9,200 square metres, including 6,600 square metres of heated area. The new plant can be seen at the top of the picture.

Production begins at new
AGCO Power engine plant

The new extension to the AGCO Power engine factory in Linnavuori, Finland, is now complete and series production is in full swing. The pace of construction was also fast; the decision was taken in mid-May 2012, and work began on the very same day. Series production of engines began at the start of March 2013, less than a year later.

The new plant manufactures 8.4-litre six-cylinder engines, 9.8-litre seven-cylinder engines and 16.8-litre V12 engines. These large engines produce between 300 and 700 horsepower. The capacity of the new plant is 8000 engines a year manufactured in two shifts. Total capacity at the Linnavuori factory is now 50,000 units a year.

Most of the engines built in the new plant are used to power AGCO tractors, harvesters and other machinery, but they are also used by other companies. AGCO Power is specialised in off-road applications, generators and marine engines. The Linnavuori factory does not produce engines for on-road applications in order to focus its expertise on demanding machinery. The Valtra tractor factory in Suolahti, Finland, has traditionally used engines produced exclusively by AGCO Power, formerly known as Sisu Diesel. •

ELECTRONIC SHUTTLE AND FRONT LINKAGE ON ALL MODELS

Valtra offers a complete model line-up with its third-generation A, N, T and S Series models, all of which are now in full series production. Valtra's 3G models comply with Tier 4 Interim emissions regulations and offer many other new improvements. For example, all Valtra tractors manufactured at the Suolahti factory in Finland now feature an electrohydraulic forward-reverse shuttle, an electronic linkage and a multidisc clutch, and mechanically operated Classic models are no longer offered.

OVER 10,000 VALTRA TRACTORS WITH SIGMA POWER

Valtra's legendary Sigma Power feature has been specified on over 10,000 tractors to date. Sigma Power has been available on the biggest models in the 8000 Series and the T Series.

Sigma Power was developed by Valtra and awarded the Gold Medal at the Agritechnica fair in Germany in 1997. Originally, the extra power was activated when the PTO axle began to twist under load. Mechanical sensors were used to measure the torque of the axle at both ends and increase the fuel flow when the axle began to wist. Although the mechanical sensors and fuel feed were later replaced by an electronic system, the basic concept has remained the same.

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AGCO Your Agriculture Company

Valtra is a worldwide brand of AGCO

Rodney Fletcher personally enjoys driving the compact N142.

Valtra in the Black Lands

Rod Fletcher and his family farm 1232 hectares made up of a mixture of owned, rented and contracted land; a mixture of black fenland peat and strong, heavy clay. The mix depending on the location of the various farms. Cropping ranges through spring and autumn beans, spring and autumn rape, winter wheat, triticale, spring oats, sugar beet, maincrop potatoes and 80 hectares of grass. As there is no livestock on Belmont Farms the grass is either let for grazing or sold as hay.

"We have eight tractors at Belmont Farms, five of which are Valtras: three six-cylinder T Series and a couple of four-cylinder N Series," reports Rod Fletcher. "We started converting to Valtra a few years ago and, provided quality and performance remain at the same high level, we will replace the remaining three older tractors with Valtra when their time comes."

Black fenland peat is extremely sensitive to compaction, which is why Valtra tractors, particularly six-cylinder models are popular. Valtra have designed their T Series models with the engine well forward over the front axle. As a result they are well balanced for four-wheel drive operation yet light in weight – ideal for weight sensitive operations.

Rod has also taken the considered step to remain with a higher number of smaller lighter tractors. "With potatoes and beet we can be harvesting well into November, and if it's a wet season heavy, machinery will cause considerable damage. If we were to get out of potatoes, well we'd think again but that's not on the agenda at the moment."

Rodney Fletcher

One of Belmont's main tractors, a T121 often fitted with dual wheels front and rear, is also equipped with Valtra's guidance system. "Although the system is very accurate and marking out a field is easy we still use bout markers on some equipment – satellite signals have been known to lead tractors astray!"

With about half the land around 13 miles away all the Valtra tractors are fitted with front suspension. "It makes life for the driver just that little bit more comfortable, which is good for staff morale – drivers also like the Valtra cab for a working environment."

Rod Fletcher is also happy with the various Valtra's fuel consumption. "Our latest machines come with an accurate fuel consumption meter, and we're utilising these to keep track of costs – not something we were able to do with previous machines. It's a useful management tool when costing the various crops." •

GARETH JONES IS AREA SALES MANAGER FOR THE WEST AND SOUTH WEST REGION

Following the internal promotion of Alan Sanderson, Valtra has appointed **Gareth Jones** as Area Sales Manager for the West and South West area of England. Gareth joined Valtra in 2002 as Area Service Manager for the West and South West and is well known by Valtra dealers in that area and beyond.

Gareth (42) studied at Walford College of Agriculture in Shropshire before joining the workshop team at a well known Shropshire tractor dealer. In 1993 Gareth Gareth took up the position up the position of Workshop Foreman before joining machinery manufacturer Kuhn in 1998, a career path that has provided a wealth of experience.

Gareth is a key member of the Valtra-based tractor-pulling team 'Bear Essentials', having helped build from scratch and then piloted Baby Bear to win its class at the British Tractor Pulling Championships in 2007. Away from tractors Gareth has overseen the building of his own house and coaches youngsters in football.

Commenting on Gareth's appointment Valtra National Sales Manager, Mark Broom said: "Gareth is well known and respected by our dealers. His technical background is excellent and we are sure he will be successful, building on the foundations laid by Alan Sanderson".

Valtra N142

A TRACTOR FOR ALL USES

Valtra N142 proves its worth on the Grom Agrar farm in Germany. Bernd Grom really puts his Valtra N142 to work on his 1,200-hectare farm in Saxony-Anhalt, Germany. Equipped with the Direct transmission, the tractor takes care of a wide range of tasks efficiently and economically.

TEXT AND PHOTO ANDREAS LUBITZ

Many powerful tractors overheated when pulling the large implement, but it was no problem for the N142

The Valtra N142 may not be the biggest, fastest or most powerful tractor on the market, but on the Grom Agrar farm it is still one of the favourites. Its appeal lies in its diversity; the N142 can be used for forestry work and for pulling heavy trailers just as well as it can be used for fertilising, spraying and ploughing.

"Initially the tractor made an impression on us thanks to its hydraulic output," says **Bernd Grom**, who owns three farms in Bavaria, Thuringia and Saxony-Anhalt. "The hydraulic output demanded by some of our implements can make many of our tractors overheat, but not this one."

The N142 soon proved to have been a wise purchase; over the past two years it has established its position as a versatile general tractor on the 1,200-hectare farm in Bad Lauchstädt, Merseburg.

"We always choose this tractor when we can't or are unable to use a large

According to Bernd Grom, a lot of the credit goes to Valtra for separating the oils for the Direct transmission

The N142 Direct is a tractor for all uses on Grom's 2,500 hectare Agrar farm.

specialised tractor, in other words quite often. The Valtra N142 is used year round on our farm."

Bernd Grom tells us how the Valtra demonstrated its worth around a year ago on the Grom Agrar farm in Saxony-Anhalt. The farm uses an 8-tonne Güstrower manure spreader that demands up to 65 litres/minute of hydraulic output. Many powerful tractors overheated when pulling the large implement, but it was no problem for the N142 and its powerful 160 litres/minute hydraulics.

According to Bernd Grom, a lot of the credit goes to Valtra for separating the oils for the Direct transmission and the hydraulics, allowing sufficient cooling for the oils even in the most demanding tasks. "Thanks to this solution we can use our Valtra N142 to pull tipper trailers and even with the newest implements that require a lot of hydraulic output."

In addition to the hydraulics, the 34-year-old farmer praises the power and low fuel consumption of the Valtra N142's four-cylinder engine. Grom believes that the efficiency of the Valtra has a lot to do with the new Direct transmission. "The mechanical parts of the transmission clearly play a bigger role than the hydraulic parts at most speeds."

The experienced tractor owner is right. The Direct transmission uses 100 % mechanical drive in all four ranges at certain speeds, which ensures that the transmission and implements always function together at full power. In auto mode the system selects the biggest possible gear ratio to maximise efficiency.

Bernd Grom has also noted how economical the N142 is. "With this transmission the tractor is easy to drive economically in the right gear and at the right speed, which reduces fuel consumption and extends the life of the tractor."

Overall, Grom is very impressed with the Direct transmission and control system. "The four gear ranges and the possible to set the engine speed or driving speed have proven to be really useful in day-to-day work."

For example, when fertilising or spraying the driver can set the driving speed, and the transmission's control system automatically adjusts the engine speed and gears according to the terrain and conditions. If extra fertiliser is needed in a certain area, a slower preset speed can be selected at the push of a button. With implements using the PTO, the driver can set the engine speed and control the driving speed using the transmission joystick.

"This tractor is really easy to use," Grom says. "When you get used to the controls, it is also really fun to drive."

Not only is the tractor easy to control, it is also extremely agile. "It is always very easy to manoeuvre with the N142."

The N142 has proven to be so easy to use, economical and efficient that it has become just about irreplaceable on the Grom family's Bad Lauchstädt farm. The tractor is used for spraying and fertilising, for transporting during harvesting time, and sometimes also for pulling a cultivator and mower. The N142 and its Direct transmission also come in handy during the winter, when the tractor is used for forestry work and snow ploughing. •

The N142 is well-suited for forestry work too.

Bernd Grom and his father Heribert run three farms in Germany.

The Grom family's farms

Heribert Grom began expanding the family's farm in Hohenroth back in the 1960s, and over the years the original ten hectares have grown to 650 hectares of cultivated land. Following the reunification of Germany, the Grom family also acquired a 650-hectare farm in Kannawurf to the north of Erfurt. The family's biggest farm was purchased in 1996 in Bad Lauchstädt, Merseburg and covers 1,200 hectares.

The Grom family business has 25 employees. The farm produces wheat, barley and rye, as well as oilseed rape, sugar beet and maize for energy production. On the family's original farm in Hohenroth the Grom family also produces seeds and grows hay. Since the farms have no livestock of their own, the yield from the 30 hectares of hay is sold to other farms.

Altogether the Grom family's farms have 25 tractors, including many Valtra tractors producing 160 to 370 horsepower. •

The N142 works most of the winter hedge trimming.

VALTRA SETS CONTRACTOR ON THE RIGHT COURSE

TEXT AND PHOTOS ROGER THOMAS

College Farm in the village of Oakley, a few miles north of Bedford, was a medium sized dairy farm until the onset of Foot and Mouth some years ago. While the herd did not contract the disease, its presence in the countryside did give cause for a lot of soul searching. College Farm's 300 or so acres are in the Great Ouse river valley with the farm buildings sitting right on the river banks, and it was obvious considerable investments would be required to meet pending slurry regulations and the resulting reorganisation. When it came time for those whose herds did succumb to restock, father and son team **Robert** and **John Saunders** took the decision to sell the herd while prices were high and change the farm's regime from dairying to a smaller suckler beef herd and cereals.

However, it was the third generation of Saunders, **Henry**, that took the decision to develop a contracting business based at College Farm. Starting out on his own in July 2008 Henry now works with brother **Charlie** and more recently has added **Sam Evans** to the full time payroll.

"We carry out most of the farm work here at College Farm and there is a good potential customer base in the many 300 to 600 acre farms within a 25 mile radius of Oakley," Henry explains. "We have developed a wide range of services for this mix of arable, dairy, beef and pig farms".

Henry, centre, with brother Charlie left and driver Sam.

Henry Saunders believes good kit and a good team are the way to work and profit.

The wide range of services extends from heavy cultivating through planting up to harvesting; alongside all the trailed and mounted equipment he requires Henry also runs a self propelled sprayer and combine harvester. With several dairy and pig herds in the area, the business also provides a slurry spreading service through an umbilical system capable of pumping up to 1,200 metres.

"The soils around here differ greatly. Here at College Farm on the banks of the river they're pretty sandy; a little further away, Sam's father's farm as an example, it's heavy clay. That area is where the clay for London's bricks comes from, and it doesn't get much heavier than that. If you don't work it at the right time, forget it!"

With so many different operations to contend with, what does Henry use to provide the power? "We have one very high horsepower tractor for the heavy work, but its Valtra that provides all the power for the middle and lighter weight operations. Henry runs a T162 and a N142, and both are fitted with front suspension and a 50 kph transmission. "Alongside the combining we cart grain, so the higher speed is useful with the front suspension allowing us to travel quickly and in comfort. This also applies when we move from job to job during the rest of the year. The suspension also smoothes out some of the lumpier field operations."

With many field operations brought to a halt during winter months by one regulation or another, the Valtra N Series is kept busy most of the winter hedge trimming. "It's not the most financially rewarding operation going, but it does keep the money turning over and covers costs plus a bit," comments Henry.

"What it does do that's important, it keeps us in front of customers. Do a good job on the hedges and we've found other jobs follow; do a good job on these and the contracts grow."

And what does Henry reckon he needs to produce good work? Good men and good machines – that includes Valtra. •

The research was carried out by the impartial TTS Work Efficiency Institute with two T163 tractors as normally used by a contractor in Southeast Finland.

Mowing in reverse

SAVES TIME, FUEL AND YOUR BACK

TEXT TOMMI PITENIUS **PHOTO** VALTRA ARCHIVE

According to research commissioned by TTS Work Efficiency Institute, using a tractor with the TwinTrac reverse-drive system for mowing requires 12 percent less time and 11 percent less fuel than when working in the forward direction. In addition, mowing in reverse puts significantly less strain on the driver's neck and back.

"For example, on a 110-hectare farm that is mowed twice a season, working in reverse can in practice save the equivalent of one day's work. This can have a decisive impact on the quality and timing of the harvest in terms of weather conditions. In addition, the fuel savings in excess of ten percent are considerable," says **Timo Mattila**, Product Marketing Manager at Valtra.

Mowing in reverse significantly reduces the amount of overlap, and the size of the area left unmown is reduced by more than a half. According to the research, working in reverse was also found to be smoother, reducing the amount of vibration experienced by the driver. Similarly, the Auto-Guide steering assist system reduced fuel consumption by 5 percent and the amount of time by 4 percent.

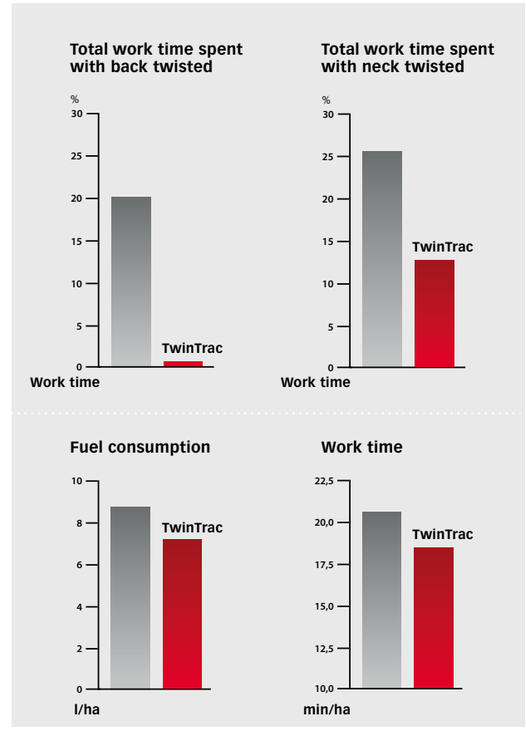
The research also studied the amount of twisting that the neck and back are subjected to during a typical mowing operation. It found that the amount of time spent driving with one's back twisted was eradicated almost totally, while the amount of neck turning was halved. When driving in the traditional forward direction, the driver spends over one-fifth of the work time with his back twisted. This twisting motion combined with vibration can be extremely harmful to the back.

The research was carried out using two T163 tractors. One was fitted with a 7.3-metre Elho Duett mower conditioner that is used by driving in reverse. The other had a 3.7-metre Elho mower conditioner attached to the front linkage and a similar 3.7-metre mower conditioner at the rear. Altogether 70 hectares on six fields were mowed for the research last summer in Southeast Finland. The research was carried out by the TTS Work Efficiency Institute (Työtehoseura). The final report is available upon request from TTS. •

This twisting motion combined with vibration can be extremely harmful to the back

TWINTRAC REVERSE-DRIVE SYSTEM

- Offered by Valtra for the past 20 years
- 6,500 tractors specified with TwinTrac
- Available on tractors with 99–370 horsepower
- Ideal for mowing, municipal contracting and forestry tasks



Remanufactured gearboxes are as good as new ones but with only with around 60 percent of the price.

Mechanics Sami Liimatainen and Kari Pitkänen together with Jari Luoma-aho, the head of remanufacturing operations, have set up a workshop of 120 square meters.

Valtra offers

REMANUFACTURED GEARBOXES

TEXT TOMMI PITENIUS **PHOTO** TONI KALLIOMÄKI AND TOMMI PITENIUS

Remanufactured gearboxes are a good alternative for possible transmission repairs. Customers can receive a gearbox that is good as new, expertly assembled and equipped with all the latest upgrades for around 60 percent the price of a comparable new gearbox.

"Installing a remanufactured gearbox is often faster and more cost effective than taking apart an old gearbox, ordering the parts and making the repairs. Customers will be able to reserve a time in advance so that the remanufactured gearbox is ready waiting for them when they bring in their tractor," says **Jari Luoma-aho**, who is heading the project at Valtra.

At Suolahti the old gearbox is taken apart, washed and inspected. Any defective parts and all bearings are replaced with new ones by professionally trained transmission specialists. Undamaged parts that are still in good condition are reused if possible. The gearbox is then reassembled, painted and tested. All available upgrades are also made. Remanufactured gearboxes come with the same one-year warranty as new ones.

Valtra currently offers around 20 types of remanufactured gearboxes, including those for the N and T Series, 6000 and 8000 Series, and A and 100 Series. In order to reduce the number of variations, all remanufactured gearboxes come with a ground speed PTO and creeper gear. In addition to Mezzo, Mega and HiTech gearboxes, also Versu and Direct gearboxes will be offered in the near future.

Remanufactured parts are a big part of the spare parts service in the machinery and auto industries. For example, over twenty mechanics at AGCO Power remanufacture engines at the Linnavuori engine plant. In addition to all the other benefits, remanufactured gearboxes also help save the environment. •

The Valtra T202 regularly driven by Paul Williamson is used for many of the weight sensitive operations including inter-row cultivation of mustard – the under belly clearance makes it especially ideal.

Valtra cuts

THE MUSTARD

TEXT AND PHOTO ROGER THOMAS

Bank Farm consists of 911 hectares of arable land spread over six farms with soils ranging from black organic fen peat to a clay loam. For management purposes the holdings are treated as one unit and crops include sugar beet (162 ha), wheat (323 ha), feed barley (32 ha), peas (278 ha) and, importantly, 116 hectares of mustard grown specifically for Colemans.

Manager **Don Davison** was introduced to Valtra some years ago. "We liked the six-cylinder models but for our typeof farming, until very recently, there were no machines in the range that could handle our current equipment. We do however have one Valtra which is used for a number of specialised operations, from simple rolling to inter-row cultivations."

Don explains. "We've grown mustard for some years now. Initially it was very profitable, but a few years ago it become obvious yields and therefore profitability were dropping."

The reason for reducing yields was lack of investment in seed production; growers simply kept back a proportion of each year's harvest for replanting. "Today we're working with seed company Elsoms to regain the yields of fifteen years ago, which should bring us back to acceptable levels of profitability."

The heavy cultivations at Bank Farm are handled by a high powered crawler, but it is to the 200 hp Valtra T202 that Don turns when weight sensitive accurate operations, such as inter-row cultivation of the mustard crop, is required. "The Valtra is well balanced for four-wheel drive operation; perfect without weights front or rear, but if we do need weight for greater traction then it's a simple matter to add it. Remember, our land is weight sensitive and reacts badly to compaction. The Valtra is ideal for avoiding that situation." •

Don Davison of Bank Farm appreciates the light footstep of the 200 hp T202 on his peat land.

This older Valtra is to be replaced with a new N101 with loader for general work on the site including clearing fire breaks.

Maintaining

THE BALANCE

Valtra tractors are being used to help restore the natural landscape in the UK.

TEXT AND PHOTOS ROGER THOMAS / COLIN SCOTT / RSPB

In Aylesbeare Common in the south of England, the Royal Society for the Protection of Birds is employing horses, cows and Valtras to help restore the fragile balance between flora and fauna. The common is a very visible part of 3500 acres of Southern Lowland Heathland that can be seen when driving along the A3052. The significance of this increasingly rare habitat was recognised back in 1969 when the entire area was designated a Site of Special Scientific Interest (SSSI).

The area is part of the East Devon Pebble Bed Ridge running roughly North-South between the Exe and Otter rivers. Here, human activity over thousands of years has shaped what we see today. Early man denuded the landscape of trees for building and fuel, and as a result the thin topsoil eroded, leaving behind a landscape that has changed little. The soil, such as it is, is acid and will only support acid grasses, bog, marsh and scrub – land that modern farmers would baulk at trying to farm.

The Royal Society for the Protection of Birds (RSPB) owns just 60 acres of the total area but has management influence over a great deal more, most of which is in the ownership of Clinton Devon Estates. Years ago the estate allowed employees to graze livestock on the common, a tradition that has since died away. The livestock kept the scrub under control, but today there is a danger that the unique balance of flora and fauna will disappear.

As a result the RSPB and other conservation organisations have developed a regime of land management that includes the removal of certain trees and shrubs, some re-landscaping to correct the privations of aggregate removal, plus scraping, mowing and controlled burning to regenerate heather. To assist with this land management, the RSPB has enlisted the help of both animals and machinery.

Cows, horses and Valtra tractors

Initially native Devon cattle were introduced. During the summer the system worked well, but there was little room to grow winter fodder and overwintering became a problem. Today a herd of 35 Galloway cows with calves are shipped in for the spring flush and returned to a farm for overwintering. Initially the cattle will eat the new green grass shoots, but as these decrease they tackle other plants, including silver birch and other saplings. The actions of their feet, trampling scrub, also helps control and promote the growth of plants.

Unfortunately the cattle do not do a complete job controlling unwanted plants, so to help them along four groups of hardy Dartmoor and Exmoor ponies are employed, numbering around twenty in all. Both are endangered breeds, and the animals on loan from their breed trusts.

There is, of course, scrubland and trees that are unsuitable for both the

Here, human activity over thousands of years has shaped what we see today

The rare Dartford Warbler can be seen on Aylesbeare's heathland. Photo: Colin Scott.

Stonechats also frequent the heathland. Photo: RSPB.

”They are an excellent all-round tractor and with their Scandinavian heritage ideal for our type of work – no dangly bits underneath to get snagged on scrub.”

A used Valtra 6650 was an early arrival and is mainly used to maintain for tree management with felled timber sold for sawing or firewood.

Native breeds of ponies and cattle are used to help maintain the plant life balance.

cattle and ponies, and for this the RSPB resorts to machinery. Valtra tractors are used for a variety of maintenance tasks, from mulching scrub and timber extraction to hauling fencing materials and clearing fire breaks. The land, which is being scheduled as a common, required government permission before fencing to contain the livestock could be erected.

Valtra to the rescue

Toby Taylor, RSPB Warden at Aylesbeare explains why they chose Valtra tractors. “They are an excellent all-round tractor and with their Scandinavian heritage ideal for our type of work – no dangly bits underneath to get snagged on scrub.”

As the RSPB relies quite considerably on volunteer labour, the ease with which they can be driven is also appreciated. “We run training courses before staff or volunteers are let loose with machinery of any sort, but it’s an obvious advantage when the machine is simple to operate.”

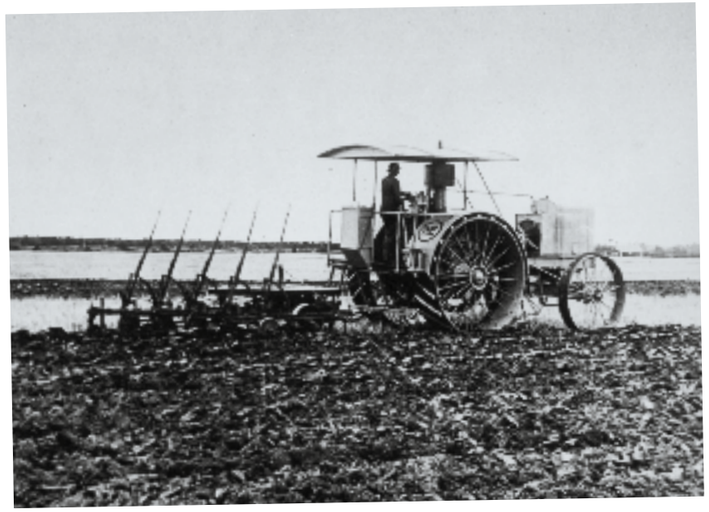
The RSPB’s first Valtra tractor to arrive at Aylesbeare was a used low hours 110 hp 6650 in 2005, which is still in operation today, mostly with a timber trailer and crane. “We’ve several blocks of mature trees which need attention, thinning or complete removal, and this is an ongoing operation. We sell sawing timber and firewood as a method of generating income.”

The Valtra 6650 worked well and was augmented by a 100 hp N92, which is being swapped for a four-cylinder N101 complete with a forestry fuel tank, front linkage and PTO, air compressor and V46 loader. The N101 is a good all-round machine ideal for the type of work undertaken now and in the future.

A beautiful habit worth preserving

Despite the income from timber, the sites absorb more cash than they generate, a situation eased in part by funding from Natural England and their Higher Level Stewardship Scheme. But the value of the area cannot be counted in terms of money. The sites are home to many rare and diminishing species, including the rare Dartford Warbler, the silver studded blue butterfly, the Southern Damselfly and Kuglean’s ground beetle. Stonechats are often seen, as are nightjars and a host of other unusual flora and fauna.

The area has attracted the attentions of the European Union and is both a Special Area of Conservation and a Special Protection Area. It is home to many species that have evolved, along with us, over an extended period of time. They are part of the food chain, gene pool and much more. In certain areas of the world many species have been lost, and now there is a battle to stop a complete collapse in local ecological systems. Unfortunately there is no laboratory with a fast forward button to see if the efforts will be successful. We just have to wait and see and maintain what we have here in the UK for the future. •



The first tractor in Valtra’s family tree was the Munktell 30-40 from 1913. It was a truly large tractor that weighed around eight tonnes and had rear wheels 2.1 metres in diameter. The tractor was powered by a two-stroke two-cylinder hot bulb engine. Altogether 31 units of this model were manufactured.

Ancestor of the Valtra tractor

100 YEARS OLD

In 1913 Valtra’s ancestor Munktell unveiled its first tractor, the “30–40 hk”. In 1932 Munktell merged with engine manufacturer Bolinder to form AB Bolinder Munktell (BM), which was acquired by Volvo in 1950. In the 1970s Volvo and Valmet agreed to begin transferring Volvo’s tractor operations to Valmet, which later changed its name to Valtra. This is how today’s Valtra tractors are related to the very first Munktell tractor.

Johan Theofron Munktell was born the son of a priest in 1805. At the age of 17 he entered a technical college in Stockholm. In 1826 he was employed by the Royal Mint (Kungliga Myntverket), where he made improvements to the machinery minting coins. He was also a member of the team that designed and manufactured Sweden’s first printing machine. Munktell was invited to establish a mechanical workshop in Eskilstuna. “Eskilstuna Mekaniska Werkstad” began operations in 1832, and this is considered the beginning of the industrial history of both Valtra and Volvo Construction.

Introducing the “30–40 hk”

Entering the 1900s, Munktell already had a lot of experience with locomotives. By combining its hot-bulb engine with a radiator and the transmission from a locomotive between two longitudinal beams, an impressive looking tractor was created. The first tractor was manufactured in 1913.

The engine was made by combing two single-cylinder two-stroke hot-bulb engines. The total displacement was 14 litres. Almost any liquid fuel, even tar, could be used as long as it was dissolved in 25 % methanol. The engine was started by heating the bulbs with a torch for about 10 minutes.

The engine ran at a set speed of 550 rpm and developed 30 horsepower. With water injection power could be increased to 40 horsepower, hence the name “30–40 hk” (hk=hästkraft). The cooling system was colossal and could hold 380 litres of water. On the left side was a much-needed pulley for rotating the threshing machine.

The transmission was quite advanced compared to other tractors of the day. The speed in first gear was 2.8 km/h, in second 3.6 km/h and in third, which was used for transfer journeys, 4.4 km/h. There was also a reverse gear. The tractor weighed between 7.9 and 8.3 tonnes, and the diameter of the rear wheels was 2.1 metres.

The tractor was certainly productive. With a five blade plough, the tractor could work 5 hectares a day, and with a spring harrow up to 2 hectares an hour were possible. The advertising claimed that the tractor did the work of 16 horses and eight men. •

MUNKTELL 30–40 MY. 1913	
Horsepower	30 (40 with boost)
Displacement	14 litres
Weight	7.9–8.3 tonnes
Max speed	4.4 km/h
Fuel	Any liquid fuel dissolved in methanol

Driving the chipper – a major part of the Valmet's daily work schedule.

Wood Fuel Solutions'

CHIPPED WOOD FUEL FOR BOILERS

TEXT AND PHOTO ROGER THOMAS

Forest Fuels Ltd and its sister company its sister company Wood Fuel Solutions think heating, domestic and commercial, all year round. Sam Whatmore's organisation will plan your home or business heating system, provide tender lists of suitable equipment suppliers and, through Forest Fuels, provide the chipped wood to fuel the boiler. As Sam says, "No project is too big or too small – and importantly it's carbon neutral."

Generating heat energy through burning wood chips was slow to take off in the UK but, with serious increases in most energy prices, wood fired systems are gaining popularity. At only 2.5/3.0p per kW/hr for a wood chip system compared with costing gas and oil at twice that figure, Forest Fuels are busy. "We prefer to sell heat by the kilowatt hour by using a heat meter fitted to the furnace," explains Sam. "We will however supply fuel by the tonne if required."

Why the two systems?
Simply put, oil and gas have known calorific values. Wood chips can be much more variable depending on the type of wood (hard or soft), moisture content and the amount of bark in the mix. However, some people do not want to worry about a meter. The source of wood chips? Well they are many and varied, and range from waste timber such as old pallets through sawmill off-cuts (slab wood) through tree surgery material to forest thinnings and clear fell timber that has little value for processing of sawing.

Forest Fuels' Valmet unloads seasoned timber for chipping. A swiveling seat drive makes this an easy operation.

Sam Whatmore of Forest Fuels

And how is this material processed? Forest Fuels are a highly flexible organisation. "Wood chips have nine times the volume of oil so to remain competitive we take the easiest, most economical path," Sam explains. "Sometimes it is easiest to have un-chipped material delivered direct to the customer and chip it straight into the furnace store."

Alternatively seasoned timber is chipped in the forest into trailers for delivery to either our central or a satellite stores or for delivery direct to customers, or timber, in its various forms, is delivered to one of the depots for chipping at a convenient time. Finally there is the material that comes from tree surgeons ready chipped.

"We like to operate on a three or five year contract – its more cost effective for us and the customer."

What equipment does Sam use?
He has a couple of chippers from the Heizohack range and a well used but highly reliable 101 hp Valmet 6300 from 1994. At fourteen years old and with 8,000 hours on the clock this machine is used to power the chippers, handle the forwarding trailer with crane, a tipping trailer – and much more. "It's the backbone of our operation."

Sam sought out a Valmet or Valtra machine follow trips to Scandinavia. "The farmers there work the fields during the summer but once the snow sets in they move, en masse, into the forest. Valmet and Valtra machines are everywhere and considered highly reliable and very economical."

What does Sam particularly like about his Valmet? "There's plenty of ground clearance, nothing hanging down to be ripped off by stumps, it's very manoeuvrable. Also the seat is reversible so loading timber with the crane is simple and comfortable. You ask around – anyone with another make without the swivelling seat – they'll very soon tell you how uncomfortable life is. Good workers deserve better."

Sam also appreciates the lack of invoices from his local Valtra dealer, Devtrac. "Devtrac give us excellent support when we need it but thankfully that's not often – despite the age and the type of work the tractor is expected to do."

And when Sam thinks it's time for a replacement? "Another Valtra almost certainly." •

Silage fodder was invented by the Finnish scientist Artturi Ilmari Virtanen in 1928.

A.I. Virtanen awarded Nobel Prize in Chemistry in 1945

THE FINNISH SCIENTIST WHO GAVE HIS INITIALS TO AIV FODDER

Surprisingly few farmers know that silage fodder was invented by the Finnish scientist Artturi Ilmari Virtanen.

TEXT TOMMI PITENIUS **PHOTO** VALTRA ARCHIVE

Artturi Ilmari Virtanen

Virtanen even received the Nobel Prize in Chemistry in 1945 "for his research and inventions in agricultural and nutrition chemistry, especially for his fodder preservation method."

Virtanen earned a Master's degree in chemistry from the University of Helsinki in 1916 and a Doctoral degree in organic chemistry in 1919. He went on to study physical chemistry at ETH Zürich, Switzerland, the chemistry of fats at the University of Münster, Germany, and bacteriology at the University of Stockholm, Sweden. He later became a professor at the University of Helsinki and the Helsinki University of Technology and President of the State Academy of Science and Arts in Finland. Throughout his career, from 1921 onwards, he was also Director of the Laboratory of Valio, the Finnish Cooperative Dairies' Association.

The variation in the amount of vitamins in milk due to the quality of the fodder in wintertime was a big problem in the 1920s, both for the dairy industry and for public health. In the spring of 1928 Virtanen discovered that fresh fodder can be preserved over the winter if its acidity was reduced rapidly after harvesting to less than 4pH and if it was stored in airtight conditions. This innovation was patented in 1932, but it took the growing use of plastic to wrap the fodder in to gain widespread use.

The great scientist was not immune to controversy, however. For example, he studied the biological nitrogen fixation of plants, but his theory was later dispelled. Politically he was fervently anti Soviet, and his views occasionally got him into trouble during the Cold War era.

His passion for biochemistry was founded on very pragmatic grounds, as four of his six brothers died before reaching the age of one. Virtanen surmised that the reason was a deficiency in Vitamin A. His humble family was used to buying inexpensive skimmed milk that was deprived of Vitamin A when the fat was removed. •

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Valtra Models

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Stay informed with the new Valtra app
Valtra has launched a new information app for iPad. The app gives users fast and easy access to current information about Valtra custom-built products and services. Featuring brochures, videos, product pictures, latest news, and a range of entertaining extras, this app is a must-have for all Valtra fans. The Valtra App is currently available in English. More language versions will become available in the near future.

A SERIES

MODEL	MAX. HP/NM
A83 HiTech	88/325
A93 HiTech	101/370

S SERIES

MODEL	MAX. HP/NM
S233	270/1195
S263	295/1310
S293	320/1455
S323	350/1540
S353	370/1540

T SERIES

MODEL	MAX. HP/NM
T133 HiTech	141/580
T153 HiTech	155/640
T173 HiTech	180/660
T193 HiTech	190/680
T153 Versu	155/640
T163e Versu	166/740
T183 Versu	187/770
T213 Versu	215/850
T153 Direct	155/640
T163e Direct	166/740
T183 Direct	187/770
T203 Direct	204/800

N SERIES

MODEL	MAX. HP/NM
N93 HiTech	99/430
N103 HiTech	111/465
N113 HiTech	124/510
N123 HiTech	135/540
N143 HiTech	152/600
N93 HiTech 5	99/430
N103 HiTech 5	111/465
N113 HiTech 5	124/510
N123 HiTech 5	135/540
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N163 Versu	163/650
N143 Direct	152/600
N163 Direct	163/650

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