


# Valtra Team

Valtra Customer Magazine • 2/2006

A woman with blonde hair, wearing a bright red jacket over a red and black plaid shirt and dark pants, stands smiling next to a Valtra tractor. She is holding onto the side of the tractor's cab. The tractor is dark grey with red accents. The word "VALTRA" is visible on the side of the tractor's arm and on the front of the hood. The background shows a blurred outdoor setting with trees.

**New  
N Series  
ADVANCE  
models  
fulfil your  
wishes**

Page 6

Valtra's  
impressive  
new R&D  
facilities

Page 12

Trimming  
with  
TwinTrac

Page 18



## New N Series model, page 6

Editorial .....	3	Valtra's 6000 series – Just gets better and better .....	14
A Royalty Double Success .....	4	Valtra protects safety and health .....	15
New N Series Advance models fulfil your wishes .....	6	Valtra is the second most popular tractor in South America .....	16
Valtra tractors running on biodiesel .....	7	Each new Valtra tractor is test driven at the factory .....	17
Valtra, leisure and the environment side by side .....	8	Trimming with TwinTrac .....	18
Valtra is a reliable partner in Portuguese fields .....	9	Good business requires the best tractors .....	20
Ruth Miller – Farmer, Stockwoman .....	10	Tips on how to make the most of your tractor .....	21
Tell us what kind of tractor you want – we will design it for you .....	12	Fencing skills move from the countryside to the city .....	22
Valtra Service Engineer .....	13	Old-timer – Supercharged Valmet 1203 .....	23



**Valtra tractors  
running on biodiesel**  
Page 7



**Ruth Miller  
– Farmer, Stockwoman**  
Page 10



**Valtra protects  
safety and health**  
Page 15



It is now just over a year since Valtra became a member of the AGCO group of businesses and during the past twelve months we have seen many positive changes.

One main improvement has been in product support; our ability to tap into the AGCO parts system has improved parts supply to dealers as, not only is there a comprehensive inventory at AGCO's UK parts distribution depot at Desford near Leicester and of course in Finland, there is also a Europe wide system allowing components to be sourced from the most convenient location in Europe should there be an emergency.

A further area of improvement has been in training; first at Banner Lane and now at AGCO's new Abbey Park Stoneleigh, European Headquarters. Here we have some of the best facilities in the world to train both our own and dealer staff – a benefit which will very quickly be passed on to you, our customers in the form of improved sales and after sales services. The new Abbey Park offices also provide excellent working conditions for all our administrative and support staff.

But that is not the end of recent investments. As you will read in the following pages a considerable sum has been put into a new Research and Development facility on Valtra's Suolahti factory site. Here the production line within the factory has also been recently extended to accommodate the more complex specifications incorporated in today's Valtra tractors.

AGCO, through Valtra, are investing heavily in the future, a future that will see many new and exciting features incorporated in a developing range of Valtra tractors. An example of this can be seen in the highly successful N Series launched just a year ago. As I commented in a previous edition of Valtra Team, I now know what its like to be a pop star with a number one hit. Over the past months the popularity of this remarkable tractor has grown considerably and with the recent arrival of the latest – Advance – model in the N Series range we can expect the popularity to grow still further. Considering a new tractor? Call your Valtra dealer and take a look now. You will not be disappointed.

**Mark Broom**

Valtra Tractors

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**Valtra Customer Magazine**

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*Eat in or take away there are a variety of flavours from which to choose.*

# A Royal Double Success

***On holiday in the North East of England or simply heading up or down the A1 just north of Morpeth? Take a little time out to visit Morwick Farm between Acklington and Warkworth for a taste of their Royal Double ice cream.***

**The Howies** came to Morwick in the 1950s with an Ayrshire herd. Today however the 1 000 acre farm, run by **Michael**, his father David and younger brother Andrew in partnership carries 150 dairy cows plus followers; a mixture of prize winning pedigree red and white Holsteins, pedigree Ayrshires and some cross bred stock

- 300 ewes plus lambs and 700 acres of combinable crops plus some maize for silage.
- And there's a single Jersey too, remarks Michael.

Like many other farmers Michael and his wife **Angie** were keen to find alternative ways to add additional profit to their bottom line -diversification.

- We're located in a tourist area just three miles from the coast and with plenty of milk available ice cream seemed one obvious enterprise, recalls Michael. That was back in 2001 but it took two years to undertake some serious market research, secure grants, modify redundant farm buildings, source equipment and train in its use.

- From the beginning the concept was to create the finest Italian style ice cream, explains Angie.

- We visited the Ice Cream Alliance conference in Harrogate, learned a lot and made some very useful contacts. Their new venture was also enthusiastically supported by the Howie's landlord, the Duke of Northumberland.



***Ice Cream manufacture is an all day requirement once the season starts.***

The initial aim was to convert redundant buildings into a production unit and ice cream parlour. After much preparatory work a grant from DEFRA was forthcoming, buildings were modified and equipment installed ready for opening at Easter 2003.

Naming a new business can be a problem but for the Howies it was obvious: Royal Double. But don't expect to see coats of arms over the door and citations on the wall. Royal Double refers to Michael Howie's achievements in 2002 when Morwick Sand Queen won the Supreme Dairy Championships at both the Royal Highland and Royal Show.

- We did have a little trouble registering the name but once we explained its origin our idea was accepted, recalls Angie.

***Angie and Michael Howie and staff expect to sell well over 15 000 litres of Royal Double ice cream this year.***

- Initially we advertised quite heavily to get ourselves known. Today we do less; brochures in tourist information centres and other sites and that's about it. Our name and reputation for a high quality product is what is carrying us forward and expanding at a respectable rate. We want to be in control of our growth, not captured by it. As a result trade sales are only made to independent retailers and restaurants where Angela and Michael can control the business terms. And growth has indeed been good; last year sales reached around 15 000 litres of Royal Double Ice Cream, an increase of around 30 % on the previous year. Some 65 % of production is sold through the Morwick Farm parlour direct to the public, 25 % is wholesaled and 10 % goes through a mobile sales unit at shows and other outdoor events.

- Last year the trailer was parked more or less permanently at Alnwick Castle but this year our ice cream is being sold through the Castle tea shop which frees up the trailer for other events, explains Michael.

- We now have the opportunity to increase sales and expand our regular customer base.





**Driver Fraser Warwick is enthusiastic about his Valtra 8350 "Plenty of power and torque but not too much fuel – and it's quiet – a nice drive".**



**Michael Howie likes Valtra's reliability.**

### So how does the system work?

The dairy herd calves year round with lactations averaging 9 000 litres from a twice daily milking routine. Milk, around 100 000 litres per month is produced mainly from grass, grazing during the summer months and silage in winter. Cows are kept in two groups – put simply, high and lower yielders. A TMR is fed once a day – silage balanced with straights including home-grown beans or bought in concentrates. Winter housing is in straw yards. Most production is sold to First Milk with Mike and Angie purchasing their milk for manufacturing from the farm at prevailing First Milk prices.

The main ice cream season runs from Easter to October and during the run up to Christmas with the parlour open seven days a week from 11am to 6pm. Not that the business closes down completely during the winter; ice cream is manufactured year round to meet the demands of a growing number of wholesale outlets. Alongside Angie and Michael (who also has significant farming demands on his time) there is one permanent, part time member of staff, Linda Bell, plus a number of temporary part timers.

– We are lucky. A lot of the temporary help comes from the extended family, some of whom are still at school or college and free during our busiest time. And the way the business is progressing we think that Linda will be working full time before very long.

Initial production was based on one 60 litre pasteuriser but with last year's growth in sales a second has been installed. Despite this added capacity ice cream has to be made on a daily basis from a menu of 50 or 60 flavours.

– There are of course favourites – chocolate, raspberry, vanilla, – available all the time while others come and go to make a change for regulars. Where possible we use local ingredients, soft fruit being just one example with strawberries coming from a neighbouring grower.

Michael and Angie have developed the Morwick Farm ice cream parlour with their eye on a mix of customers. There is a safe, fenced play area for children and table and chairs for the less energetic.

– The kids can rush around with their cones in safety while mum and dad enjoy their ice cream in peace is the idea, says Angie. The parlour also sells tea, coffee and cakes for those wishing for a little refreshment while collecting take-away tubs for later consumption. The result is a business attracting a wide range of patrons.

Luckily the buildings suitable for conversion were located on the entrance side of the farmstead and, with stock grazing adjacent fields, visitors have an excellent chance to observe the operation of a working farm. Inside the parlour customers can watch ice cream being made – a direct link between the cows outside and the contents of the tub or cone. Michael and Angie also make contact with younger customers through an annual competition. Angie explains:

– Children are asked to develop a flavour and the one judged the winner we make and sell in the shop. This has the effect of bringing the youngsters closer to the manufacturing process and the farm behind it. All highly desir-

able in an age when the public is divorced from food production.

– Of course we get lots of ideas based on chocolate and some are a bit fanciful. The current competition winner now in production is a melon based recipe which has proved popular.

On the farm side of the business most of the work is done by farm staff although first cut grass silage and the whole crop and maize silage is brought in by a contractor.

– We do not justify the investment in equipment to handle such an important job. We do, however, make second and subsequent cuts ourselves, comments Mike. Cultivations, planting (with the exception of the maize), spraying, fertilizing and other operations are all handled by the farm's four Valtra tractors – an 8150, 8350, 6400, and a 6300 which has come to the end of its life at Morwick and is due to be replaced by an N101. Why Valtras? Mike is of the opinion that they are good tractors suitable for hard work:

– They don't break down like other machines we've run. And there is a local dealer which is important. An important operation for the tractors is feeding.

– It's imperative the cows are fed daily and for that we need reliable machines.

With considerable family involvement there is no doubt that Morwick Farm with its various enterprises is part of a traditional farming way of life in the North East but, with the care and attention taken in management detail this is one enterprise that has all the hallmarks of being one that will continue profitably for some time to come.

■ Roger Thomas

**The Morwick herd is a mixture of red and white Holsteins and Ayrshires.**



*Driver comfort, ergonomics and functionality have all been emphasised in the design of the cab, which offers lots of space, excellent visibility and pleasantly quiet noise levels.*

# New N Series **ADVANCE** models fulfil your wishes

***Valtra's N Series has received a tremendous reception among customers. The Classic and HiTech models have already become best sellers. They are joined now by the N121 and N141 Advance models, production of which has just begun.***

Sisu Diesel's new Citius Series engines with Common Rail fuel injection have been available on the N121 and N141 HiTech models. These are without doubt the most powerful four-cylinder tractor engines available on the market. They boast all the latest features of modern engine technology, including a "power bulge" that offers maximum power at just 2 000 rpm instead of the rated 2 200 rpm. In addition, models specified with Common Rail engines have extra power boost for transport driving, increasing the power of the N121 from 137 horsepower to 144 horsepower, and that of the N141 from 152 horsepower to 160 horsepower.

Common Rail fuel injection offers the advantage of high fuel injection pressure, allowing the engine to respond quickly to increased

loads. The fuel injection can also be divided into up to five different phases during a single combustion, which lowers noise levels. At the same time, the ignition and fuel consumption can be optimised. The long-stroke 4.9-litre engine in the N141 is new and competes evenly in its power class with six-cylinder engines while offering the advantages of four-cylinder engines: lower operating costs and, most importantly, unsurpassed compactness and turning radius.

## **Ideal hydraulics**

Before the N Advance, the Valtra M Series already came with electronically controlled load-sensing valves for the work hydraulics. For demanding applications customers request even more output, and the N Series delivers. The Rexroth variable displacement piston pump has a maximum capacity of 115 litres per minute. Valtra has further refined the pump circuit for use in cold climates by applying an ejector to the piston pump supply that can respond to rapid demands for increased oil flow, thus protecting the pump in extremely cold conditions.

The valves for the external hydraulics are controlled electronically and can be programmed according to flow and timing. Between two and four of these valves come as standard equipment, depending on market. Another standard feature is one electronically controlled on/off valve, which is particularly useful e.g. for adjusting the top link. A second on/off valve is available as an option.

The hydraulics are controlled from a completely new armrest ACHT (AutoControl Hydraulics Terminal) with a large screen and convenient controls. As Advance models also feature a CAN-Bus, the screen offers an unbelievable amount of information. In addition, it can be used to programme the valve functions of the work hydraulics.

Valtra strives to make even the most advanced technology easy to use. Although the valves are fully adjustable, three convenient factory settings can also be selected:

1. Flow is set for small output, which is ideal for testing implement functions safely
2. Medium output (approximately half the maximum)
3. Maximum output

These settings make it easy to familiarise yourself with the tractor, after which you begin programming your own settings.

Advance models naturally feature electronic front linkage management, or Autocontrol ACD, which features the radar based slip control, which automatically engages the differential lock and four wheel drive.

#### **New levels of driving comfort**

The compact front suspension on the N Series has been widely praised. Advance models supplement this with optional cab suspension, which works in perfect harmony with the front suspension.

The cab itself is spacious and quiet, and the interior design features a fresh new look. To facilitate driving, Advance models feature an electro-hydraulically operated range gear between the road and field ranges. The transmission overall follows the dependable Valtra concept. The HiShift button-controlled clutch allows the driver to change gears or ranges without using the clutch pedal, and the Powershift steps can be controlled manually, by using the factory settings, or by programming the system for specific tasks. Driving is further enhanced by Autotraction, which allows the tractor to be driven with just the accelerator and brake pedals at speeds of less than 10 km/h. The HiTrol turbo clutch, a highly appreciated option among professionals, is also available on N121 Advance models.

Together with the new cab design, the TwinTrac reverse drive controls have also been redesigned with a new centrally-located steering wheel at the rear.

#### **Customise your own Advance**

Overall the N Series demonstrates Valtra's ability to make individual tractors based on customer needs. Advance models are available with 40 or 50 km/h transmission and a powerful front linkage and PTO. Valtra front loaders are pre-fitted at the factory. N Advance models are also available with forest cabs.

The N Advance has been designed to meet the needs of modern farming and contracting. In the majority of modern tractor-implement applications, advanced hydraulics are a prerequisite for fully utilising all the advantages of new implements. Load-sensing hydraulics also help increase the overall efficiency of utilising tractor-implement combinations. The tractor can be used with even larger implements, since the hydraulics capacity is loaded only as much as is needed.

■ Hannu Niskanen

## **Cost savings without power loss**

# **Valtra tractors running on biodiesel**

***Since February 2005 the Valtra tractors at the Grünlichtenberg farming association in Kriebstein (Saxony), Germany have been running exclusively on biodiesel. The five Valtra T Series (T180 and T190) and HiTech 8550 Series, which make up a fourth of the association's fleet, are required to perform at their peak. Since their acquisition around two years ago, each of the tractors has been in use for about 5 000 work hours, out of which 1 300 hours have been fuelled with biodiesel.***

About four years ago the Grünlichtenberg farming association started to convert its entire fleet to use 100-percent esterified biodiesel, which the association orders from manufacturers throughout Germany. According to fleet manager **Dietmar Straube**, the main reason for the changeover was the

low cost of biodiesel compared to normal diesel fuel: – Our machines consume about one million litres of fuel every year, which is why we are convinced of the savings we can achieve with biodiesel.

The switch to biodiesel has succeeded without complications or even modifications to the engines.

– We had heard some rumours that biodiesel may damage a tractor's engine. Since the changeover we have had nothing but positive experiences, and we cannot confirm any of the negative rumours, says Straube.

Valtra tractors have clearance to be fuelled with esterified biodiesel complying with EN 14214 or ASTM D6751 norms. The newest Tier III compliant Common Rail SisuDiesel engines form the only partial exception: for most of these models biodiesel is only recommended as a five percent mixture.

Smooth tractor operation can of course only be achieved with the right servicing. If biodiesel is used, the engine oil and fuel filter must be changed twice as often as required by the normal service interval, as biodiesel is more liable to absorb condensed water than normal diesel fuel. Accordingly, the Grünlichtenberg farming association has reduced the service intervals for their Valtra tractors by half.

Valtra tractors perform a wide variety of tasks at Grünlichtenberg, including light cultivation work, manure spreading and transportation of all kinds. The association produces potatoes, sugar beet, other vegetables, meat and milk and even has its own direct sales markets. Dietmar Straube confirms that the performance of the Valtra tractors with biodiesel is just as high and reliable as when fuelled with normal diesel.

■ Pamela Engels



***The Valtra tractors at the Grünlichtenberg farming association are fuelled entirely with biodiesel. Biodiesel is suitable for all SisuDiesel engines, except the newest ones with Common Rail fuel injection.***

***– The performance of the tractor fuelled with biodiesel is just as high as with normal diesel, says Dietmar Straube. Picture: Gerd Menzel***

*If you're a beach enthusiast then those around Southport, Lancashire will meet your desires. Starting just north of the town they spread south for 22 kilometres, the hinterland is mostly dunes and when the tide goes out the sea disappears over the horizon; 4 kilometres in places.*

Responsibility for the beach and most of the hinterland is lies with Sefton Metropolitan Borough Council's Coast and Countryside Ranger service headed by **Dave McAleavy**. To help Dave and his team run this huge area they've been supplied with three Valtra A95s by the Council's transport department.

– We've used a number of makes of tractor over the years but settled on the Valtra brand, reports Vin Donnelly, Sefton's Transport Manager.

– As is normal we go out to tender for new machines and Valtra tractors have always been offered at competitive prices. However, pricing isn't everything; no organisation wants to be saddled with unreliable kit.

– Before purchasing the first Valtra I talked to colleagues at other councils and, importantly, reports were all favourable. Today intelligence reaching Vin on both the tractors and supporting dealer remains one of reliability.

– We have a maintenance contract with Valtra dealer's, HL Tractors based near Widnes – they are most helpful and reliable.

On site the tractors have two main areas of operation. One, beach cleaning and foreshore maintenance requires the tractor to be hitched to a Barber Surf Rake. Driven by a combination of hydraulic and PTO power the cleaner skims off the rubbish which is elevated into a hopper at the rear. When full, the hopper is tipped into skip or trailer. A second duty is returning sand



*Cleaning the beach is an early morning occupation – before the public arrive. Sefton's Ranger Service are proud of their beaches Blue Flag award.*

## Valtra, leisure and the environment **sidebyside**

to the beach using Valtra's factory fitted loader; at Southport particularly wind blows sand onto footpaths and roads and if left these rights of way become blocked. Headed by Senior Beach Supervisor **Paul Lowry**, the rangers efforts to keep beaches clean has been rightly rewarded by the granting of Blue Flag status; an award of which they are rightly proud.

Other tractor work includes maintenance of the dune area, which forms part of a Local Nature Reserve.

– The dunes are home to the rare Natterjack Toad and some areas are designated SSSI requiring sensitive maintenance, explains Dave McAleavy.

– We have opened some areas to the public which has involved constructing and maintaining boardwalks. The Valtra tractors have been essential, moving materials and equipment to site and in the control of grasses and other vegetation.

A second area of operation is in forested areas. Over time conifers have been planted amongst the dunes and now mature trees are being harvested by the ranger team for conversion, usually in the woodland, into useful timber.

– We manufacture gates, sign posts, notice boards and rubbish bins, explains Dave.

– And supply similar products to other



*Ranger and driver Brian Southworth finds the Valtra simple to operate.*

organisations including the National Trust. Extracting the felled timber, moving completed gates and other items are all tasks the Valtra tractor and loader handle with ease. Naturally there is a tree replanting program and again the tractors are used to take young saplings onto the site.

The variety of work for Sefton's Country Side Ranger Team and the Valtra tractor is interesting and varied; on one hand there are the public's considerable demands – clean car parks and beaches. On the other there is a vibrant ecological system to support and explain to the many visitors.

■ Text ????????



*Mature timber is cut, treated and converted into a range of products from benches to information boards.*



# Iberian Salads Vitacress

## Valtra is a reliable partner in Portuguese fields



**Iberian Salads Vitacress is one of the most important salad growers in Europe. The British-owned company fell in love with the Portuguese fields and Valtra tractors a long time ago, having been in Portugal since 1980.**

– We are in Portugal due to the weather, soil and water availability, as all our farms fall within the Santa Clara dam area, explains **Ian Robertson**, Extensive Field Operations Manager of Iberian Salads Vitacress Portugal Sgps.

The company was founded in Hampshire in 1950 by Malcolm Isaac cultivating just one acre of land at the time. These days Vitacress is specialised in growing niche vegetables, in particular premium baby salads – watercress, spinach, leafy salads, rocket and wild rocket- and new potatoes. This is probably the most important aspect that sets the business apart from the competition.

According to Robertson, the critical factors for the survival of a company are innovation and

excellence in production. Vitacress aims to continue being the best in baby leaf in the premium market in which it operates through innovation and quality.

– Our current focus is on Spain and the introduction of our brand there, Robertson reveals.

### Innovations ensure growth

The company's production is divided between Portugal and Spain, with the main production surface of 180 hectares in Portugal and 50 hectares in Spain. Approximately 80 percent of what Vitacress grows in Portugal is exported to UK company Vitacress Salads Ltd. The other 20 percent is split between Iberian customers, including both modern distribution and food services.

– Vitacress is a grower-packer, meaning that it has total control over traceability and the quality of all the products it grows. Our key productions are leaf salads with a volume of 2 000 tonnes, followed by spinach with 1 350 tonnes and watercress with 1 000 tonnes, Robertson

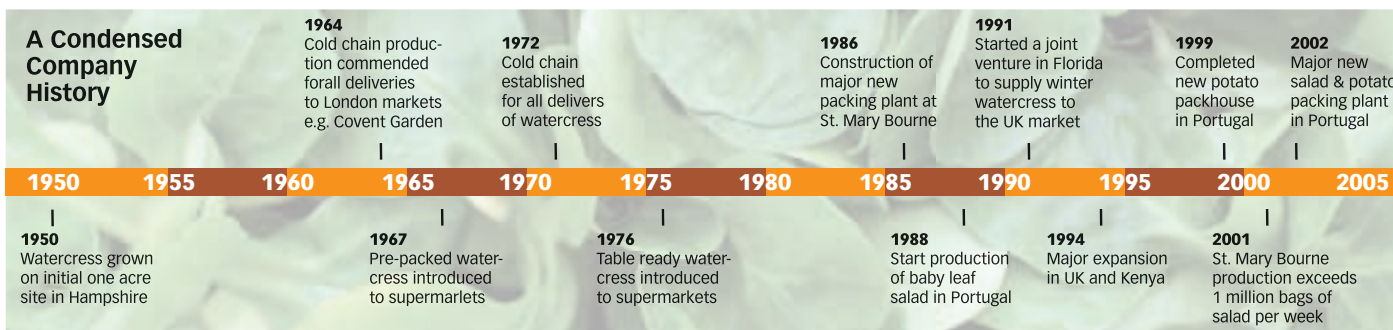
**– We are in Portugal due to the weather, soil and water availability, as all our farms fall within the Santa Clara dam area, explains Ian Robertson.**

explains.

Vitacress has 37 tractors, 25 of which are Valtra machines. According to Robertson, the main reason for choosing Valtra is that Vitacress can get the correct package of options and specifications at a reasonable price. All this comes with a good reliability and a supply of spares when needed.

– The Valtra range is extensive, and we can select the right package to fit the range of jobs we require. This is helped by good interaction with the agents to get the best out of the range. Our only request would be to ask Valtra for a little more training for our own maintenance team. Other than this we have no complaints, Robertson states.

■ João Pimenta





*Ruth is a capable stock woman and knows the type of animal she needs to produce for maximum profit.*

# Ruth Miller

## – Farmer, Stockwoman

***Born and brought up on the family farm, Ruth Miller returned from Seale Hayne Agricultural College and spent the next 15 or so years working alongside her father and brother. Then she decided it was time to branch out on her own.***

Today **Ruth Miller** runs, more or less single handed, something over 400 acres along the Kennet valley between Newbury and Reading in the south of England. Padworth Park Farm is a mixture of gravelly soils that dry out quickly and water meadows. The majority of the land – 350 acres – is grass, combined with 160 acres of arable land growing wheat and beans. The farm also has 25 acres of broadleaf trees planted under the woodland scheme, plus a stand of 50 high quality cricket bat willows that are harvested on alternate years to make test match standard bats. Currently the farm carries around 260 beef cattle in various stages

of being fattened, plus 10 pedigree Aberdeen Angus cows and a similar sized herd of Lincoln Reds. There is also a flock of 200 Suffolk cross ewes that lamb in May.

### **Meeting requirements pays off**

Ruth's partner **Mick** helps where he can, but he also has a full time job as a water engineer, as well as a herd of 20 pedigree saddleback sows whose progeny he takes onto pork on land a short distance away from the main farm. Life at Padworth Park Farm is hectic enough, but despite this Ruth still has time to be a mother to her two boys, aged three and seven.

Partly because of her family demands, partly because of the land, and partly because she wanted to do things a little bit differently, the farm is run on somewhat unusual lines with the emphasis on adding value. Ruth has given an undertaking to a number of dairy farmers that she will take all unwanted calves.

In return she supplies an Angus bull from her pedigree herd. This gives the dairy farmer a clean bull of known provenance, while Ruth gets a crossbred calf of the type she requires.

– We still get the occasional Oddity, Belgian Blues and pure bred Holsteins for example, but mainly the system works well, Ruth admits.

The calves are moved to Padworth at a few days for rearing and at around 26 months should be ready for slaughter. For some years now Ruth has been supplying animals for the Waitrose Angus and Hereford meat scheme.

– The specification is tight, but provided I can keep on top of herd management it pays quite well.

Ruth is also quite a supporter of Waitrose management.

– All through the BSE and Foot and Mouth debacles, Waitrose never dropped their prices. That's got to be worth something.

## Supplier of many types of meat

Another outlet for finished beef animals is the Wick Croft Farm Shop at Theale on the outskirts of the Reading conurbation. The farm also has a number of private customers. The aim is always to get maximum value from each animal, and Ruth does not see open markets as a way of achieving this aim.

– There may be occasions when an auction price would top what I make on an animal, but overall I believe what we do makes the farm business the best money.

Alongside the beef, Ruth also rears dairy replacement heifers for one of the dairy farms, a simple contract arrangement that leaves her free of the worrying problems of calving.

– There's only me, and the commitment to the Angus and Lincoln cows when they calve conflicts enough with family demands. That's why bringing in young stock from dairy farms works so well.

Family commitments are also one of the reasons why, in this relatively benign climate, the crossbred Suffolk ewes are lambled outside as late as May.

– During lambing I get up in the morning, walk round the ewes to see what happened overnight and see to any emergencies. Then, after the school run I sort out the results of the previous night.

Newly lambled ewes and their progeny are taken under cover for a short period before turning out onto clean grazing. The lambing rate is around 180percent, which is good under the circumstances, and the finished animals



**Not being technically-minded herself, Ruth needed a tractor that was reliable and simple to operate.**



**An all-round workhorse, the Valtra 6550 is suitable for a variety of field work, feeding and construction of new farm buildings.**

are normally ready for slaughter at the turn of the year. Meat is either sold privately through the farm shop, and in some animals are sold at stores.

Given the type of land, the combination of sheep and cattle is seen not only as two sources of income, but also as an important management tool. The grazing habits of the sheep and the cattle complement each other, leaving a well managed sward negating the need for much harrowing and some rolling of the pastures. The ability to offer various types of meat to customers is clearly an important selling point, as is the ability to offer pork from Mick's enterprise.

– Customers need only deal with one source, which saves us both time and trouble.

### Reliable helper with aftersales service

Carefully managed pastures are a key to Ruth's livestock enterprise. Wrapped big bale silage supplements winter grazing, the aim being to out-winter stock for as long as possible without causing damage to the fields.

– I just don't have the capability to handle the silage making myself, so a contractor does all of that along with the planting and harvesting of the wheat and beans.

Despite this important contractor input, Ruth still has plenty of tractor work to do herself.

– I wasn't at all interested in machinery at college – when I did go to lectures I often found myself dozing off!

There is regular topping, spraying, slot re-seeding, fertilising, winter feeding and a host of other jobs to contend with.

– I need a tractor that is simple, reliable and with enough power to cope with everything I have to do.

After taking advice the decision was made to invest in a Valtra 6550 with a loader from Simon Peterson at D&S Engineers of Spencers Wood.

– I have to admit that the technical specification was not the only consideration when making the decision to buy Valtra. Yes, it has to be reliable and simple enough for me to operate, and of course it has to be sensibly priced, but it also had to come from a dealer who would put up with phone calls demanding explanation of how I should do a certain operation. Simon Peterson gives customers that type of aftersales care.

The move from farming in partnership with the rest of her family has been a big one, but it is evident that Ruth Miller knows what she is trying to achieve and will no doubt continue to achieve it.

■ Roger Thomas

## Valtra's impressive new R&D facilities



# Tell us what kind of tractor you want, and we will design it for you

**Valtra's R&D department moved into brand new 4000-square-meter facilities at the Suolahti factory this autumn. Built at a cost of 7 million euros, the modern facilities will facilitate R&D projects and especially co-operation between factory and R&D operations.**

– The new facilities are really tremendous. They may not look glamorous, but they are extremely functional, describes Project Manager **Pekka Ingalsuo**.

Around a hundred experts work in Valtra's R&D department. In addition, almost the same number of people work on Valtra R&D projects at various research institutes, universities, engineering offices, subcontractors and test facilities. Valtra's Brazilian factory also has its own R&D department.

The R&D Centre reminds one of Q's workshop in the James Bond movies. Seemingly bizarre tests are being conducted in the laboratories, and fascinating drawings of new tractors and options can be seen on the design tables.

The centre's cold lab can recreate minus –30 Celsius conditions even in the middle of summer – an obvious benefit for further developing the famous cold weather performance of Valtra tractors. There is also an acoustics lab, which is a completely quiet and echo-free room used to measure cab and

drive-by noise levels. The centre also houses a powerful chassis test bed that can be used to test the durability of the chassis structures of Valtra tractors and also those of competing brands. In addition there is an electronics lab, a design lab, and several test benches for testing powertrains and hydraulics.

Half of the R&D Centre consists of office space, as a lot of the development these days is done using three-dimensional CAD computer software. Valtra has earned a strong reputation in utilising this technology, for example winning first place in an international competition for CAD designers.

### **Developing new tractors and improving existing ones**

Few R&D projects begin with a blank piece of paper. Instead, most projects are based on existing models or components, such as familiar engines, cabs and powertrains. Many projects also focus on a specific area of the tractor or piece of equipment.

– Our work is based on the needs of our customers, as well as stricter legislation

concerning exhaust emissions, for example, Ingalsuo explains.

Valtra's EcoPower models are a good example of how customer feedback is utilised. Rising fuel prices are a major concern for farmers and contractors all over the world. In response, Valtra offers EcoPower tractors that consume approximately 10 percent less fuel than normal tractors.

In addition to the wishes of customers and legislators, Valtra's R&D team also works closely with production. Ideally, new tractors are not only better than the ones they replace, they are also easier to manufacture. This results in more competitive pricing. Similarly, utilising the same components for different models can improve the efficiency of spare parts operations.

Valtra design has won many international competitions. Valtra tractors should not only resemble each other in terms of looks, but also in terms of usability. Therefore the con-

**Although a lot of design work has moved from the drawing board to the computer screen, many design aspects can be conceived more easily through modelling. Pekka Ingalsuo studies various concepts for future tractors.**



*Project Manager Pekka Ingalsuo assembles a prototype together with his colleague Reijo Kuukkanen. Several prototypes of tractors are assembled before production to undergo testing. Production workers in turn use "zero series" machines to practise assembling new models.*



*Erik started his job at Fa. van der Vegt in Scherpenzeel three years ago.*



## Valtra Service Engineer

*Established in 1950, the company Fa. van der Vegt, is located in the north of the Netherlands, in the Frisian city of Scherpenzeel. Starting out as farriers and wagon builders, the business developed into a medium-sized farm mechanisation and engineering company with eight employees. Erik van der Vegt owns this company together with his father and uncle.*

In 1982 they acquired the Valtra tractors dealership. Sales and service of tractors and agricultural machines are still growing. Some three years ago Erik started at the company where he not only works as an engineer, but also has a lot of other tasks, such as office work and maintenance of the website. He was educated at the Institute of Technology (HTS) and his most recent job was that of manager at the firm of Zuidberg Frontline systems. In addition to Erik, the company employs two full-time engineers. Everyone works in both branches (farm mechanisation and engineering) of the company.

He likes his work. Together with his colleagues he closely follows developments in the market and actively responds to them. For example from the fact that the company recently purchased a tractor inspection station where they can inspect all makes and types of tractors for safety and general state of repair. That includes inspection of general technical condition, engine power, breaks, lighting, and checking for leakage of fluids. The Tractor Manager software uses a database containing all makes

***All tractors can be inspected for safety and general state of repair at the tractor inspection station.***



and types of tractors with their standard values. With the new tractor inspection station, they hope to attract even more tractors for maintenance. There still are many clients who neglect their tractor maintenance. Proper maintenance prevents unwelcome downtime and unnecessary costs. It can be planned for quiet periods and in the end it saves the client a lot of money. Tests will also reveal irregularities that had not been noticed and the need for repairs is discovered at an early stage. A perfectly tuned engine saves fuel, guarantees optimum power and prolongs the tractor's service life. Moreover, tractors that pass the annual inspection with flying colours will have a higher trade-in value.

The cooperation with Valtra is excellent according to Erik. "The service people of Valtra importer Kuiken Agri really know what they are talking about and that is very important to us", says Erik. The Valtra Service Kits are complete and practical for the clients. For instance, many municipalities in this province use the service kits. They often carry out tractor maintenance in-house. Erik is also very positive about the training facilities offered by Valtra. Together with the two other engineers they attend all training sessions and courses organised at Kuiken Agri. Valtra listens carefully to the students. Erik has noticed substantial differences in knowledge level among the Valtra engineers. He would appreciate it if for instance beginners' and advanced courses could be developed. A second critical remark concerns the information supplied by Valtra. Erik would like to be able to consult all required information in the most efficient way. Technology is so specialised these days that it's no longer possible 'to know it all'. Being able 'to find' everything is very important – and preferably everything at one stop. Internet is becoming an indispensable means of information and, fortunately, Valtra is paying more attention to that aspect as well.

You can find more information about Fa. van der Vegt at [www.favandervegt.nl](http://www.favandervegt.nl)

trols in new Valtra models are made to be familiar to owners who are used to older models, as well as to those who operate several different Valtra models.

### **R&D lives off customer feedback**

Valtra's R&D team always welcomes customer feedback, the majority of which comes through official channels such as reports made by sales and service representatives. Feedback is also sought directly from customers and test drivers, especially at exhibitions where Valtra's R&D team – unique among tractor manufacturers – often has its own stand.

Custom building tractors is also great for R&D, as it presents new opportunities for meeting the needs of individual customers. Over 10 000 customers visit the factory each year, which is also a great opportunity to hear feedback, Ingalsuo points out.

The highlight of anyone working within R&D, however, has to be the launch of a new product. Although the launch itself is handled by marketing professionals, the R&D team is always excited to see how their new concepts are received. Praise alone is not enough, as the true measure of success is how popular a new tractor model or optional equipment becomes.

■ Tommi Pitienius

■ Brenda Roos

## Just gets better and better

*Valtra's 6000 series is a highly popular classic, although other than the model names, little remains of the original specification. Owners appreciate the versatility and flexibility of the 6000 series, which make it a true "all-rounder".*

"A very flexible tractor" is a recurring comment when you talk to owners of the 6000 series. It is suitable for all types work – in the field, both in arable crops and on grassland, equipped with a loader, on the road and in the forest.

### Continuous development

Little of what was there when the series was first introduced remains under the body panels of a Valtra 6000 today. Product development has continued without interruption, which means that the 6000 series still ranks among the best on the market for anyone looking for a versatile and flexible tractor.

■ Kjell-Åke Larsson



### Versatile and light arable tractor

– I am very impressed by its versatility, and my Valtra is ideal for both large and small jobs, says **Erland Nilsson**, an arable farmer with a large area under sugar beet near Svalöv, who owns a Valtra 6850 equipped with front hydraulics.

– We use it in front of the seed drill and sprayer, for transport to and from the field during the beet harvest and with a front-mounted snow blade in combination with a gritter at the rear in the winter.

– As well as the manoeuvrability and flexibility, I also appreciate the low weight per hp, which is kind to the soil.



### Like a mechanical loader thanks to the turbine clutch

**Dan Englund**, from near Örebro, has a 6650 with a front loader. The farm is involved in arable crops, forestry and contracting, mainly highway maintenance.

– I am really impressed by the turbine clutch. It makes driving smooth and gentle, says Dan.

– We use the Valtra a lot to pull a reversible plough. Driving smoothly on the headlands is easy, yet it remains fast and effective.

– The best feature of all, however, is the turbine clutch; when working with a loader, the tractor performs like a mechanical loader with a converter.



### Like a forwarder thanks to TwinTrac

– TwinTrac is unbeatable in the forest, and my Valtra-Moheda outfit feels like a forwarder, says **Lars-Gunnar Jonsson**, a grassland and forest farmer from Stenberga in Småland and the owner of a 6850.

– When driving in the forest, I spend more of my time facing backwards than forwards. Performance is smooth and flexible thanks to the turbine clutch.

Lars-Gunnar's Valtra is put to work on the grass harvest during the summer, including pressing 3 000 round bales every year.

– The practical drive selector makes the work very efficient, and the Auto 1 automatic transmission system comes into its own when transporting heavy loads.

# Valtra protects safety and health

***Agriculture is a dangerous working environment with frequent accidents. It is a workplace with many machines that are large, heavy and often equipped with rotating parts. That is why Valtra is committing significant resources to improving the working environment and safety of tractor drivers.***

Nothing is more important than life and health. With this in mind, safety and the working environment have always had the highest priority with Valtra's product development engineers. There is a clear-cut need for this, because agriculture and machines are a potentially hazardous environment.

## **Pioneer**

Safety and the working environment really are important at Valtra, and are not just empty words. This is demonstrated not least by all the innovations pioneered by Valtra. There is also a long tradition in this field; for example, Valmet and Volvo BM were the first manufacturers to offer a rubber-mounted safety cab as an integral unit separate from the tractor body. The Valmet 502 and Volvo BM 650 were revolutionary in terms of the driver's working environment.

## **Automatic parking brake**

According to an official report from 1996 on accidents in the Swedish agricultural sector, a remarkably frequent occurrence is for a driver to be run over by his own tractor. How can this happen? The usual explanation is that the parking brake was not set, or that it was in poor condition, possibly because the driver had for-

gotten to release it on a previous occasion. The report accordingly recommends that a parking brake must be easy to operate and fitted with an effective warning system.

Valtra's answer to this is the HiTech system, in which the parking brake is integrated in the drive selector, where it is impossible to forget in principle and is also easily operated with the fingertips. This is an excellent solution, which offers both a better driver environment and greater safety.

## **The tractor in traffic**

Much of a tractor's work takes the form of transport and movements on public roads, often involving dual wheels and broad implements. It is important at such times to be clearly visible, to have efficient brakes and for any load to be secure.

The need to be clearly visible in traffic when driving on the road with broad implements cannot be overemphasized. Valtra's range of accessories includes various kinds of rotating warning beacons, and our accessory shops have lighting kits available for use with implements that are not already equipped with these.

A tractor is often used for transporting heavy loads of grain, sugar beet, etc. This calls for good brakes on the trailer and good judgement on the part of the driver. The forces involved here are enormous. For example, Swedish regulations stipulate that a tractor/trailer outfit must be capable of being brought to a halt from 40 km/h in 19.8 m. Stopping a 25-ton outfit in this distance requires a braking effect of 500 kW, which is sufficient to increase the temperature of 6 kg of steel to 500 degrees. Not a single

tractor on the market can achieve this unaided without overheating and damage to the brakes. The brakes on the trailer are important and must be "up to the job" in order to prevent damage to the tractor.

## **Unguarded power transmission shafts**

Many very serious accidents are caused by unguarded power transmission shafts. These accidents are often totally avoidable, since we are all very aware that guards must be in place. This is a typical example of why a guard must not be omitted, and why it must also be maintained to ensure that it has the desired effect.

If an accident occurs in spite of this, an external emergency stop device for the power take-off can save lives. Valmet introduced such a device as standard equipment on its 6000 and 8000 series tractors in 1994. Valtra is probably still the only manufacturer to offer this important safety feature. The emergency stop can be easily extended to manned implements, for example to the working platform on a manned potato harvester.

## **Maintenance is essential**

To ensure that safety is maintained even when a tractor has a few years on its back, it is of the greatest importance on the one hand for guards and other safety devices not to be removed or taken out of service by bypassing them or in some other way, even though this may be tempting at times, and on the other hand for them to be maintained as intended so that their function is preserved.

■ Thor Andersson



***An emergency stop for the power take-off can be found at the rear of certain Valtra models. The stop can be extended with a cable, for example to the working platform on a potato harvester. A safety feature that is unique to Valtra.***



***To prevent children from starting the tractor, a starting interlock is incorporated in the driver's seat. The tractor can only be started if the seat is loaded with the weight of an adult person.***



***Many accidents are caused by an unmanned tractor moving as a result of the parking brake not being applied. Our HiTech models use an outstanding solution which reduces the risk of accident. The parking brake is integrated into the drive selector and is operated with the fingertips.***



***It is important for a connected trailer to have efficient brakes that are also operated in an efficient way. The picture shows a hydraulic brake union connecting the tractor brakes to the trailer brakes.***



*Valtra is the second most popular tractor brand in Latin America and overall the fourth largest tractor manufacturer in the world.*

# Valtra is the second most popular tractor brand in South America

Most of us know already that Valtra is the most popular tractor brand in Northern Europe. Some of you may also know that Valtra is the fourth most popular tractor brand in the world. What most people do not know is that Valtra is the second most popular tractor brand in South America.

Valtra operates two tractor plants: one in Suolahti, Finland, and the other in Mogi das Cruzes in Brazil. Together these factories produce almost 20 000 tractors a year.

Valtra's Brazilian operations were founded in Mogi das Cruzes, close to Sao Paulo, in 1960. Since then, approximately 350 000 Valmet and Valtra tractors in total have been built there. In 2005 the plant produced exactly 7 952 tractors ranging from 60 to 180 horsepower. The most popular models are the 785, BM110 and BH180.



## Brazil is a major agricultural power

Brazil is the world's largest producer of sugar, coffee and oranges, the second largest producer of soya, beef and kidney beans, and the third largest producer of maize, chicken and cocoa.

For the most part, the agricultural sector in Brazil is not subsidised by the state. Nevertheless, agricultural products account for around 40 percent of the country's exports. Brazil also has a large population of approximately 170 million, which also consumes an enormous amount of agricultural products. The country has around 50 million hectares of arable land and over 100 million hectares of grazing land, and the amount is increasing all the time.

In the past two years, Brazil's agricultural sector has suffered from a recession caused by exchange rate fluctuations, changes in global market prices, poor weather, and a weak domestic economy. Since agricultural subsidies are not sufficient to balance the situation, the economic fluctuations can be severe. For example, last year tractor sales fell by 38 percent and combine harvester sales by no less than 72 percent. Fortunately, signs of recovery have already been noted in the second half of this year.

The agricultural sector in Brazil is very efficient. For example, the average size of Valtra tractors is 118 horsepower. In Brazil a single tractor cultivates on average almost 120 hectares, whereas in Europe the corresponding figure is generally around 12 hectares and in North America 50 hectares.

The largest estates in Brazil can cultivate tens of thousands of hectares and operate hundreds of tractors. Medium-sized farms in Brazil are similar to European family estates. Small farms can be very modest in size.

## Valtra continues to increase market share

Valtra do Brasil has weathered the storm in the local agricultural sector considerably better than its competitors. Its market share has increased significantly over that of its rivals, even if the total number of units sold has decreased for all brands. In fact, Valtra is very close to claiming the number one position as the most popular tractor brand in South America.

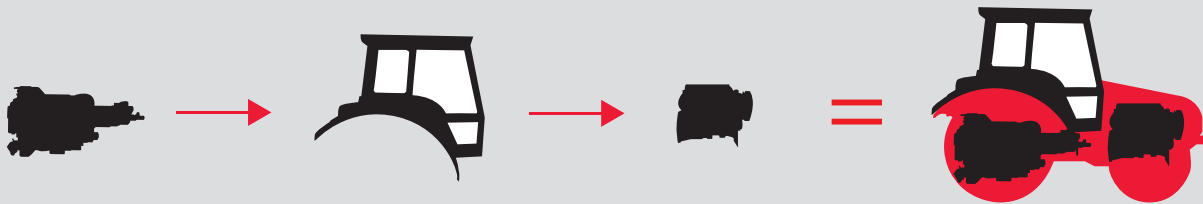
Approximately 34 percent of Mogi das Cruzes' production is exported. The biggest export markets are other South American countries. In addition, Brazilian-produced Valtra tractors are also exported in considerable numbers to Africa, the Middle East and Asia.

Valtra's engine supplier Sisu Diesel also has a plant on the same factory grounds in Mogi das Cruzes. The majority of Brazilian Valtra tractors are indeed equipped with SisuDiesel engines, although some models still use MWM engines.

Valtra is served in Brazil by a network of around 200 sales representatives. Spare parts are delivered throughout the enormous country 24 hours a day. Altogether a total of around 30 000 new tractors are sold in Brazil each year, although the number fluctuates enormously.

■ Tommi Pitenius





All powertrains, cabs and engines tested before installation

## Each new Valtra tractor is test driven at the factory

**Every single new Valtra tractor is comprehensively test driven before being delivered to the customer. Each test drive takes from half an hour to an hour, depending on model and specification. A total of 500 to 800 individual areas are inspected during assembly and the final test drive.**

– Each test programme is individual, as all Valtra tractors are different. Our test computer creates a custom test programme depending on the kind of tractor that the customer has ordered, explains Valtra’s Quality Control Manager **Ritva Utukka**.

In addition to each tractor, all engines, powertrains and cabs are also tested before they are installed. For example, inspections are made on different parts of the engine, and power and torque curves, fuel consumption and exhaust emissions are monitored. Following the test drive, the engine is painted, after which it still undergoes final inspection. At this stage the engine is no longer started but instead hooked up to a computer that

inspects all electrical functions. In addition to this, the robots used in the preliminary assembly stage continuously monitor their own operations, including tightening torque.

Powertrain testing begins with a 20 minute flush, during which the system is flushed using extremely high oil flow and pressure. This removes any potential dirt from the powertrain and reveals any possible leaks. The powertrain is then test driven by computer on a test bench for 20 minutes, during which different operations, speeds and the functions of the front linkage and hydraulics are inspected.

Cabs also undergo an intensive inspection process in which hundreds of checks are made depending on the model and equipment specified by the customer. Each cab is connected to a computer-operated testing system that imitates all tractor functions and checks all the switches, lights, displays, and ISOBUS and powertrain operations. Following this the cab is still subjected to a visual and hands-on inspection to check the doors and ensure there are no scratches, for example.

### Quality control improves operations

The aim of the test programme is not just to find obvious faults but to direct the entire production process. If even the tiniest quality deviation is detected, feedback is sent to the production team immediately. Naturally, the idea is to prevent faults and quality deviations in advance, long before they have the chance to negatively impact the tractor operator.

– Quality deviations also include things that would not necessarily disrupt the tractor operator, even the opposite. For example, if there is too much fuel in the fuel tank, it is reported as a quality deviation, Utukka points out.

In addition to subjecting each new tractor to a comprehensive test programme, two tractors out of a hundred are selected by random for an even more thorough audit. These audits are particularly useful for detecting quality deviations that might not be detected in normal use but that can be used to further enhance the quality of Valtra tractors.

Naturally, the concept of quality extends much further than just the actual tractors. Service must also maintain a level of quality, for example in terms of delivery times, maintenance, spare parts and customer service. Quality thinking at Valtra has traditionally extended beyond the factory to cover all operations. This is demonstrated by the fact that Valtra’s Suolahti factory was the first tractor plant in the world to obtain ISO 9001 quality certification. In addition, Valtra has been granted ISO 14001 environmental certification and OHSAS 18001 occupational health and safety certification. Valtra was also awarded the Finnish Quality Award in 1999.

■ Tommi Pitienius

***New tractors are connected to a special test bench that was developed in-house by Valtra. The test driver uses a wireless handheld computer with a customised test programme for each individual tractor. If needed, tractors can also be driven around an outdoor test track.***



*Used to trim farm hedges and motorway verges both trimmers can be swung over to operate on the left or right.*

# Trimming with TwinTrac

Started ten years ago by **Ian White**, Whitehall Landscapes and Ground Care Contracts Ltd. based near Nuneaton, specialises in landscaping including the construction and maintenance of playing fields and golf courses. His client list includes private, educational and municipal organisations and the company's plant list is equally impressive; from drainers, 360° excavators and TLBs to an impressive array of hand tools.

– Equipment has to earn its keep and occasionally used kit we hire in, points out Ian. Equipment that does earn its keep is Whitehall's fleet of four Valtra tractors; two A95s, a C100 and a more recent edition; an M130.

– We purchased our first Valmet from Frank Sutton & Sons some time ago – a small 100 series. The men liked it, it was reliable and I felt we got a lot of tractor for our money. While occasionally trying other makes Whitehall Landscapes moved steadily towards standardising on Valtra. Two A95s have replaced the 100 series machines and are used for mowing, weight sensitive operations and general haulage. The C100 was purchased with a specific job in mind:

– There's plenty of power to drive mowers and it's low enough to pass under the crossbars of rugby posts, Ian explains. While this may not appear an important feature it has made operators' lives easier, reduced cutting time and reduced accidental damage to machines and goal posts.

A more recent purchase has been the 135 hp M130 with TwinTrac. Used mainly in

reverse drive mode with a flail mower an 'over barrier mower' is mounted on the front with both capable of operating on either side of the tractor

– Major clients are Local Authorities and the Department of Transport, and reverse drive gives us considerable versatility. We can work on both sides of a dual carriageway or one-way system without driving against the flow of traffic – which is illegal. On one side of the road the tractor is used conventionally and on the other in reverse drive. It only takes a short time to swivel the cutting head when changing road sides – remember, in Whitehall's case 'conventional' operation is in TwinTrac reverse drive mode.

– It takes a little getting used to, but once familiar with the operation drivers prefer it. The cutting head is in front of the driver and he can see exactly what is coming up; tyres, mattress springs – all sorts. TwinTrac has made it easier to avoid this rubbish which, at worst, can cause expensive damage to the mower or, at best, wind itself around the rotor, halting work, sometimes for hours.



*With the mower out in front of the tractor Nick finds it is easy to monitor.*



*With a mower on each end Ian's drivers can undertake any operation on either side of the motorway.*



*Ian White's front mounted over barrier mower is easy to operate in the dangerous environment of a motorway hard shoulder while a 50 kph transmission makes moving from site to site quick and safer.*

### And why Valtra?

– Reliability, versatility and operator acceptance and TwinTrac – though I'm not sure if that's the right order. If drivers like a machine they look after it – and drivers like Valtra. Over the years they have proved reliable and with features like TwinTrac their versatility is unquestionable.

In South Wales contractor **Jonathan Edwards** is of a similar opinion. Operating as Jonathan Edwards and Son he and his son **Nick** have recently invested in an N121 with TwinTrac – their first Valtra.

– We've had tractors with Valmet/Sisu engines and they've been very reliable so we

thought we'd try the complete thing. **David Evans** our local dealer has a good reputation – so far we haven't been disappointed.

### Again, why the TwinTrac?

Jonathan and his son cut some 3 000 km of verge for Vale of Glamorgan CC and spend 1 500 hours cutting hedges annually.

– I've spent some 40 000 hours over 30 years twisting about driving a hedge and verge trimmer – I don't think its done me any good; I don't want to inflict that on Nick who does most of this work these days.

### So what does driver Nick think?

– I like it. It's easy to see what I'm doing and I can see what is coming up in plenty of time – rubbish, particularly mattresses and cushions can cause trouble.

When not trimming verges and hedges Jonathan and Nick run their own farm finishing store cattle and contract their services and equipment to local farmers baling and wrapping somewhere in the region of 10 000 bales of silage and haylage annually. They also undertake a number of other farming operations and while the N121 is not their only tractor it can expect to undertake a large chunk of the work.

■ Roger Thomas



*Nick Edwards finds TwinTrac easy and comfortable to operate and gives him a good view of the trimmer and any rubbish that might come his way.*



# Good business requires the best

**Gunvaldis Sprogis** gave up his job as an engineer in 1989 and acquired 14 hectares of arable land near the town of Jaunpils in the Courland region of western Latvia. His business decision has proven to be a good one, as today Sprogis cultivates no less than 3 500 hectares. The majority of this land he owns himself, while around a third has been leased on a long-term basis from other landowners.

Sprogis's farming operations focus on grains and oil plants. A little over thousand hectares is used to cultivate winter rape, while the remaining two thousand plus hectares alternate between winter or spring barley and wheat cultivation. A couple of hundred hectares are also used to cultivate sugar beet. Sprogis intends to increase the share of barley, while at the same time it looks like sugar beet cultivation will be discontinued due to EU decisions – even though the yield per hectare converted into sugar has been around 7 000 kilos. The other harvests have also been good, with an average yield of 5000 tonnes of dried and sorted wheat and barley.

## Drivers know best

Gunvaldis Sprogis believes that drivers play a key role in the durability and productivity of the machinery they operate. Skilled drivers ensure that their tractors last and that no days are wasted due to breakdowns. The turnover of drivers on the Sprogis farm has been virtually nil throughout its history. This is no doubt partly due to the decent wages that Sprogis pays his professional employees.

The farm has also remained loyal to its fleet of Valtra tractors, and for simple reasons: the excellent forward-reverse shuttle, fine

ergonomics and spacious cabs, which create a great working atmosphere, combined with efficient maintenance and spare parts services.

Sprogis admits that representatives of other tractor brands are constantly pushing their products on him to test drive. In fact, there are more tractors than he has time to test. Sprogis naturally makes time for the biggest brands with the best reputations, and the final choice is made after extensive comparisons and joint consultation.

The comparison test for productivity and fuel efficiency is simple, but reliable. A competitor in the same horsepower class as Valtra is connected to the same implement on the same field. After measuring the work output and fuel consumption, and consulting with the driver, the final choice is usually quite obvious.



## Over 130 000 tractor hours

"Altogether I have had 16 Valmet and Valtra tractors. I currently operate eight, mostly T Series Valtras. According to the Latvian system of tax deductions, the best time to sell old tractors is after five years of use. I myself have sold my old machinery to other local farmers, and those tractors usually have around 8 000 hours on them. In total I have used Valtra tractors for over 130 000 hours of work on my farm," recalls Gunvaldis Sprogis.

Sprogis maintains detailed records of all his farm operations. Individual tractor usage is registered monthly, including tractor hours, fuel consumption and maintenance details. The record number of hours posted by one of his tractors in a month is 450 hours. The farm averages 1 500 hours a year per tractor, and no tractor is used less than 1 000 hours a year.

◀ **Gunvaldis Sprogis (on right) presents his extremely neat and functional agricultural centre to Juris Narubins, Valtra's Latvian importer, and Sami Tikka, Valtra Service Manager.**



▶ **Ready to go. Even though the fields are close by, four large harvesters mean that lots of grain has to be transported away fast.**



*You can increase the productivity of your work significantly by uncovering the true potential of your Valtra tractor. By accurately programming the transmission, for example, you can set up your tractor perfectly for the task at hand.*

## Tips on how to make the most of your tractor

*Today's tractors are such complex pieces of machinery that sometimes, even after thorough training, only a fraction of the tractor's features and potential are familiar. We therefore invited Valtra tractor operators to offer tips on how to get more out of your tractor. Sometimes even the smallest changes to the way you use and maintain your tractor and pay big dividends.*

### Release the pressure from the quick coupling in the front

Tractors specified with electronically controlled hydraulics and the Selecto 3 quick coupling for the front loader sometimes find it hard to connect the quick coupling due to pressure in the valves.

To release the pressure, start the engine and switch the yellow/brown hydraulics block on the side panel to the floating position. Turn the Selecto button to the bottom. Then press the hydraulics minus button on the side panel. This releases the pressure from the quick coupling in the front.

### Programme the transmission for front loader work

The full benefits of programming the transmission are not known to many HiTech customers. Customers who do a lot of front loader work will find it useful to programme the shuttle for the right gears using the Auto1 programme.

Front loader work usually requires the tractor to be driven forwards very carefully. For this, programme the transmission to use powershift 1. Once the bale, sand, snow, feed or other load is safely in the front loader, the tractor can usually be reversed at higher speed. For this, programme the shuttle to use powershift 3, for example.

### Change settings using the HiTech's digital display screen located on the pillar

The digital display screen located on the pillar in tractors equipped with HiTech transmissions can be used to programme more than just the powershift or shift speeds.

Depress the clutch and push down the preset button located behind the shuttle

lever, then turn on the ignition. Press the powershift buttons until the F III number flashes and confirm by pressing the preset button. Then choose view number 10, for example. With this setting you can select how long the four-wheel-drive is activated when starting. The factory setting is four seconds, but you can choose from 0 to 20 seconds at increments of 0.5 seconds. Confirm by pressing the preset button. To exit this mode, simply turn off the ignition.

The FIII mode can also be used for other settings, for example how fast the PTO is activated and to change tyre settings, as different sizes will effect the accuracy of the speedometer.

### Use the U-Pilot switch as a shortcut key

Valtra's U-Pilot Headland Management System allows often repeated manoeuvres to be programmed and saved. Each program, consisting of up to 30 operations including the powertrain, front linkage and hydraulics, can then be activated whenever needed.

In addition to headland manoeuvres and programming a series of operations, the U-Pilot system can also be set to activate any single operation. This way the Start/Stop switch in the driver's armrest can be used as a shortcut key to operate the PTO, for example.



# tractors

The farm's grains are dried using natural gas. The normal moisture content when harvested is around 18 percent, but it can be considerably higher if the autumn is wet. In some years the grain is dried twice, allowing the moisture content to equalise during intermediate storage. Almost 20 millions kilos of grain has to be dried a year, so costs are monitored extremely closely.

The price of arable land in Latvia has increased ten-fold during Sprogis's career as a farmer. These days you have to pay up to 4 000 euros per hectare for good farmland. Fortunately for Sprogis, he is satisfied with the 3 500 hectares that he already cultivates, and there is little good land left in the vicinity of his farm anyway. According to Gunvaldis Sprogis, careful accounting and honest comparisons are the backbone of successful agricultural.

■ Visa Vilcuna



# Fencing skills move from the countryside to the city

*A treated timber fence is driven into the ground by a Valtra N101. Most of the posts installed by Fencing Solutions Ltd. are either driven into the ground by tractor or placed in holes made by the tractor auger.*

*Like so many farmers around the world, Adrian Cardiff from Ireland has expanded operations in recent years from farming alone to farming and contracting. Cardiff had raised dairy cattle on his family farm since he was young during which time he became familiar with fencing and in 1989 began supplying farm fencing services as division of a larger company. Today, Adrian Cardiff's own company, Fencing Solutions Ltd., employs nine construction industry professionals.*

– In the beginning we just erected farm fencing, but these day's farmers represent only about 15 percent of our customers, says **Adrian Cardiff**.

Residential fencing, road fencing and security fencing require completely different skills to farm fencing while the materials employed have become much more complex. Whereas farm fences are usually constructed from wooden posts and wire netting, barbed wire or electric wire, road fencing usually uses pressed sheet metal, residential areas require the use of concrete, cast iron, metal pipes or boards, while industrial areas use wire netting or barbed or razor wire secured to steel posts.

– The different styles of fencing require completely different areas of expertise and tools. As we have expanded from the countryside to urban areas, we have had to learn a lesson or two, Cardiff admits.

On his family farm Cardiff still grows grass and raises a couple dozen sucklers. Contractors take care of most of the fieldwork, but Cardiff still handles some tasks himself, including spraying and muck spreading.

Fencing Solutions now runs two new Valtra N101 tractors clocking up some one thousand hours annually; mostly with loading or hauling trailers transporting materials. The tractors are also used to power post-hole augers and hydraulic post drivers.

– When we began this business, post drivers were rare but since then many farmers have bought post drivers and begun contracting. Ireland has experienced a real building boom in recent years, and this has provided them with a lot of work, Cardiff explains.

The fencing business requires tractors with excellent road properties, powerful front loaders and fast hydraulics and, importantly, they must be easy to use. Forestry properties are also a bonus, such as a high ground clearance and

reinforced floors, as fences are often required in woods and in difficult areas along the edges of fields and roads.

– I bought my first Valtra tractor in 1995 – in fact it was the first Valtra tractor in south-east Ireland and one of the first in the entire country.

I guess the dealer really wanted to have me as a customer, as I spent a lot of time on other farms erecting fences, so other farmers got to see my tractor! Since then I have acquired four more Valtra tractors. The service I get from my local dealer has been excellent, Cardiff says.

The Valtra dealer in Wexford County is Lacken Machinery run by **Brian Roche**, formerly a Valtra technician.

– Adrian Cardiff's first tractor was a Valtra 6000 with a front loader. After that came two Valtra 6350's with loaders and now two Valtra N101's also with loaders, Roche recalls.

Valtra's market share in Lacken Machinery's area is over 10 percent, compared to slightly less than 10 percent for Ireland as a whole. The strong growth in tractor sales over the past ten years can be seen in the relatively large number of Valtra tractors on Irish fields and, when driving along country roads Valtras are no longer an unusual encounter. Lacken Machinery currently employs eight personnel, of whom three are service technicians, two are sales personnel, one handles spare parts and one is in charge of accounts.

The future for contractors and farmers in Ireland looks bright.

– I believe that farming will remain as big as it is now, but it will become more efficient. The building boom is quieting down somewhat, but demand is still strong, Cardiff predicts.

– The construction business has created work for contractors with tractors as people increasingly want to live in the countryside.

■ **Tommi Pitienius**

*Driver Jim Barron loads his trailer with fence posts. The two N101 tractors are used mostly for loading, unloading and transporting materials.*



# Supercharged Valmet 1203



Several hundred Valmet 1203 tractors were manufactured between 1980 and 1982.

Valmet was a pioneer in supercharging, especially in three- and four-cylinder engines. The pressure wave supercharger was originally developed by Swiss company Brown Boveri & Cie (BBC) in the late 1970s. The supercharger differed from regular turbochargers, which 25 years ago were large and suffered from considerable "turbo lag". Turbo engines also suffered from a lack of torque at low engine speeds, as turbochargers were specified to provide high power at the rated engine speed.

The Complex supercharger developed by BBC represented a unique innovation. Exhaust gases were used to directly compress the inlet air, causing an immediate increase in boost pressure in direct relation to the increase in exhaust gas pressure. The advantage of the Complex supercharger was that it created boost pressure also at low engine speeds, significantly increasing torque.

The Complex supercharger was tested in the Valmet 411C engine with good results. Subsequently, the decision was taken at the engine plant in Linnavuori, Finland, to begin production of the 411CX engine. In turn the tractor plant in Suolahti decided to use the engine to power its new four-cylinder model, the 1203/1203-4, which replaced the 1102/1103 models in 1980.

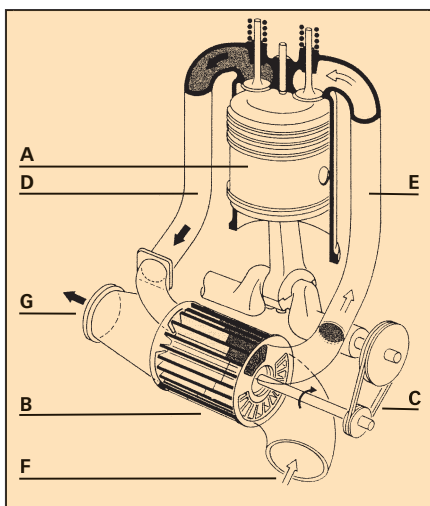
The new engine offered truly high performance that compares favourably to the powerful Common Rail engine that drives today's N141 model. The displacement was 4.4 litres, the output 110 horsepower DIN, and the torque 424 Nm at 1 350 rpm. The torque back-up was as high as 27 percent, beating all European

tractor engines at the time. Indeed, already then Valmet topped the market segment for high output four-cylinder engines.

Valmet's introduction of pressure wave superchargers made international news. In fact, Valmet had made history by being the first tractor manufacturer in the world to introduce serial production of a Complex-equipped engine. The advantages of the new engine also created the concept of "constant power engines".

The supercharged Valmet 1203 can be distinguished from other Valmet tractors of its era by the extended nose, which housed an additional fuel tank in the front. The tractor featured a 16+4R synchromesh transmission equipped with HiTrac. The four-wheel-drive model weighed 4 500 kilos and became extremely popular among contractors.

Overall, experiences with pressure wave superchargers were positive, although they did create quite a loud whining noise. The Complex supercharger was considered for the Volvo BM Valmet 805, which was being designed at the time, but it was deemed too expensive and dropped from production. BBC, later Asea Brown Boveri or ABB, sold its supercharger invention to Mazda, which manufactured a limited number of diesel cars with pressure wave superchargers. Turbochargers are so advanced these days that there is no market for the Complex, except in the sense that it could be used as a simple solution for re-circulating exhaust gases for better emission control.



**How the pressure wave supercharger works:** The energy transfer takes place in the rotor (B), which rotates four times faster than the crankshaft (C). The air coming from the filter enters the rotor through the tube (F). As the rotor revolves, the exhaust gases coming through tube (D) enter the other end of rotor (B), compressing the fresh air by a pressure impulse. As the rotor rotates, a port to the inlet manifold (E) opens and the compressed air goes to combustion, while exhaust gases get an opposite impulse to return to the exhaust pipe (G).

■ Hannu Niskanen

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