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KRONE

XtraBlatt

DIGITIZATION

Solutions for practical farming

FEEDING
A cow's "right" end

IRELAND
The gold of the green island

DEAR READERS,

Right in front of you now and fresh from the press is the latest issue of XtraBlatt. Once again, the editorial staff travelled all over Europe harvesting articles and reports for your interest. The title theme in this issue is digitization in agriculture – a challenge confronting all of us everywhere, one that most are not sure how best to tackle.

This is why our writers have looked for examples where digitization doesn't stand before us as a sort of abstract "data monster" but instead eases in very practical ways the day-to-day situations for farmers. In particular, the report on the Swedish farmer Anders Johnsson (p. 16) makes very plain to me just how a "down-to-earth" digitization can sustainably optimise everyday farming procedure.

Incidentally, one doesn't have to be a prophet to realise we'll have to involve ourselves more intensively with this theme in the near future. Government requirements for documentation, starting with the Fertiliser Ordinance through to plant protection, will certainly not become less. This poses the question: do you want to involve yourselves in all the administrative procedures? Or would you rather seek professional help? After all, you leave the intricacies of your tax returns to your tax accountant. I think this aspect offers an important business opportunity for agricultural contractors and machinery rings. With such a service they could offer you a helping hand through the maze of mandatory documentation.

For instance, we've already moved to meet the necessary technical requirements developing, with DKE Data, the platform "agrirouter" in a joint project with many other manufacturers. This enables smooth transference of all your personal data and means you can be absolutely sure that it is only you who decides who sees your data and can use it for time-efficient and safe operation, whatever the machinery makes being used.

At Hanover during Agritechnica 2019 – it'll be with us again in just four months – we'll be presenting all our digital systems and naturally also many new ideas in our machinery. I'm very much looking forward to you visiting us there in Hall 27. Until then, have a very good season!

With best greetings from Emsland

Bernard Krone

Yours sincerely, Bernard Krone

At almost 210,000, visitor count at the French SIMA exhibition in Paris remained stable when compared with 2017. On the increase, however, was the public interest experienced by the Krone France team at the event. The team was also gratified by an increase in sales turnover with Krone achieving a plus of 18% in France during 2018 – a trend continuing into the first months of 2019. Reasons for this success include consistent expansion of the Krone sales and distribution network backed by very good service and spare parts supply, new products and overall greater willingness to invest by customers.

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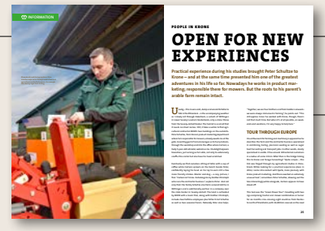

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info.ldm@krone.de
www.krone.de

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DIGITIZATION

WHAT THE FUTURE HOLDS

“Digitization will change our life” – a statement we hear everywhere. But what does this theme actually mean for a manufacturer of agricultural machinery and the customers involved? XtraBlatt asks Jan Horstmann, Krone division manager of electronics and product computerisation.

XtraBlatt: Digitization is on everyone’s lips. Which aspects directly connect with agriculture?

Jan Horstmann: *The term digitization is not only widely used, it’s unfortunately already becoming overused to some extent. Certainly, farmers and farm contractors are coming across the theme more and more. And this begins nowadays when applying for area payments, with all registration of field areas being digital.*

On top of this, increased requirements from our law makers demand more and more documentation by farmers. Nowadays, many farmers share their workload with farm contractors. Contractors’ machinery can, in the future, utilise the farmer’s data for optimally carrying out field work. The contractor’s records of the work done can then flow back to the farmer, completely automatically and in digital form.

XtraBlatt: How does this look in practice?

Horstmann: *Let’s go back to the current Fertiliser Ordinance (covering field nutrient application legislation): documentation to meet the requirements is precisely established. Already in-place are many interfaces between farmers and their contractors. Based on the recorded harvest yields, they can work together optimising the amount of nutrients put on the land. We, as machinery manufacturers, try to ease the way towards free exchange of data between our machinery and the known software solutions on the market, thus greatly simplifying documentation.*

» WHAT'S THE MEANING OF …

… AEF?

An abbreviation that stands for Agricultural Electronic Industry Foundation, an organisation with the main aim of achieving international standardisation of electronic interfaces in agriculture. The development of ISOBUS standards and testing of compatibility between tractors and attached implements are the core tasks involved. Every manufacturer must arrange for a certificated laboratory test result for all software used with machinery. Registration and subsequent access to a databank with all ISOBUS compatible machinery and tractors is available via www.aef-isobus-database.org/isobusdb/login/sf.

… CCI?

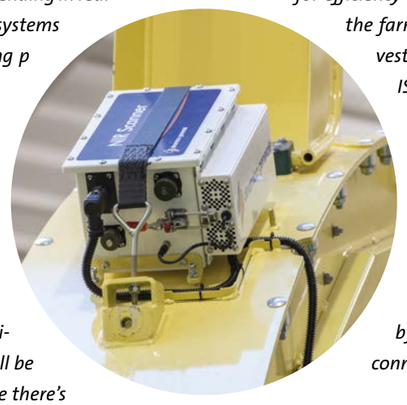
The Competence Center Isobus (CCI) is an association especially involved with product development in the ISOBUS sector. Members of the association nowadays include well over 20 agricultural engineering enterprises in Germany, France, Italy, Japan, the Netherlands, Austria and the Czech Republic. Among the development items are CCI-ISOBUS operational terminals and joysticks nowadays used overall in many machines and implements.

… DKE Data?

DKE are the German language initials for the term "data communication and development", the added "data" being an indication of the predominant theme data management. Currently, 13 agricultural engineering and software enterprises are involved. The task is to further develop an open system for data exchange. The platform involved is "agrirouter". After registration, farmers as well as agricultural contractors can use this at no cost.

XtraBlatt: Which Krone machines allow connections for digital documentation?

Horstmann: *We already fit the necessary hardware as standard equipment on self-propelled machines in the form of Krone "Smart Connect" modules, which come equipped with a mobile phone card for data transmission. The module is capable of recording machinery data and sending in real time the information to further processing systems or to "agrirouter" (see "Open for all" starting p 10 in this issue).*



The amount and, above all, the forage nutrient information recorded on the silage harvester are important data sources for, e.g., calculation of nutrient balances.

I'll go a step further in my assessment: if not now, then definitely with any further legislative controls on nutrient application, there will be no way around using the agrirouter. Because there's something that every farmer and contractor must realise: documentation pressure will increase markedly, not only with fertiliser application, but also for material flow and nutrient balances. Background to this development is environmental protection legislation or quality control requirements within the food industry. This situation opens-up new possibilities for additional services offered by farm contractors.

XtraBlatt: What digital connections already exist with your silage harvesters?

Horstmann: *Firstly, we can include recording and transmission of data, for instance harvested amount, weight, moisture content, nutritional constituents and diesel consumption. This data can be used in invoicing, for documentation and for efficiency calculations. Then, we can send orders from the farm management software to the silage harvester for the operator to follow. In principle, all ISOBUS-ready machines can be fitted with the Smart Connect module. These include our forage wagons and balers, but also mowers and tedders. For instance, on a big baler we can record and transmit bale weights, forage moisture content and bale drop location. Should the GSM mobile phone reception be interrupted, the data is stored by the Smart Connect module until a stable connection is renewed.*

XtraBlatt: Network cover is a big theme out in the countryside…

Horstmann: *Correct! This is why, as farm machinery manufacturer, we push for an overall 4G/5G network for rural areas. This shouldn't be simply a standard in large urban areas. It must function reliably everywhere.*

XtraBlatt: What else should we expect in the digitization sector?

Horstmann: *Well, we want to develop systems that run automatically in the background, with sensors on machinery recording operations and relevant data automatically transmitted into the farmer's or contractor's management system. The operator should not be additionally stressed through having to manage the necessary documentation but instead be able to concentrate completely on the operation and monitoring of the respective machinery. Even the farmer or contractor sitting at the office computer should not have to additionally "handle" the data but be free to assess the figures as they come in, or to send the data onwards for further processing by others.*

XtraBlatt: What kind of data are you thinking of here?

Horstmann: *Contractors can apply recorded data in preparation of invoices for farmers and also in determining working efficiency of the machinery in operation. Farmers profit, too, from the process. For instance, they have to prepare a material flow balance. The contractor chops the maize, recording yield and, in future, forage constituents. This data can be released at the press of a button by the contractor to the customer who can then simply work-out the required balance. Naturally, the aim must be to send the processed data easily and without effort further by mouse click to the appropriate government or advisory offices.*

XtraBlatt: What role is played by digitization in service?

Horstmann: *Through our Smart Connect module we have the possibility to remotely call-up machinery data and information on machine condition whenever the customer gives permission. This allows us then to offer new services such as Krone Smart Telematics. Mainly, this is an organisational aid for customers so that on the mobile screen or computer monitor can be seen the condition of the machine in question and its location. Particularly within logistically complex operational chains such as during maize harvest this can prove a good planning support. Smart Telematics can be used free of charge for the first two years after machine purchase.*

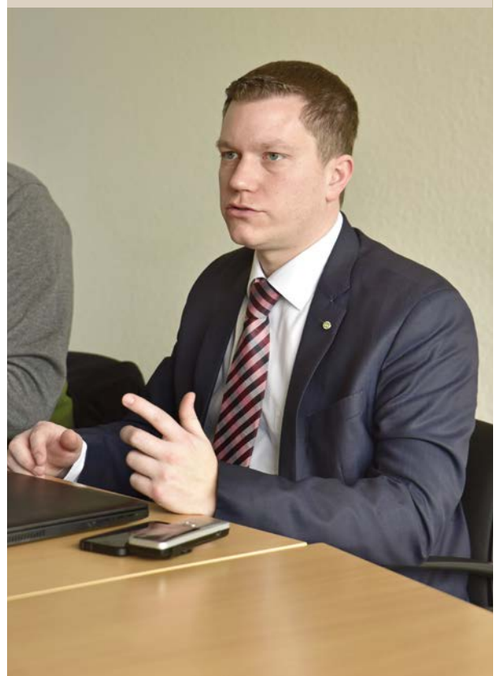
In service, we have now the possibility of remote machinery adjustment. After access is allowed by the customer a specialist workshop can directly access the machine's monitor screen which then allows errors and faults to be diagnosed remotely and the customer directly supported for required adjustments.

XtraBlatt: What new software can be expected from Krone in future?

Horstmann: *Among other things, we will be offering a simply built up field mapping file that can automatically record machinery data. This is especially interesting for farmers. The product is called "Next Machine Management" and a start is planned this summer. Introduction of management software for contractors is also on the cards. This features intuitive operation with easy-to-follow information on the complete management procedure in agricultural contracting from acceptance of a contract, over preparation of invoices through to control and calculation procedures. These solutions will be open and integrated with the agrirouter. Both are produced in cooperation with other manufacturers so that openness and independence for the farmer and contractor are ensured.* «

"THE OPERATOR SHOULD NOT BE ADDITIONALLY STRESSED THROUGH HAVING TO MANAGE THE NECESSARY DOCUMENTATION."

JAN HORSTMANN, DIVISION MANAGER ELECTRONICS AND PRODUCT COMPUTERISATION



AGRIROUTER

OPEN FOR ALL

The agrirouter is a pure data hub, unrivalled, with no specialist requirement and easy to operate. This platform is open to all farmers and contractors but also to all firms upstream and downstream, introducing completely new opportunities for the digitization of agriculture.

Farmers and contractors using agrirouter can still choose their machinery without being tied to a single make. And mixing makes will pose no problems in digital processing of the collected data. What's more, you still decide yourself over the amount of data involved. As Stefan Niehof emphasises, agrirouter is the Krone answer to the above uncertainties. He's responsible in Krone product marketing for digital applications. "The user alone decides the data wanted for use and if the information should be given any further. In the past this exchange of data between different systems was not so easy because individual interfaces had to be established," he explains.

Krone output concentrates on forage production and so the firm is not a long-liner. Because Krone products on farms therefore often stand in mixed fleets featuring different makes, the digital technology of the machinery must be open for other manufacturer systems. This was one of the grounds for the Spelle company taking part in DKE Data GmbH & Co. KG and, with that, in the development of the "data hub" agrirouter," says Stefan Niehof.

There are many different management software solutions in agriculture nowadays. The agrirouter is open for these solutions and ensures that data from the machines can be automatically and optimally used (more information at https://my-agrirouter.com). In practice, the software solution has to deal with a colourful mix of agricultural machinery and must be able to process all the data produced to have a chance in the market. The third motivation for the enterprises involved in creating an open platform is the option of being able to offer an independent and innovative service for farmers and contractors.

What's happening next with agrirouter? The test phase is now past and at the end of February 2019 the system was officially released for use in practical farming overall. So far, 13 manufacturers are involved. They reckon that the number of participating manufacturers will triple within the next four years. The number of software solutions involved runs currently at around 40, states Stefan Niehof. The product manager is convinced that this sector, too, will expand strongly through planned internationalisation. He reckons that the total number of end users in four years should lie in the five-figure region. Implements and machines with an ISOBUS Controller can usually be fitted with a telemetry box and are therefore suitable for integration in agrirouter.

For attracting even more users, the ones still keeping their distance from management software, simple applications are being programmed and coupled to agrirouter. Stefan Niehof concludes that farmers and contractors can register to use the system free of charge. «

Stefan Niehof is responsible for digital applications within Krone product management. "With agrirouter, the customers themselves decide which data they wish to use and who it goes on to."

LANDTECHNIK IGL, PFREIMD

ROUTINE FROM PRACTICE

Alois (l) and Günter Igl are convinced that only open systems and absolutely compatible interfaces will be acceptable to farmers and contractors as digitization increases.

The rising proportion of electronics and digital applications opens new possibilities in fieldwork – but means a challenge for machinery dealerships in their role as "interface" between manufacturer and end customer. Günter Igl is convinced that this increases the importance of specialist competence and practical experience.

The easier a technical product is to operate, the greater the acceptance by the user and, with that, its expansion in the market. Günter Igl who, with brother Alois, represents the second generation managing the family agricultural machinery dealership near Pfreimd in the Bavarian Oberpfalz, is certain of this. "For me, the obvious examples are smartphones or the messenger service WhatsApp. Both are intuitive and immediately usable. No one needs to read a user manual and a training course is definitely not required. The products usually function problem-free without any such input", reckons Günter Igl. "One cannot always say this with the same level of confidence for modern farm machinery, especially the electronics involved", he cautions.

COMPATIBILITY IS INDISPENSIBLE

Hereby, Günter Igl realises he's "comparing apples with pears ", at least to a certain extent. After all, the functionality of a mobile phone can't compare 1:1 with the working conditions and demands on management electronics on a crop sprayer or combine harvester. "And it has to be said that, over the last three or four years, a tremendous amount has been done with farm machinery in this sector regarding ease of operation and functionality", he adds. "However, not all the problems have been dealt with by any means, especially those of compatibility between various tractors and implement makes."

This aspect is very important from the Igl brothers' point of view. Their dealership, after all, features a broad spectrum of very different agricultural machinery makes. In first place with this family-owned firm stand Case IH, Krone and Amazone. "Alongside the tractors, we have purposely concentrated on implements from manufacturers that are specialised in in their respective segments because only so is it possible to offer our customers the best available technology. For the so-called long-liner it is impossible to be a leader in all sectors. For this reason, we see in our mix of market-relevant top makes the right way ahead for our customers", explains Günter Igl.

On the already-mentioned critical points of compatibility in electronics and digital applications, he reckons that the three manufacturers fit well together. Among other reasons, because none try to bind their customers forcibly via digitization. "This does not mean that everything always functions perfectly. But, in my opinion, there exists with all three firms a consensus that only open systems with absolutely compatible interfaces will, in the long run, win acceptance from farmers and contractors. Only then will the advantages of digitization in agricultural machinery fully develop.

MORE EFFICIENCY

This acceptance on the part of his customers has in the meantime markedly increased, at least when purchasing tractors of 150 HP upwards and/or with younger farmers. "Some of them get really deeply involved in the theme", he reports. The first step for many customers is via steering systems or automatic track guidance. Here, the Igl brothers apply marketing strategies to get their customers interested in the concept through pre-configuration of tractors for automatic guidance and then offering the appropriate software with a purchased tractor at no extra cost over an initial period. This approach appears to reduce customer resistance to the new technologies and proves a good stepping stone towards digitization. "The inherent advantages are then quickly recognised", smiles Günter Igl.

Also a focus of interest is digital field mapping, a concept that fits with implement working width based precision tractor steering or permanent tramlines. He feels that automatic partial spreading or spraying width controls achieve measurable advantages from precision steering, for instance with fertiliser spreading or crop protection spraying. Measuring forage dry matter content on the silage harvester is another precision aid in great demand, says the

Automatic steering guidance systems represent for many customers the first step into fieldwork digitization. Landtechnik Igl accordingly concentrates on demonstrations, pre-configured tractors and cost-free systems during an initial period.

specialist dealer. And not to be forgotten: all these data recording capabilities help meet the many documentation requires now mandatory for farmers.

But it's not only in arable work that Günter Igl sees the advantages of digitization. He also looks for similar advantages on greenland pasture and forage, pointing out several advantages right away. "The scope for efficiency boosts in mowing, turning and tedding is very clear. Take as an example a greenland area of 50 ha where, through overlapping of tramline working widths, quasi 10% of the area is covered twice in operations – a figure that's completely realistic on tramlines because tractors are generally working at higher operational speeds. Based on four grass cuts in the year which usually represents the norm in our region, this works out at around 20 ha. Naturally, a contractor will be covering much more ground and have much more to gain from such efficiencies."

MOTIVATION THROUGH KNOW-HOW

An important requirement for well-working electronic systems is the competence of the specialist dealership, points out Günter Igl. After all, the service business is the critical link between manufacturer and customer. Generally, the business brothers from Pfreimd invest a lot in the schooling and further-training of their service teams comprising 27 staff in workshop and spare parts depot.

Three of the company's 24 mechatronics engineers have now specialised in electronics and digital systems. "Hereby it's important that not only a high training niveau is achieved, but also considerable practical experience is undergone. In turn, this results in a very positive routine in the daily business with even unusual situations dealt with smoothly. In most cases the fireworks really start during the season when every hour counts or, as with contractors, complete harvesting chains can be affected and completely halted. Then, there's certainly stress. Being able to help quickly in such situations gives a dealership an important competitive edge."

Even with all his own commitment, Günter Igl knows that it is indispensable to know that the manufacturers can be reached out to for help in serious cases. With the increasing proportion of electronic components, sensors and sensitive control technology, their importance increases accordingly, he points out. This dealer feels he is on the whole well supported by his main suppliers. It is easy for this owner-managed family firm, even during seasonal peak periods, to find a competent contact on the telephone at short notice. "Here, Krone really sets standards, exactly as the company does with its training", says Günter Igl. "This is recognisable for me when the technicians come back from the training courses and report that they are satisfied. After all, when the training fees, travelling costs and earnings losses are all totalled, we are investing up to 800 € per man day of training. For this outlay, we look for a certain increase in know-how as well as motivation boost in our daily business. But the results don't disappoint." «

Automation and digitization are trend themes within agriculture. In this respect, Anders Johnsson from Rörum in southeast Sweden was well before his time. For over 20 years have passed since he built the first "robot milker barn" in Sweden. "agrarheute" journalist Bernd Feuerborn visited the pioneer for XtraBlatt.

FARMER ANDERS JOHNSSON, RÖRUM (S)

THE ROBOT PIONEER

The Johnsson family farm lies near the Baltic Sea coast in southeast Sweden with 200 dairy cows plus followers in its barns. A completely normal dairy when viewed from outside, although larger than the national average. But on stepping into the cowshed the first unusual aspect is immediately obvious: there's no broad feeding passage as is usually found in such housing. Instead, two steel rails hang over a narrow pass between the feeding fences, and in front of the cows only a small amount of feed is lying - although this is fresh, smells great and is thoroughly mixed.

Anders Johnsson: over 20 years ago a pioneer of robot milking in Sweden.

THREE ROBOTS

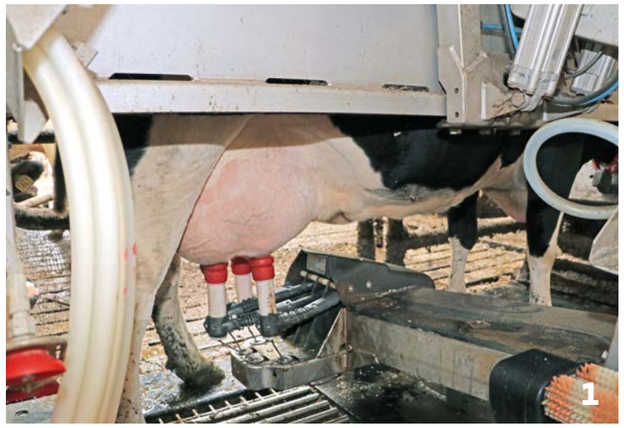
The second abnormality: on one side of the cubicle house stand two Lely milking robots with a third on the other side. Anders Johnsson proudly explains: "We were the first farm in Sweden to build completely new dairy housing including robot milking technology. May 2018 was the 20th anniversary of the barn's completion!" Initially there were only two robots, with a third integrated after 12 years. Subsequently, the two older machines were replaced, so that nowadays there are three 4th generation Lely robots in the barn. Each milks around 70 cows. One Lely Astronaut is for the younger cows and first calvers. "Here, I have to keep a closer eye on things and can concentrate on getting the young cows used to the robot", says Anders Johnsson. After three to four lactations, cows are replaced in the herd by their own offspring. Heifers calve at around 24 months.

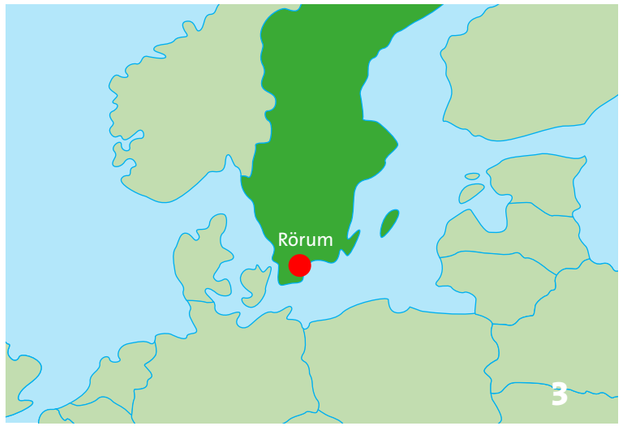
Milk production from the 200 Swedish Red and Holstein Friesian cows is impressive, averaging 10,000 l at 4% fat and 3.4% protein. Last summer, payment for the milk was around 3.30 Swedish krona (0.31 €/0.27 GBP). All performance data such as milk yield, concentrate consumption, number of milkings, lactation start or gestation information, are displayed by the computer. On average, the robots milk each cow around 2.8 times daily. The technology also notifies the farmer when individual cows don't turn up for milking. "This is the signal that I have some following-up to do," he smiles. Anders Johnsson shares any work with his wife, his son and two employees. "But as a rule, the cows readily make their own way to the milking robots."

COMPUTER-EXACT FEEDING

The computer also takes care of the feeding, with a 2.5 m3 capacity container conveyed on overhead rails through the barn. The procedure includes automatic loading of feed ingredients from respective feed loading points. Feed components include grass and maize silage, milled grain, beet pulp, mineral feed and protein.

The feed container/distributor is electrically driven. Computer-supplied details of individual ration components mean precise measuring of the ingredients as they are





loaded one after the other. Three different rations are fed according to yield group. For the heifers, the container makes a special round.

After loading, the container moves to a dedicated mixing station. Here, a stronger electric motor drives a separate mixer. The container docks into position and ingredients are mixed for an exact period determined by the computer, this precision timing avoiding any danger of structure loss through overmixing. Subsequently, the container glides to the narrow feeding pass where feed is dispensed from both sides. Contacts govern which ration is fed where. What the wagon cannot do is see ahead, so there's an emergency stop sensor on both sides should someone have strayed onto the feeding passage.

Feeding a group takes about 30 minutes and feeding time for the whole barn is some 1.5 hours. Feeding is several times per day with everything carried out completely automatically. But there's no such magic involved in filling the feed loading points: grass and maize silage still has to be lifted from the respective clamps and deposited in the loading points by loader.

The great advantages of this automatic feeding system: less floor area is needed in the barn, the animals get freshly-mixed feed more often and, in winter, the barn doors can be kept closed. This last being without doubt a positive side effect with Sweden's seasonal cold and snow!

In the summer months, the automatic feeding system gets to take it easier because for four months the cows must get their freedom outdoors for 6 hours daily. This is why there are a few meadows around the barn for direct access by the cows.

BiG X OWNED

Most of the feed is home-grown and its quality is very important to the farmer. To help with this aim, Anders Johnsson has his own silage harvester, a Krone BiG X. "Since my son started harvesting the silage, we have the forage we need for optimal feeding of the animals. Earlier, with the contractor, we felt the quality wasn't quite so good." Keeping to the agreed dates was a particular problem, he adds. Now, the farm can cart home high value silage according to plan with a dry matter content between 28 to 32%. The BiG X 500, manufactured in 2010, puts around 200 hours annually on the clock, admittedly not normally enough for a viable return on investment. On the other hand, the quality of feed produced makes it all worthwhile for this farmer. Incidentally, Anders Johnsson bought the machine from a farm equipment dealership in Lower Saxony, Germany. At that time, the machine had around 1000 h work behind it. "In normal years, we can manage three cuts of grass silage", he explains. For the cows, the grass is ensiled in clamps while the calves get round bale silage. A Krone machine also does the mowing: an Easy Cut 870 CV butterfly combination.

On the whole, the farm is highly mechanised for its 300 ha. Standing ready in the machinery shed are six tractors up to 350 HP. The farm owns a large slurry tanker and a dung spreader. Alongside the BiG X 500 there's a farm-owned combine harvester and round baler.

The most important crop and feed base for the cows is grass grown on around 120 ha. Further crops include 30 ha winter wheat and a good 25 ha of spring barley. To exploit the silage harvester capacity a bit further and bring more energy into the rations, the farm grows 54 ha forage maize, chopping to around 20 mm, although chop length depends on forage dry matter. Important for this farmer is a well consolidated silage clamp so that the forage remains stable through the summer and doesn't reheat.

Summary. "Everything aimed at milk production with maximum digitization." This could well be the motto for the Johnsson Aspekulle Farm in southeast Sweden. In the barn, the herd is not only monitored by computer and milked by robots; the computer takes over control of feeding too, with a feed container gliding through the cattle accommodation on overhead rails. Human hands are only involved in transporting feed to the automatic loading points. And if the human touch fails to deliver even that on time, a computer alarm is given. Naturally automatically! The ultimate benefit: this farmer and his helpers have much more time to keep a close eye on the cows. «

1 The Johnsson cows are milked an average 2.8 times daily. The average yield for the herd lies at 10,000 l/cow.

2 The farmer built the barn in 1998 and it was automated from the start.

3 Rörum lies in southern Sweden on the same latitude as Malmö.

4 Anders Johnsson puts very high value on best possible forage quality.

» AGRICULTURE IN SWEDEN

Source: Jordbruksstatistik Sammanställning 2018

Areas		Pig production	1,300 farms
Farmland	3,032,000 ha	Pig breeding	800 farms
Arable	2,580,000 ha	Average herd size	165 head
Pasture	452,000 ha	Pig feeding	1,100 farms
Forest	3,326,000 ha	Feeding pigs over 20 kg	836,000 head
Farms		Average feeding pig unit	825 places
Number of farms	63,000	**Yields**	
Of which full time	15,500	Winter wheat average	7.36 t
Average farm size	41 ha	Winter oilseed rape	3.43 t
Livestock production		Ware potatoes	30.84 t
Number of farms with cattle	16,300	Sugar beet	63.2 t
Dairy farms	3,600	**Farm machinery**	
Milking cows	322,010	New tractors sold	2.800
Average herd	89 cows	Average power of new tractors	147 HP

HÜTTENTHAL DAIRY

HANDMADE & REGIONAL

Hüttenthal dairy: a family concern run by Britta and Kurt Kohlhage.

France and Switzerland still have small regional dairies. But in Germany only big processors mostly remain. Regional specialists such as Hüttenthal are rare indeed and we make a special journey into the Odenwald to find out more for you.

Meadows, woodlands and meandering brooks bedeck the Odenwald richly. This upland region nestles in the triangle between cities Heidelberg, Darmstadt and Würzburg. Some areas are partly used for cropping but most Odenwald farmland is in pasture, much of it grazed by Fleckvieh, the local cattle breed. “The backbone of our production is the milk from 16 family farms, including two with goats, that deliver every second day a total of around 14,000 l cow and 1000 l goat milk”, explains Britta Kohlhage. She and her husband Kurt own the Molkerei Hüttenthal, the Hüttenthal Dairy. The furthest-off supplier is only 25 km, i.e. a half-hour road journey, away.

Britta and Kurt Kohlhage demand high standards from their milk suppliers. GM feed is banned, just as is glyphosate on the pastures. Grazing is obligatory for all animals in summer with the exemption of two farms where milking robots are in action. But there too, the cows get outdoors to soak up fresh air and sunshine on meadows alongside the robot stands. To reward the high standards required, milk price paid to suppliers is about 2 eurocents/kg above the national price. “On average, our farmers run 52 cows apiece and deliver about 400,000 kg milk annually. This gives us some 5 million kg per year that we process in our dairy to fresh products and cheese”, says Kurt Kohlhage. “For us, that’s enough. It gives us enough to do and we don’t want to expand any further.” The dairy was founded as a cooperative in 1900. Twelve years later, the family bought it. “In the Odenwald alone, there were then seven dairies”, says Kurt Kohlhage. “Now, there’s only us left.”

ADDING PRODUCTS

Silent witness to earlier times when milk was still delivered in cans is the typical ramp at the front of the building. Now, the white raw material is collected at a temperature of 4°C by tanker from each farm, explains Kurt Kohlhage. “Regarding daily production, there’s only limited variation. Supply fluctuated much more in the past because spring calving was widespread then. Sometimes in winter there was more than 30% less milk. But what still varies are the milk constituents. In winter, fat level is around 4.3% with protein at a maximum 3.5%. During the grazing season the respective levels are 3.9 and 3.3%. It’s completely different with the goats. In this case, all females in a herd are dried off at the same time. After kidding, they have their youngsters to suckle. So for three months – from end of November to end of February – we get absolutely no goat milk.”

The Kohlhage family started producing goat milk cheese about 25 years ago, just as Britta and Kurt Kohlhage took over the business. “At that time, we were searching for an additional niche when three farmers asked whether we had interest in goat milk”, recalls Britta Kohlhage. “Then, it was very unusual. We tried it out and two of these farmers are still suppliers today.” The goat milk product range now includes two semi-hard slicing cheeses. Joining these are handmade cottage cheese and fresh goat milk.

Processing goat milk is not so easy. “It is much more liable to spoil during the cheese making process compared with cow milk”,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1 The farming family Sponagel is one of 16 suppliers to Hüttenthal dairy.

2 For thickening, the milk is curdled by adding rennet. Subsequent slicing separates curds and whey.

3 Cheese curds are prepared for filling into forms.

points out Kurt Kohlhage. “All the parameters such as temperature, or length of curdling period, must be followed absolutely accurately. On top of this, the milk fat level can fluctuate dramatically. At the beginning of lactation the constituent levels are very high, then they drop markedly. Towards the end of the lactation they shoot up again. Naturally, we have to consider all this in the processing.”

ROLLED BUTTER

But back to cow milk….this is collected from the farmer after the evening milking and directly processed the next morning. First, it goes into the centrifugal separator for skimming. The resultant skim milk and cream are carefully pasteurised for 20 seconds at 74°-76°C and 102°C respectively. An immediate product hereby is market-ready double cream. This is filled in various containers: 250 g for private use and large containers of 5 or 10 kg for the catering sector. Around two-thirds of the cream is churned. This doesn’t take place in a classic churn but instead via a continuous process. “The fat globules in the milk have a mantle of protein”, explains Kurt Kohlhage. “This mantle is ruptured in processing, the butterfat escapes and is then kneaded. Thus, butter and buttermilk are produced.” A real Hüttenthal speciality is rolled butter. We were convinced on the spot that this product tastes much better than proprietary packed butter. Unsurprisingly, it’s already a sales hit on farmers’ markets and an optical highlight on the stands there. Hüttenthal butter is naturally soured through living lactic bacteria. Mildly soured butter in the retail trade is sweet cream butter with lactic acid concentrate subsequently added.

“Our customers are very fond of our buttermilk too”, informs Britta Kohlhage.“It sours overnight, turns creamy, and can be filled as a drink the following day. Or it is available fresh from the tap in our shop. Buttermilk contains only 0.8% fat, however lots of lecithin. It is an absolute nerve tonic.” Further fresh dairy products from Hüttenthal include quark with various fat levels, quark cheese, sour cream, stirred yoghurt and thickened sour milk. With the exception of quark, none of our products feature added fruit preparation. “This wouldn’t fit with us. And our fruit quark with fruit preparation from controlled organic production is in our range only because I couldn’t bring myself to buy “Fruchtzwerge” (proprietary fruit quark for children from Danone) from another processor for my children”, smiles Britta Kohlhage.

From cream cheese (quarks and quark cheese) production comes sour whey, a high-value livestock feed containing protein, lactose, minerals and trace elements. This is delivered to a pig feeder in the region.

REGIONAL SPECIALITIES

The range of cheeses produced by Hüttenthal covers seven different sorts, the best-known of which is “Odenwälder Frühstückskäse” (breakfast cheese), locally simply referred to as “handkäse”. As a young cheese this has a mild aromatic taste, becoming savoury and piquant with age. It has only 10% fat in dry matter and is produced from unpasteurised milk with red mould and rennet added. Maturing is natural and over 14 days at 16°C and 96% relative humidity, during which time it has to be washed daily, a task nowadays carried out semi-automatically. Handkäse matures from the outer surface inwards with the inner core initially white. Since 1997 this cheese bears, as one of a very few German sorts, the certificate: “Protected designation of origin” meaning it is a recognised traditional regional speciality. Under certification rules, the handkäse may only be produced in the Odenwald region of Germany with Odenwald milk. In the past, this speciality was produced in several of the region’s dairies, nowadays only in Hüttenthal. It can be enjoyed as “handkäse with music”, a dish where the cheese is marinated in vinegar and vegetable oil and served with fresh sliced onion.

According to them, Britta and Kurt Kohlhage’s recipe for success is really quite simple: fresh, regional milk produced from animals farmed under high-welfare husbandry systems, the milk processed with traditional craftsmanship without binding agents, preservatives, colouring or flavourings as well as no gene modified cheese cultures, short transport journeys and experienced dairy staff members. Honest products are the result of all this input. Their success validates the route the couple have taken. Around 60% of turnover comes from private customers and selected retailers, the remainder from catering and other food sectors, mainly bakeries.

And those who find themselves travelling through the Odenwald should not miss making a direct visit to this dairy which includes a retail outlet open Monday to Saturday. There, all products are available fresh from the dairy, some drinks, such as non-homogenised fresh milk, direct from the tap. Where else can you find that nowadays? Or the rolled butter that tastes best spread pure on a slice of crusty bread?

With so much regionality there are, however, two exceptions: a large-scale delicatessen in Stuttgart buys-in the Hüttenthal fresh dairy products and in Manufactum’s “Brot & Butter“ chain of quality food warehouses butter from the Odenwald dairy is on offer. After all, it would be really unfair if so tasty and high-quality products were all reserved exclusively for the inhabitants of the Odenwald! «

INFORMATION

At weekends and during vacations Peter Schultze helps on his family's arable farm and agricultural contractor business, for example here during sugar beet drilling.

PEOPLE IN KRONE

OPEN FOR NEW EXPERIENCES

Practical experience during his studies brought Peter Schultze to Krone – and at the same time presented him one of the greatest adventures in his life so far. Nowadays he works in product marketing; responsible there for mowers. But the roots to his parent's arable farm remain intact.

Usselig – this means cold, damp and uncomfortable to folk in the Rhineland – is the accompanying weather as I slowly roll through Kakerbeck, a suburb of Wittingen in Lower Saxony's eastern borderlands, only a stone throw from the Saxony-Anhalt border. The hamlet is so small that it needs no street names. Still, it takes a while to find agricultural contractor MKW's two buildings on the outskirts. Peter Schultze, from Krone's product marketing department where he's responsible for mowers, already awaits me at the gate. A swirling gust of rain encourages us to hurry indoors, through the workshop and into the office where Carlson, a lively 5-year-old Labrador, welcomes me. His delight appears boundless, just as long as he's able, not only to extensively snuffle this visitor but also have his head scratched.

Eventually we find ourselves sitting at table with a cup of coffee while Carlson sprawls on the bench beside Peter, confidently laying his head on his lap to earn still a few more friendly strokes. Master and dog – a cosy picture, I find. "Carlson isn't mine. He belongs to my brother Christoph who runs the contractor business", explains Peter. And not only that: the family Schultze also farms around 160 ha in Wittingen and is additionally partner in a company over the state border in Saxony-Anhalt. The land is cultivated by MKW with a team that, along with brother Christoph, includes two fulltime employees plus father Ernst Schultze as well as two seasonal hands. Naturally Peter also helps. "Together, we are four brothers and from toddlers onwards we were always immersed in farming", he points out. "This still applies. Since I've worked with Krone, though, there's not that much time. But when it's at all possible, on weekends and vacations, I'm very happy to help here."

TOUR THROUGH EUROPE

His enthusiasm for farming and machinery is apparent as he describes the farm and the contractor business specialised in combining, baling, precision seeding as well as sugar beet harvesting and transport jobs. In other words, clearly specialised in arable. It has around 100 external customers in a radius of some 30 km. What then is the bridge linking this to Krone and forage harvesting? "Quite simple – this link was forged through my agricultural studies in Osnabrück. While looking for a practical experience place in 2016, I came into contact with Spelle, more precisely with Krone product marketing. And there awaited an extremely unusual task", remembers Peter Schultze, drawing out the tale interestingly while alongside, Carlson appears to have dosed off.

This task was the "Green Power Tour": travelling with two rigs comprising tractor and mower combination or turner for six months criss-crossing eight countries from Nantes to north of Stockholm, with 10,000 km covered on the road

alone and something like a total of 120 demonstrations. The tour was carried out by Peter and Torben Breuer, also a student in Osnabrück undergoing practical experience with Krone. “This was an enormously interesting time, continually meeting new people and having to master the many small daily challenges involved when travelling for so long”, he emphasises. There was, after all, no accompanying backup. All the luggage that the two needed had to be carried on the tractors. Replacement parts and tools were, however, available underway from Krone sales and service partners.

However, probably the biggest challenge in this adventure features the foreign languages, reports Peter with a twinkle. “Even in school I preferred natural science subjects much more than languages. Because of this, the start in France likened a spring in cold water. After all, what do you do when stuck in the middle of France wanting to explain to farmers the advantages of a 16 m working width turner or a triple mower combination, without a word of French or even the necessary specialist terminology in English? There remained only “hands and feet” for the required explanations. But that didn’t worry me because I’ve always been open for new experiences. And the learning curve in those months was – in a positive sense – very steep. At the same time, we were using the rainy days in the eight countries looking round the regions and getting to know interesting people. Torben and I are definitely proud that we managed everything and

that the tour was altogether a great success.” Not surprising is that his bachelor graduation thesis is partly based on an assessment of the tour.

TEAM PLAYER

Meantime, Peter now has a grasp of even the most unusual terms around mowers and other forage machinery. At least in English, he adds wryly. And this English repertoire has turned out extremely useful because now he regularly presents product training courses and supports the marketing team during press events as well as at national and international exhibitions. As Peter puts it, his personal spontaneity has certainly not been reduced in the three years that have now passed with Krone. “When in 2016 my girlfriend as part of her International Business Management studies, spent a semester in South Africa, I decided right at the end of our grain harvest here on the farm - it was a Thursday – to book a last-minute flight and surprise her. And that certainly succeeded.” Even now, he gets a kick out of recalling his spontaneity.

Carlson suddenly leaps down from the bench: his master is back and come into the office. Christoph Schultze wants to drive to the neighbouring village with the telescopic loader to load onto a customer’s truck around 40 big bales of straw baled on their fields the year. We accompany him outside, much to Carlson’s joy who quite rightly hopes for a variety-rich excursion, and continue our discussion in the machinery and storage shed. I ask Peter what else makes him enthusiastic about his job – apart from his predilection for machinery and the continued repeated opportunities to master challenges and get to know new people. The answer, “teamwork”, is as spontaneous as it is short. “In my spare time I very much like playing handball and this functions only with a well-trained team. This is also what I like in the work with Krone – our team fits together superbly. Not only in work, but in all aspects.”

And what’s the professional future like? “As before, I find new challenges exciting, regardless if national or international, and Krone offers many possibilities for self-development. For example, I could imagine working in sales or similar. But at the moment this is not an acute requirement. After all, I like my present work very much.” «

1 Six months long through eight European countries. The Green Power Tour in 2016 was an exceptional experience for Peter Schultze (l.).

2 Peter Schultze (middle) especially likes the teamwork and customer contact involved in his job.

3 For loading straw, Peter Schultze takes along Carlson, his bother Christoph’s Labrador.

4 Work with customers is a forefront feature in product marketing. But the office work still has to be dealt with.

5 Precision seeding is one of the most important services offered by MKW, the contractor firm owned by the Schultze family.

IRELAND

THE GOLD OF THE GREEN ISLAND

Green meadows, lots of rain and a splash of yellow from flowering broom- a typical picture of the Irish island in May.

More green just isn't possible. Plentiful grass covers the island of Ireland thanks to an annual 1,200 mm rain. This helps make milk production important, a mainstay of the export trade and what could be called the gold of this green island. Rain, though, is not wanted for carting home good silage. Then, the dairy farmers keep a look out for blue skies and the rain radar.

Certainly, silage harvesting weather is still a special subject in Ireland – whereby the climate change is also noticeable there. While it still rains more than enough, times are changing. Last year, for the first time ever, there was almost no rain in June and July. Some dairy farmers in the northwest were speaking of a nightmare and now hope for a normal 2019. Those who – as we did in May this year – visit Ireland and meet with farmers, merchants and agricultural contractors, can avoid the rain just as seldom as the subject of Brexit. Particularly when crossing the, still unmarked, border between the Republic of Ireland and Northern Ireland. But first things first.

MILK MAKES HAPPY

What's the state of agriculture in Ireland? And how on earth do farmers manage to harvest the grass between the rain showers? Someone who knows the country and its farmers well is John Scrivener. He also knows what the insides of their wallets look like because he's owner and manager of the farm machinery dealership Farmhand in Dublin: exactly the right discussion partner to help us with a first impression for the start of our trip over the green isle.

The Scrivener family has run this business since 1962, mainly as importer of machinery makes Krone, Amazone, Alö, APV and Zuidberg. Second mainstay is a successful business built around sale of replacement parts with an annual turnover of around 38 m €. The company is managed by father John, two sons Paul and Stephen and daughter Sinead.

"The dairy farmers are happy although things are bad just now for meat and crop producers", reports John. Meat and vegetables suffer from marked price reductions. Milk, on the other hand, currently earns 35 c/l, which satisfies the Irish dairy farmers. It'll probably rise higher, too. Last year it averaged 4 cents more, he adds. One reason is the Irish milk industry's flourishing export trade. An excellent example of the processors involved, continues John, is Kerrygold, a processing coop with 14,000 milk producers. For many Irish farmers the present milk price is acceptable because they base their businesses on a cost-leadership strategy with current break-even point between 23 – 25c/l.

From the 130,000 farmers in Ireland a total of only 15% produce milk. But also on the sunny side of things are those in the position to deliver forage machinery. Their businesses are uplifted by the good milk prices. Just as Farmhand earns a substantial turnover with Krone products. In figures, these bring-in 18 m €, almost 50% of total annual turnover. In the last two years, says Stephen Scrivener, total annual turnover increased by almost 20%. For 2019, a plus of 15% might be achieved, he hopes. The

1 Farmhand owner John Scrivener with sons Stephen (l.) and Paul.

2 Farmer Tom Hayden puts his faith in low costs, breaking even at 24 c/l.

3 Family-power: Derek Killen (centre) and his six sons (four of them in the picture) and eight employees run a dairy farm and contractor business.

4 Adam Killen and one of the firm's two Krone silage harvesters. In three cuts, the brothers harvest around 4,000 ha grass silage per year.

biggest boost here comes from forage harvesting machinery and replacement parts.

Here on the green isle forage mainly means silage from grass. The trend moves definitely towards precision chop. On average, 55 self-propelled silage harvesters are sold new each year. Hereby Farmhand has 30% of the market with sales of 18 Krone machines. The expansion of machinery for delivering chopped silage goes hand-in-hand with the growing size of farming units, emphasises Scrivener snr. Interesting, and perhaps also typically Irish: farmers aren't investing their higher milk income in machinery. Instead, they're spending on herd expansion and in more hectares for feed production. Forage harvesting, as with slurry management, goes more and more into the hands of contractors. And Farmhand also does well in this branch: the dealership already earning 40% of its turnover from contractor companies.

Farmhand has a staff of 44, 25 of the personnel in the office and workshops, and 19 out on the road. As importer of the main products already mentioned, the firm supplies a total 34 farm equipment dealerships including six in Northern Ireland, i.e. Great Britain. With the latter, Farmhand earns around 12 m € turnover annually. This is one reason why Brexit is naturally a critical subject for importers such as Farmhand, and why the family doesn't want a hard border to Northern Ireland and cannot imagine what would happen as a result.

COSTS IN CONTROL

That farmers are satisfied with the present milk price is confirmed for us by Tom Hayden, a dairy farmer with 300 cows in County Meath, about an hour's drive northwest of Dublin. "Yes, I do all right with 32 c/l. This should increase still. Last year it was about 4c/l higher", points out the visibly laidback farmer. Not only does his mood seem good, his low-cost milk production strategy apparently works well too. Farm buildings and livestock housing reflect his commitment to cost control. Herd results show that there's no ambition to hit any headlines with highest yields. Instead, output from his 300 cows averages 6,500 l. The result: he breaks even at just 24 c/l.

This 37-year-old farmer has 500 head of cattle on his farm altogether. Herd and followers are out at grass on the surrounding pastures for 200 days in the year. "This affects cow performance. But grazing them keeps feed costs down as well as reducing labour requirement." The farm covers 162

ha grassland and a good 60 ha arable, the later rented out for 500 €/ha. The grassland is partly grazed or else cut three times from May to September for silage. A contractor takes care of the lot: from mowing right through to consolidating the clamps. Last year, an unknown phenomenon hit Ireland for the first time. Over eight weeks in June and July there was as good as no rain. "This was a nightmare and cost us almost a complete cut of grass", recalls this farmer. He had to buy-in 300 round bales of grass silage at 30€ each. In normal years, such a bale sells for 20€. His efforts are not only aimed at keeping a firm grip on production costs, but also on controlling work input. Some 18 months ago, Tom Hayden merged his milking herd with that of a neighbour, mainly to save work input and make better use of available land. "The work is a growing problem, especially for we dairy farmers", he relates. "No one wants to milk!"

A FAMILY AFFAIR

It's exactly these problems - not enough time personally and reduced availability of workers - that tie down all dairy farmers. Profiting from the situation is the contractor sector: a flourishing one in Ireland and a service growing in importance, but also with participants struggling under merciless competition. This we also heard when visiting Killen Brothers, a family firm headed by father Derek Killen and his six sons: Christopher, Jonathan, Robert, Philip, Adam and Gordon. Together with eight full-time employees the family runs a 400-cow dairy farm and a contractor business near Londonderry in Northern Ireland. Establishing the contractor business as second support pillar alongside the farm made sense, especially with six sons, in that the market in their region needed this sort of service. Killen Brothers serves around 100 customers within a 50 km radius. The average customer milks 200 cows, so the focus is on grass harvesting and slurry.

The company mows a total 4,000 ha for grass silage with three cuts, i.e. around 1,300 ha/cut. This is always undertaken as a complete job, from mowing through to consolidating the silage. Mowing features a Krone BiG M as well as two front and rear mounted mowing combinations, each with conditioner. Swathing is via four and two-rotor tedders. Silage lifting and chopping feature a Krone BiG X 700 and a 630. Three wheel-loaders handle the pit rolling. The firm charges 173€/ha for the complete grass silage chain, not counting the journey to and from the farm, but including diesel.

Harvesting silage means a 16-hour working day with night work six days in the week. Within a radius of 10 km another five contractors are in action. The situation is such that not one has got off with raising prices for at least five years. "When the weather forecast indicates one or two dry days ahead, the farmers phone up and want to start making silage. If we do not immediately agree, they will turn to a competitor without hesitation", points out Adam Killen.

Thus contractors have to be continually ready for immediate action between May and September and invest in more capacity so that they can service an increased number of customers all at the same time. "If prices cannot be raised, then the state of wide availability at all times will reach its limits soon", reckons father Derek. Because Irish dairymen are mostly without kit for outside farmwork, he's convinced the situation must change towards higher prices if farmers want to get their forage safely in the clamp between the threatening rain clouds. The Killen family's hope is well-grounded .... but the future remains enigmatic

And what about Brexit? Here the opinions of the Northern Irish family members are widely split. The main thing: no hard border! They all agreed on that. «

GERMAN ASSOCIATION OF MACHINERY RINGS

SEEKING SOLUTIONS TOGETHER

Leonhard Ost is president of the German Association of Machinery Rings (BMR) and chairman of the Günzburg-Neu-Ulm Machinery Ring board. He also farms and runs a biogas plant at Ellzee.

Structural change, scarcity of skilled labour and digitization together represent immense challenges in rural areas. "We are prepared for this", emphasises Leonhard Ost, president of the German Association of Machinery Rings (BMR). Here, he explains why the "MR" logo is more important than ever for agriculture and rural regions.

Standing stronger together – this motto was apt and remains right, not only for cooperatives but also for the machinery ring movement since its foundation 61 years ago. The challenges faced by agriculture have changed enormously since the first rings started in 1958: a central theme when XtraBlatt spoke with Leonhard Ost, president of the German Association of Machinery Rings as well as chairman of the Günzburg-Neu-Ulm machinery ring based in Ichenhausen, where this interview took place.

XtraBlatt: Herr Ost, respected studies predict a reduction in full-time farms in Germany to some 120,000 within just a few years. What does this mean for machinery rings? Will they become unnecessary?

Leonhard Ost: *Very definitely not. They are more important than ever! However, I agree that the type of work undertaken by rings has changed massively in the process of the structural changes you mention. And this process of change will continue. But before going into this further, I would like to address the figure of 120,000 farms. It is correct that this structural change is speeding up and that arable farms, in particular, aim at own-mechanisation as their size increases. But don't let's forget that there continues to be a very large proportion of owner-occupied family farms with multiple income sources, i.e. no longer full-time.*

XtraBlatt: Is this not a special southern German phenomenon?

Ost: *Yes, the north-south, or in other cases, the west-east divide is obvious. From BMR membership of around 196,000 in 240 machinery rings, 100,000 of the members are in Bavaria where I assess membership at around 60% part-time farmers. Particularly for these farms, the machinery ring services are as valuable as ever – and their importance will continue to grow.*

XtraBlatt: In what way?

Ost: *Currently, agriculture has to get to grips with a previously almost unimaginable amount of official requirements and legal regulations. One example is the intensification of the Fertiliser Application Ordinance through amendments that occur at ever-shorter intervals. The 2018 amendment still remains to be completely implemented with expected positive effects not fully assessed, representing the next round of torture up ahead. Many livestock farmers can no longer keep up with this sort of actionism.*

This applies not only in the light of manure handling capability

but also generally with new agricultural machinery investments. The increasingly marked trend towards electronics and digitization leads to massive increases in machinery costs. What happens is that a great many farmers no longer have anything like the land area that might employ such machinery viably. And with this, I come back to the first part of your initial question: I am convinced that machinery rings will receive a boost in business through digitizing of agriculture. In this context, the key question is: who owns the data – the farmers, the service providers, the dealerships or the industry? When a particular service is offered, what motivation and business model lies behind it?

XtraBlatt: *In the end, it is about the farmer's data and a never before experienced transparency …*

Ost: *This is so. Farmers should very carefully consider this aspect in particular before deciding on a digital deal. Because even now we can see that many aspects of digitization can destroy formerly established supplier-customer relationships. Admittedly, exciting new options are involved. But often a supplier might attempt to use the situation to intensify a binding between supplier and customer. This is naturally legitimate – but every user should be aware of the possibility. Here's where I see a neutral position for machinery rings, serving as the farmers' central supporter and advisor. In other words, as data-advisor offering a service just as naturally as a tax advisor assisting with fiscal questions.*

"THE MACHINERY RINGS ARE MORE IMPORTANT THAN EVER!"
LEONHARD OST, BMR PRESIDENT

A very topical example of such a documentation service concerns organic fertilising and identification of nutrient flows, but also filling out applications for farmland subsidies. Here, official administration demands ever greater transparency. It is already apparent that increasingly more farms do not wish to, or cannot, afford to handle all the inputs on their own. We in the Günzburg-Neu-Ulm machinery ring have reacted to this situation already and established appropriate personnel.

XtraBlatt: Critics pick on the point that machinery rings with their ever-greater range of services such as documentation quasi support survival of small and medium farming businesses, thus impeding the further expansion of full-time businesses …

Farmers should carefully assess to whom they make available their farm data in the process of digitization, feels Leonhard Ost.

Ost: *One can look at it this way – but not necessarily. I am convinced that there's justification for every type of farming and size of farm: all the more so if they contribute towards maintaining owner-occupation in agriculture. This is because I'm concerned at the increase in transfer of land ownership into the hands of investors with no farming connections, a trend that will tendentially grow. I therefore encourage introduction of different forms of farming, for instance contract farming agreements, along with the usual selling and renting of farmland.*

All in all, I recognise an important aim in enabling our membership to work with farming models that are completely different from the present ones, and definitely also with agricultural contractors, if the system is right for the participants. I am convinced that, on the whole, the future will bring more movement and variety in working together. What is decisive here is identifying solutions that will help strengthen rural regions. After all, agriculture has much more than a purely economic dimension in our rural communities.

XtraBlatt: But also…?

Ost: *… a definite social component. The drift of particularly younger people into population centres is already a massive problem nowadays. This also directly affects us as machinery rings, as it does agricultural contractors, trades and other classic family firms in rural areas. Let's take the example of farm emergency relief services, one of our core tasks. Up until now, our relief workers came from the lines of young women and men waiting, sometime in the future, to take over the family farm and therefore still having enough time before the senior finally hands over the reins. But particularly on the growing number of full-time farms the volume of work means that, after training and/or studies, youngsters are needed at home; therefore are not available for the rings.*

"AGRICULTURE HAS MUCH MORE THAN A PURELY ECONOMIC DIMENSION IN OUR RURAL COMMUNITIES."
LEONHARD OST, BMR PRESIDENT

On the other hand, those whose farm businesses are too small for full-time occupation, increasingly seek income alternatives in the agricultural periphery. Additionally, the children of such people primarily look for careers in completely different sectors and move into urban population centres If we, therefore, want to continue fulfilling our role as rings; supplying skilled personnel to meet demand, we have to establish more permanent full-time personnel. The only way that we can keep people here on the land is through providing enough suitable job opportunities. In this context I believe that we as machinery rings have a growing social responsibility.

XtraBlatt: Through continuous expansion in the range of services offered, machinery rings may be also seen nowadays as competitors for contracts such as supplying skilled labour for gardening and landscaping, winter community services or municipal work, a role accompanied by comparatively aggressive bidding for any jobs going…

Ost: *To me such criticism is too general and, anyway, not even correct! In that we are working with permanent full-time personnel we are subject to the same costs as others offering respective services. Particularly because of the high work quality we provide, this doesn't come at cut-rate prices. And, by the way, it is my experience that when the quality is right, the customer, for instance the farmer, is very happy to pay the required price. On the other hand, the rings must aim to secure sufficient work so that their teams remain profitable. Therefore they have to invest in attracting orders. This always represents negotiating a knife edge. In end effect, machinery rings, agricultural contractors, public services, trades and other commercial businesses all compete on an equal basis for good workers in rural areas. This has to do with wages, but equally with work conditions. In this respect, we are investing a lot in being attractive employers.*

XtraBlatt: Herr Ost, thank you for the discussion. «

The president sees a future role of machinery rings as neutral data advisors whose service in this respect is just as naturally taken up as is the contribution of a tax adviser in taxation matters.

SHEEP FARMER ANTON WUNDERLICH, LICHTENFELS

TRADITIONAL & MODERN

Anton Wunderlich, sheep farmer in Mönchkröttendorf near Lichtenfels in Bavaria.

Domestication of sheep began in western Asia around 11,000 years ago, making shepherding one of the oldest forms of farming. To find out more about life and work on a modern German sheep farm we visit the Wunderlich family in Mönchkröttendorf near Lichtenfels in Bavaria.

There's little trace of the shepherd's romantic image when Anton Wunderlich spins into the farmyard on his brand new 215 HP Valtra T214. He's just back from dung spreading. "The tractor is leased for three years with full service included ", says the sheep farmer. "Otherwise an investment of this size nowadays is barely justifiable." Still, the machinery fleet on this farm is certainly impressive, including a butterfly mower, Krone round and square balers, several tractors, a Tridem tipper trailer, feed mix wagon and telescopic loader. High mechanisation. But then it's a big farm. Anton Wunderlich runs around 1,300 ewes plus followers, feeds lambs and keeps a few goats on around 500 ha grassland and 30 ha arable.

The Wunderlich family come from Limburg an der Lahn. Anton Wunderlich's grandfather started farming in Bavaria. His wife was brought-up on a farm under the Lichtenfels Clinic. Grandson Anton expanded the sheep keeping side and in 1993 moved to Mönchkröttendorf. Later, two houses were bought: one for his family and the other for his parents, the 84-year-old senior still attending to the sheep every day.

LAMBING

Arriving on the farm, the first stop is the sheep barn. The Wunderlich flock consists of merino landrace ewes lambing year-round. Most sheep breeds give birth in spring only, but Anton Wunderlich is always at the lambing with his merinos with the exception of four weeks in February and another 30 days in September. To ensure these breaks, he takes the rams out of the herd for the appropriate period five months earlier. The picture within the sheep house is charming: impressive large-framed


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1 Karl Wunderlich guards the rest of the flock under the Kloster Banz monastery.

2 The flock consists of 1,300 breeding ewes. Ewes close to lambing and those freshly lambed are kept indoors.

3 Anton Wunderlich breeds merino landrace sheep, a breed especially suitable for migratory flocks.

4 This mobile drinking water tanker is a one-off model. It ensures reliable water supply for flock members on summer grazings.

ewes that – although in mid-lactation – are obviously outstandingly well-fed and healthy. A lot of planning and work is behind this success. "It's especially important to use high quality male lines", explains the farmer. "Mostly I buy at auction from southern Germany's best breeders where a ram can easily cost up to 8000 euros."

Directly post-lambing, ewes and offspring (about 70% of merino ewes have twins) are housed family by family in small pens where the mother-lamb relationship is fostered. Penning them in this way also aids observation in early rearing stage for best results. Before the shepherd moves them into larger groups, ewes and lambs are ear tagged. Tagging is done by Anton Wunderlich's wife Angela. In the sheep barn there's a central feed passage from which conveyor belts with feeding fences on each side carry rations into the various compartments. A feed mix wagon supplies the ration of hay, grass silage and brewers' grains. Sugar beet pulp is fed in some mixes. Lambs also get milled grain. The hay is always home-grown on a special 100 ha area, the aftermath being grazed off. "We farm a number of grassland areas designated for nature protection", the farmer explains. But grass growth there is limited so that it's very difficult to get a good lamb slaughter carcase. To achieve better results the feeding lambs are moved on to other meadows with higher quality swards.

DIRECT MARKETING

Earlier, main income from shepherding came from sale of wool and meat. The merino landrace was bred especially in the south of Germany with wool of highest quality meeting a high demand. Nowadays, the income from wool covers only the shearing costs. Things look a little better as far as meat is concerned, especially where it can be direct marketed. In this respect the Wunderlich family has built up a good customer base over the years with some private households supplied but mainly selling to butchers and restaurants. In the farm's own EU-certified slaughter facilities around 15 – 20 animals per week are slaughtered, surplus feeders being marketed through a dealer. But the largest proportion of income from such a sheep farm nowadays comes from Brussels in the form of direct payments as well as a large amount paid out as environment protection premiums. In Bavaria, the VNP programme contracts farmers into environment protection agreements. The requirements in this respect are very high and the controls also strict. "At first glance, the sum of compensation payments with all sheep farms appears enormous", points out Anton Wunderlich. "However, what is paid out must be considered in relation to the limited income from production. In fact, net income from our type of enterprise is considerably lower than that from most other farming types, especially where outside labour has to be paid. With our size of unit we cannot get by without this."

Our walk over the farm continues. From the sheep barn it's a short step over to the goats, mainly kept because unlike the sheep they're able to feed on woody plants, keeping pastures open. In other words, they carry out a landscaping job. And let's not forget the farm donkey. Up here, it's traditional that a donkey runs with each flock.

AN EYE ON ANIMAL WELFARE

Anton Wunderlich wants to show us something in the machinery shed of which he's especially proud. "This 16 m3 drinking tanker is unique. I worked with the firm Marchner developing it. Drinking water is vacuumed up into the tank, the small drinking bowls for the sheep are attached to booms which are hydraulically lowered into position thus always allowing a large number of sheep to drink at the same time. The system is a real contribution to animal welfare. In summer water is scarce, particularly on the dryland swards in environment protection areas. The water in the tanker lasts the flock there for around two days." The tanker was financed by the "Green Band", an environment protection project operating along the former West and East German border strip in this area.

A sheep footbath represents a further development by this farmer. "While I do not have foot rot in my flock, this is a very undesirable infection and when I'm moving from grazing to grazing with my flock there's a danger of infection because we cross the routes of other flocks. My reaction is to repeatedly drive the sheep through a footbath of antibacterial liquid. The conventional solution for a footbath here features is a narrow vessel through which only one animal at a time can pass. My bath is much wider and features robust built-on fencing at each side, allowing the flock to be driven through much more speedily. Above all, I can load my design in one piece with the tractor, which spares the backache I used to risk when moving traditional footbaths.", explains the innovative shepherd.

Anton Wunderlich is not a person prone to complaining, or he would probably never have managed to build-up an enterprise of this size. However, alongside ever-increasing bureaucracy, there are certainly factors that now and again spoil the fun in his profession, he says. "For instance, there's now a high-speed ICE rail track right through my grazing land. Basically, I've nothing against this. However, whereas a motorway has to be securely fenced against livestock, stretches of this high-speed track are completely unfenced! Should the sheep break out of their fold anytime during the night, perhaps scared by roaming dogs, there's a real risk that they could end-up in front of a train. Money was available for planting new trees along the track, but nothing for ensuring safety. I have not kept quiet about the danger but, sadly, my protests have had no success." A second provocation for Anton Wunderlich features wolves. "Should these animals become really established here I would have to seriously consider giving up sheep farming", he regrets. "While the economic damage through wolf attacks can always be compensated for, there's the sheep welfare aspect to consider. As a dedicated shepherd, I devote all my efforts towards ensuring my animals are well cared for. If wolf attack was to become a perpetual risk, then I would cease shepherding here."

After our walk round the steading we drive in the direction of the monastery Kloster Banz where Anton Wunderlich's brother Karl is grazing 700 ewes. Helping him are a pair of "Süddeutsche Schwarze", an old type of German guard dog, still bred mostly in Bavaria. The sheep farm grazings stretch through the districts of Lichtenfels, Coburg and Hildburghausen. It's only the beginning of April but vegetation growth is already quite advanced and the ewes here are also in excellent condition. As Karl Wunderlich folds the sheep we can see that foot rot is really not a worry here: all animals are moving briskly and not a limping movement to be seen as the Wunderlich brothers study each and every animal going by. Even on a modern sheep farm like this, it's the eye of the shepherd that feeds the sheep. «


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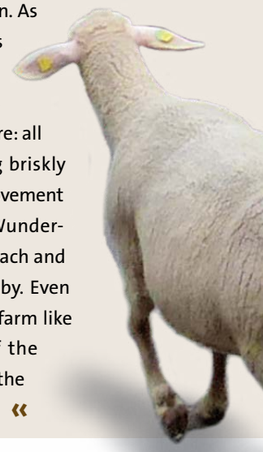


NEWS-TICKER

PREMIERE IN PAKISTAN

Farm machinery from Krone can now be seen in Pakistan. At work on the Nishat Dairy, one of the country's largest milk production farms, are two turners and two tedders – made in Spelle.

HONOURED

At the DIDACTA exhibition in Cologne Krone was honoured with the eLearning Award 2019 in the category "International Roll-out: Best Practice Learning Portals". With this, the eLearning Journal jury honoured the innovative basic concepts behind the Krone training portal, which now includes international e-training courses.

ACTION HAY MILK

For more than 15 years now, Krone has supported the "Action Hay Milk" campaign initiated by Austrian Karl Neuhofer. Since its grounding, the added value for farmers has rocketed by more than five times and the recognition value of hay milk continually increased. The consortium "Heumilch Österreich" currently unites around 8,000 farmers and some 60 processors.

DONATION FOR FOUNDATION

A cheque for 10,000 euro for the Uwe Seeler Stiftung was presented to the famous footballer by Dr Bernard Krone and Bernard Krone. The former German national football team captain and present DFB honorary captain obviously revelled in his visit to Spelle, particularly enjoying his tour of the Krone Museum.

NATIONS' BEST

For the 6th time, the Krone dealership Landtechnik Villach captured the coveted "Agrartechnik Service Award" as national winner for Austria, convincing the jury on the points service competence, modern workshop as well as motivated team.

INVENTOR VISITS

Otger Weddeling (85), inventor of the Krone BiG Pack returned to his old inspirational location in Spelle, a visit fortuitously on the 25th anniversary of the baler's introduction. Joining him were his colleagues from that time who had participated in the development of the BiG Pack so helping to write the beginnings of this great success story.

NEW DEALERS

The company W. Doormann & Kopplin GmbH & Co KG is a new sales and service partner for the complete Krone product range. Currently, Doormann & Kopplin have three depots in Schleswig-Holstein and employ around 100 personnel.

"BEST MARKS"

First place in the category Trailer/Anhänger – this outstanding result for Krone was announced during the official Image Awards 2019 presentation in Munich. Bernard Krone received the award on behalf of the entire team.

MADE BY VIELFALT

In national daily newspapers, in magazines and on big city billboards the message "Made in Germany – Made by Vielfalt" was displayed in large print. Participating in this campaign were 50 German family enterprises including Krone, all of them taking a stand in favour of an open-minded Germany.

WINNERS IN SPELLE

The winners of the agricultural contractor marketing award in Austria travelled north to visit Spelle. Along with an intensive factory viewing the programme included informative short schooling sessions covering the subjects machinery and marketing.

FAREWELL

After 30 years on the road for Krone, company representative Ulrich Sirch took his leave for a well-earned retiral at the end of April. "You were an outstanding brand ambassador and contributed in large measure to our success in southern Germany", said Dr Bernard Krone, thanking him personally.

MACHINE OF THE YEAR

Wonderful success at the SIMA agricultural exhibition in Paris – the BiG X was honoured as "Machine of the Year 2019". Little wonder then, that the Krone stand at the Paris event was thronged every day.

PRACTICAL TIPS FOR MACHINERY ADJUSTMENT

ENSURING A SMOOTH START

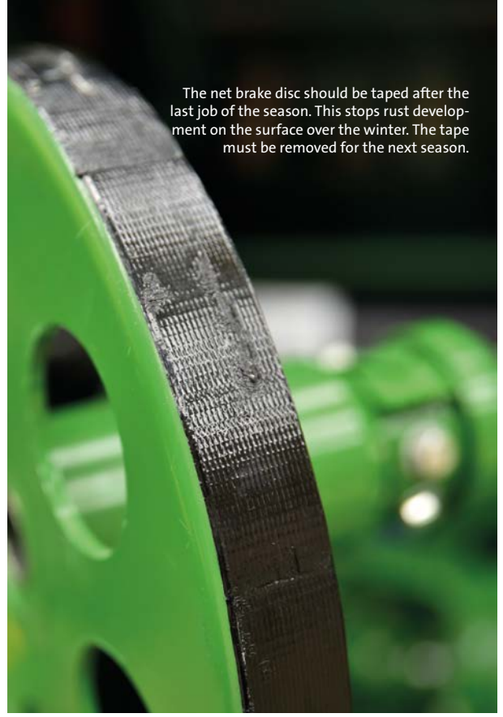
ISOBUS uses a self-diagnosis program to check all sensors and wires so that any faulty ones are identified for replacement or repair.

Preparing and setting-up the baler wrapper combination for the new season: this is a job that should really begin at the end of the previous harvest. Following a few basic routines then can save a lot of time as well as expense just before the harvest starts. What the right routine means is that you will be out in the field baling again while a less organised neighbour could still be struggling in the workshop with a spanner...

After the harvest is before the harvest. Every machine involved should be thoroughly cleaned before being put away for the winter and this includes the baler-wrapper combination. When the pressure washer is used, care should be taken: don't direct it at full power onto bearings and chains and keep the water jet away from the electronics.

Once clean, a comprehensive inspection is next. Look out for any wearing parts that need replacement. These can be ordered from the dealership along with any winter requirements and thereby real savings achieved compared with the cost of short-notice orders for parts just before baling begins.

After the machine has dried off the service specialists from Krone recommend injecting some grease into all greasing points. This forces any remaining water out of the bearings. Often there's a lubrication plan displayed on the implement or at any rate included in the operator's manual. Lubrication is also a good idea for chains before storage of the baler-wrapper. Chains are best sprayed or brushed with oil to avoid rusting. And here's another simple tip that can save a lot of time and frustration when baling begins again: stick adhesive tape on the still-polished disc of the net brake to avoid rust developing there. After removing the tape just before the next season,



The net brake disc should be taped after the last job of the season. This stops rust development on the surface over the winter. The tape must be removed for the next season.

Are all tines present and in position? If not, the defective tine socket bars should be replaced so that perfect swath pick-up can be guaranteed.

The central oil lubrication system for the chain must be checked before the working season starts. Good lubrication means good work progress – this applies particularly for the chains of a round baler.

brakes function as they should right from the first bale of the harvest. Forgetting this tip means having to do some scrubbing with a wire brush and rubbing down with sand paper. When the net brake doesn't function properly then round baling can quickly develop into a frustrating job. A short look over the stretch rollers can also save a lot of anger later on. Do they rotate freely? Are they free from rust and scoring? Then nothing should stand in the way of a frictionless start to the season!

BLADES AND CHAINS

The straw intake area and the cutting system definitely need a close pre-season inspection too. Are any pick-up tines missing? Only the full number will ensure completely clean uptake of the swath. So order replacements as soon as possible. And pick-up height should be so set that the tine tips run 2 – 3 cm above the field surface. A quick check of the air pressure in the tyres of the pick-up feeler wheels helps avoid nasty surprises during the first work of the season. The pressure should be 2.5 bar and the same applies to the baler tyres.

Ideally, cutter blades should be carefully checked after the post-harvest washing and before winter storage. Have the blades worn-down uniformly? Are any blade corners broken off? Will the blades last another season? Or does it make better sense to buy new replacements during the winter? Important, too, is a keen inspection of the individual blade spring protection. With Krone, these function with a small roller over which the blade rolls back on contact with any foreign body. Check this roller. It must be free moving.

Any signs of wear must also be looked for in chains and sprockets. And don't forget to check the chain tension. The manufacturer gives tension details in the operator's manual. The wear of the chain can be seen firstly through lengthening. As a rule, chains that have become too long can be shortened by removing a half or a whole link.

The second wear criterium in this respect is the amount of play of the chain roller on the internal bolts. This free movement increases through bolt wear the older the chain becomes. Chain sprocket wear is best seen on sprocket teeth, the sharper the angle at the tips, the greater the wear. When a chain has to be replaced it's worthwhile considering replacement of the sprockets too. Leaving an older sprocket and fitting a new chain can lead to rapid wear on the latter because the fit of the old and the new is never perfect. Tendentially one can say that working with heavy silage wears the chain out faster than when baling hay or straw.

Before the season starts, the chain lubrication pump should be checked once more for perfect functioning and the setting for oil feed rate reviewed. Wear of the chain brush must be watched for too. The brush ensures that oil lands where it should without loss – on the chain. Readjustment is simple and brush replacement should be carried out when it approaches its limit of wear.

All gearing oil must be changed at the required service interval, always noted in the operator's manual and worth a second look to make sure the respective dates have not been missed, also the required oil quality and quantities. Timely replacement also applies to oil filters in the main transmission. As a rule, an indicator is featured here showing degree of oil contamination. When oil flow resistance tops a predefined value, this is shown in the contamination indicator and the filter must then be changed.

CLEANING THE WRAPPER ROLLER

For the wrapper in the baler-wrapper combination, the stretch rollers should be tested for ease of rotation. It is also important that the rollers should be free from sharp-edged scratches as well as left over glue, both factors that can cause the sheeting to tear or part. If needed, sand paper can be applied to smooth the surface and any remaining glue removed with brake cleaner. Additionally, both blades for cutting the sheeting must be inspected and replaced if required.

To be especially sure that the electronics and sensor systems are in order after the winter pause. It's a good tip to check them again before work starts. In this respect, the ISOBUS system offers the advantage of automatic testing (in service mode) of all sensors via operator's terminal. Should a cable be loose or a sensor defective, this will be indicated in the test program and the fault traced «

BiG M 450

FOR MULCHING TOO

For its high-performance BiG M 450 mower conditioner, Krone offers an alternative equipment version with flail mulcher. Fitted is the mulcher module "Perfect TriGant" developed by Krone and the Dutch specialist firm Van Wamel B.V. Three separate mulcher units have been tailored for a perfect fit on the BiG M and can be easily fitted. The front unit is attached via quick couplers and the side units hung on the DuoGrip centre-of-gravity suspension system for clean contour following. Working width: a total 9.20 m.

The positioning of the three units ensures constant overlapping, even through curves. This guarantees stripe-free results even in tightest turns, says the manufacturer. Additionally, the great manoeuvrability of the BiG M 450 means the mulchers smoothly match-up with the previous pass without any shunting on the headland.

Practical features include full-hydraulic ground pressure control from the cab for all three mulcher units. Depth is pre-set through repositioning the running rollers and is easy to hydraulically adjust, again directly from the cab. Two further attractions are the central lubrication system and automatic radiator cleaning. Additionally, there's a wheelslip indicator, and mulcher units are automatically disengaged if overload occurs. « «

THE ZX RANGE

GENTLE LOADING ACTION

Sustainable forage harvesting. This always has priority with Krone and is very obvious in the latest Krone ZX range facelift that focuses on, among other things, avoiding soil compaction thus protecting fertility. A total of two new measures are introduced. The ZX 430, ZX 470 and ZX 560 get not only an electro-hydraulic suspension control for the pick-up, but also optionally larger tyres. The now standard pick-up pressure control can be steplessly and easily adjusted directly from the cab: a feature only available on Krone machines, reports the manufacturer. This allows constant pressure for the pick-up so that it can roll gently over the soil surface and cleanly pick-up forage – even on uneven field surfaces.

For best possible protection of the sensitive sward, Krone now offers the option of two 30.5-inch tyres for the tandem and tridem axle models ZX 430, ZX 470 and ZX 560. Buyers can choose between 710/50 R 30.5 and 800/45 R 30.5. Both feature a special tread profile while the tridem-axle ZX 470 is available is available only with 26.5-inch tyres. The special block tread profile ensures reliable grip by the rolling tyre, even under wet conditions, and enhances the self-cleaning attributes. « «

LAMMA SHOW 2019

UNDER COVER

Open-air agricultural exhibitions are a tradition in Great Britain. But the organisers of the Lamma Show risked a paradigm shift in 2019 and moved their event inside for the first time. Everyone wondered whether farmers would accept the change and keep coming.

The "Lamma" is regarded as the largest universal agricultural exhibition with national ranking in England. Traditionally, the British Isles features numerous regional exhibitions and agricultural demonstrations, such as the Grassland Event, the Royal Highland Show and the Royal Welsh Show. Most are "open-air" with the special charm this brings – but also often cold, wet and windy.

However, even the British, inured as they are to cold, storms and rain are apparently tending nowadays towards favouring more temperate environments. This was the thinking behind the Lamma's move, albeit after more than three decades with most of the show in the open air. In good years, 900 exhibitors and up to 40,000 visitors flocked to the event over two days in January. For 2019, the event moved to Birmingham and for the first time completely into halls.

Not all exhibitors followed this location change with continued presence. Even a few international firms on-site in 2018 were missing this year. But 655 exhibitors turned-up, presenting a wide range of products for agriculture, from clothing to self-propelled silage harvesters, from hedge cutters to large-scale tractors, all this flanked by comprehensive offerings of food and drink. A speciality of the event, alongside its routine annual appearance, is that admission is free, as is visitor parking. And the exhibition organisers say that this tradition will continue, at least for the 2020 event.

A point of interest this year was whether British farmers would accept the location change. In fact, the visitor numbers did not disappoint. The organisers counted a good 40,000 guests by the end of the second day. The atmosphere was good throughout and exhibitors reported high investment interest. While in Great Britain too, the 2018 drought had brought yield penalties in a number of regions, milk price lies stable at an acceptable level calculating out at 35 eurocents per litre. Investment plans, report exhibitors, seem to have been put on the back burner until later in spring. In other words, the trend moves to short-notice orders presently. This applies particularly to machinery for mowing and tedding, tasks which farmers mainly tend to carry out themselves. Contractors come into the picture for forage harvesting and baling.

Forage mainly means grass in England. Whereby focus is not so strongly on feeding quality compared with Germany, feels Markus Westerkamp. He is Krone export manager with responsibilities including the English market. Especially limiting in terms of forage quality is the weather. He says the usually small harvesting windows enforces fast silage making. Wet silage can, therefore, be a normality with more than two or three cuts a year impossible for grass in many regions.

SUCCESSFUL DAUGHTER

For the manufacturer from Spelle, a 100% daughter, Krone UK, looks after the British market. Its managing director Marcus Oliver also had his doubts about exhibiting at the "new Lamma" in Birmingham. But by the end of this year's event, he was very satisfied with his decision to come. The visitor numbers were continuously good and the wish in Great Britain to invest was, as before, at a satisfactory level, says Oliver, who's been company manager since establishment in 2009. From then on, turnover has increased annually by some 5 to 6%, quadrupling annual receipts since the first year to 32 m € in 2017/18. Currently around 40 employees work for Krone UK.

The island's climate means that the forage harvest is more important in the west than in the east. Grass plays the main role in feeding cattle. While the area growing maize expands, the crop is a long way from the importance it has in Germany, for example, a situation also associated with the comparably small number of biogas plants in the UK. Marcus Westerkamp reckons this at around 350. The number of dairy farms declines, but herd size increases with the bigger farms milking around 500 to 600 cows. These sorts of farms show a strong tendency towards using own machinery although farm contractors maintain their important role in UK farming.

The Krone UK stand team at "Lamma '19" in Birmingham was positively surprised by visitor interest.

BALERS ARE BIG EARNERS

The rather lesser importance of maize is also reflected in the sales figures for self-propelled silage harvesters. Marcus Oliver puts the total annual market in the UK at around 150 units of all makes. Compared with this, around 800 – 1,200 new round balers are annually sold in the UK. Without a doubt, a great support for Krone UK turnover there is the BiG Pack. From the total UK sales figure of some 250 large square balers, every fourth machine comes from Krone. These are at work in large numbers in the eastern grain growing regions of the island. There is, however, a lot of silage also made in big square bales, mainly in the sizes 80 x 70 cm and 80 x 90 cm, points out Marcus Oliver. The necessary bale wrapper for large balers is, however, still missing from the Krone range. Self-loading forage wagons operate in the UK too, with around 80 to 90 units sold per year, most single or tandem axle trailers, not any larger, because the most-used country roads tend to be narrow and lined with hedges or stone walls. Field entrances tend also to be insufficiently wide for larger machinery.

The next Lamma is scheduled for January 7 and 8, 2020. Until then, Marcus Oliver again aims for 5 to 6% more turnover by Krone UK. The year has started well and, anyway, pessimism is not his style. «

INFORMATION

FEEDING

THE “RIGHT” END

What does Dr Michael Neumayer mean by the “right” end of the cow? He is a veterinary surgeon specialising in cattle and pleads passionately that the cow should be more often viewed from the mouth end instead of under the tail. And he’s got good grounds for this.

Vets usually stand at the wrong end of the cow: this thesis was proposed and justified by this specialist cattle veterinarian not just anywhere, but at the Federal Congress for Practicing Veterinarians (BpT), held in Hanover November 2018 parallel to the EuroTier exhibition. Dr Neumayer is manager of “Kim” the German acronym for the Competence Centre for Innovative Dairy Cow Husbandry based in east-Austrian Neukirchen near Salzburg. There, he and his team support over 80 cattle farmers.

Where, though, is the right end of the cow? “It’s at the front, because everything begins with the feed”, he stated. He sees the solution for many forms of cattle ill health such as metabolism problems, increasing cell counts, reduction in fertility and more and more ketosis and joint problems in feed, the way in which it is fed and the feeding location. “Mostly, farmers want vets to give them a quick solution to a problem. So initially, customers are very sceptical when I suggest taking the long way round, examining where the forage is kept and then back to the feed passage, seeking solutions there.”

LOOK CAREFULLY

In fact, this long way actually begins with the forage harvesting out in the field, then

» BOTH ENDS OF THE COW

Dr Klaus Pöhlmann was one of the visitors at the Federal Congress for Practicing Veterinarians” (BpT) in Hanover, and also one of the attentive listeners to Dr Michael Neumayer’s presentation. With three other vets, he runs a mixed veterinarian practice in Owschlag, Schleswig-Holstein. Mainly, the team looks after cattle, but also horses and household pets. The size of dairy herds they service runs from 20 to 500 cows. The cattle farmers among his clients are well-educated and know about the importance of feed for animal health and performance. But despite this it is difficult to interest the farmers in following, along with the vet, the road to good feed because this clearly takes a lot of time. On the other hand, the main problems in the dairy barn nowadays are fertility and udder inflammation and these in particular are often closely linked to feeding. He also sees the shuttlebox described by Dr Neumayer as a suitable tool for explaining and presenting to the farmers feed quality in a believable way. The vet can then use this box during harvest “The idea of advising the farmer as early on as during the forage harvest is realistic. But for our clients still a good bit in the future. In the past, our work was a sort of ‘fire brigade service’. We were mainly called out to emergency cases”, emphasises Dr Pöhlmann. Nowadays, things are different. Depending on the size of farm, he or one of his colleagues can visit each farm on a weekly basis for a preventative inspection of the herd within the framework of a support contract. Then there’s the opportunity to take a closer look at the feed and feeding. “Often we also see at the back of the cow when something is not right at the front in terms of feed, so both ends of the cow are important for the vet”, he smiles.

Krone presented an information stand at the “Federal Congress for Practicing Veterinarians” during EuroTier in Hanover.

continues to the storage location for moist feed, i.e. the silage clamp. The vet should take a careful look at clamps. What’s the state of airtightness? Has there been any reheating of the stored feed? This is quickly determined through finger probes and infrared thermometer, or a modern smart ‘phone attachment for thermo-photography. Further criteria: sniffing for the odour of butyric acid, examining the quality of chop in silage and, naturally, measuring dry matter content. “How much fresh feed do you think your animals consumed yesterday?” This is a question to ask again and again. Mostly, the response is silence, or an astonished shrug of the shoulders. “Good farmers should have an exact answer”, he maintained. “But too many farmers, and unfortunately also their vets, don’t know.”

His plea for feed was passionate and he showed the audience very graphically that the evaluation of forage quality is possible with simple tools.

His classic example is the shuttlebox. This allows assessment of the particle length of silage right on the field, during harvest, i.e. where things can still be changed, and also directly at the clamp. This applies just as aptly to the “corn score”, in other words the physical condition of the grain in chopped maize. Determined out on the field, this allows the machinery involved to be adjusted. Back at the clamp, you’re assessing unchangeable facts. A further point in this line of argument is when to open the clamp. Feeding from a new clamp should never be started too early, he stressed. Early on, silage is very sour and through the many fermentation acids poisonous for the liver. So, grass silage can be opened after six weeks at the earliest. Maize silage needs 12 weeks before feeding.

Dr Neumayer reckons that the shuttlebox for assessing silage chop quality should be an essential tool for dairy cattle veterinarians.

CONSISTENCY IS IMPORTANT

It doesn’t matter whether clamp or tower silo: the next task is to get the feed undamaged to the cows – and into their respective mouths in the same good condition. Dr Neumayer described different mixing systems with their respective “requirements” to the congress. Presentation of the feed at the feeding fence is important, he stressed. It must be uniformly spread in front of each cow place. Dr Neumayer stipulated a feed depth of at least 8 cm, giving each cow the feeling that the feed table is full and therefore attractive. The magic word, he added, in dairy cow husbandry is “consistency” - in all things. This is why it is so important to always present the feed at the same time, even at peak labour times on the farm. Also important, when really serious about this consistency, is regular and timely shoving-up of the ration to the feed fence.

But in end effect it is still not enough when the vet repeatedly argues a well-reasoned case for feed quality and this is then not paid for by the farmer. After all, a lot of time can be invested in changing to the front of the cow, i.e. following the forage feed from field harvest to rumen. “But what it does do is prepare for sustainability”, added Dr Neumayer. This is why he advises farmers and his colleagues to let the vet take over the “control” of feed – starting out on the field at forage harvest. Because this is where the corner stone of good quality feed is laid. Without this, animal health, fertility, performance capacity and longevity cannot be achieved. «

» OVERCOMING INHIBITIONS

XtraBlatt: Dr Neumayer, you plead for dry matter intake for dairy cows to be as high as practicable. How is this achievable?

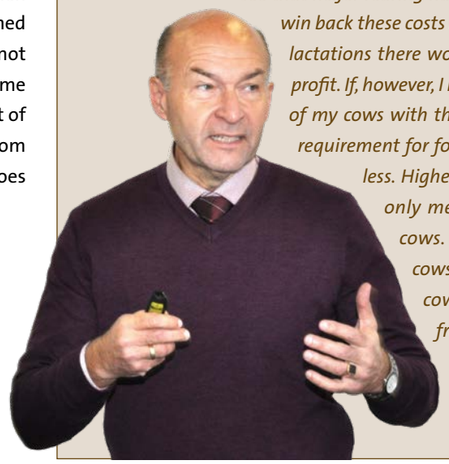
Dr Neumayer: *Firstly, there must be sufficient feed offered. The feed table must never be empty! Secondly, the feed must be attractive to the cow. Thirdly, the same feed must be on offer everywhere, because the cow goes to where the tastiest feed is on offer. Fourthly, beware of overstocking, because the cow is no shift worker. When there’s not enough room at the feeding fence, she doesn’t eat. She won’t stand in a queue.*

XtraBlatt: How much dry matter should the cow consume?

Dr Neumayer: *We want to achieve a feed efficiency of more than 1.5. This is based on the milk produced from a kg dry matter. We are looking for at least 1.5 kg milk. Where the cow is eating 20 kg dry matter this is then 30 l of milk.*

XtraBlatt: Often declining fertility is complained about. Cows sometimes last for less than three lactations. What’s your advice?

Dr Neumayer: *This figure should not be understood in absolute terms as bad or good. For the farmer the question is: “How can I be economically successful?” If I see that heifer rearing has become very expensive then I have to win back these costs later through milk production. With 2.7 lactations there would probably not be much left over as profit. If, however, I manage to lengthen the life expectation of my cows with the same milking performance, then my requirement for followers coming into the herd would be less. Higher life expectation with the animals not only means, however, looking at the milking cows. The calves, the young heifers, the dry cows: all have to be considered. The view of cow health must become a broader one: from the farmer’s point of view and that of the vet too.*



"For specialist firms it is very important to have experts at the ready that can easily best cover practical requirements with a large number of products in the field."

The agricultural machinery specialist W. Doormann & Kopplin celebrates in 2019 not only its 100-year anniversary but also introduces Krone into its range this spring thus substantially expanding its product and performance spectrum.

DOORMANN & KOPPLIN, SCHÖNBERG

THE CARDS RESHUFFLED

From the national point of view, Holstein can't really be seen as a particularly grassland region – in other words, not necessarily a top venue for mowers, turners and tedders. So it's certainly interesting to hear about a specialist farm equipment company such as W. Doormann & Kopplin in Schönberg by the Baltic Sea, in other words an arable farming region, announcing in February this year that it's a new dealership for a forage harvesting specialist such as Krone.

However, the background to the decision is certainly more complex than at first glance, as firm owner Ulf Kopplin explains. In 2013, he had decided that his company should change its supplier in the very important tractor and harvesting machinery sector from John Deere to AGCO make Massey Ferguson. Implicit in this change was an expansion in area for the dealership into eastern Schleswig-Holstein. "To enhance customer nearness, achieve more intensive sales support and, above all, to ensure the chances of improving service, in 2015 we added to our headquarters in Schönberg and long-term branch in Lensahn a third facility in Lanken between Geesthacht and Mölln", says Ulf Kopplin. "But the expansion of our action radius and change of main supplier also affected the rest of our product range. With the makes we represented up until then we couldn't cover all the demands from our new total area. Also, we did not have a silage harvester in our range, a machine that had, and has, certainly a central role in acceptance as dealership, especially by agricultural contractors."

CHANCE TAKEN

Not only with Doormann & Kopplin (or "DoKo" as in the firm logo) but also generally within the German dealership landscape, there's much movement currently, as Ulf Kopplin explains, his background knowledge backed by his experience as president of the Landbau Technik-Bundesverbandes der Handels- und Servicebetriebe (federal association of trade and service companies – agricultural machinery). The strategy-based ambitions of some global players in agricultural machinery to strengthen their long-line activities through associated sustainable reorganisation of their sales structures are behind nationwide changes, some of them dramatic. Within a region, such readjustments almost always cause chain reactions and diverse reshuffling in trade and industry, says the president. "In the end, we've been able to profit from

"KRONE AS PARTNER AND SUPPLIER FITS EXCELLENTLY WITH OUR PHILOSOPHY ON HOW WE WISH TO WORK FOR OUR CUSTOMERS."

ULF KOPPLIN, SPECIALIST DEALER AND PRESIDENT OF THE LBT FEDERAL ASSOCIATION.

the situation when Krone recognised a requirement to restructure its sales and service network at short-notice in parts of Schleswig-Holstein. We grasped this opportunity spontaneously because having Krone as partner and supplier fits excellently with our philosophy on how we wish to work for our customers", explains the specialist dealer.

He saw the situation as an opportunity to close the harvesting machinery gap in his range at a stroke. Alongside the silage harvester come the BiG M, the self-loading and silage wagons as well as big square balers and round balers: all real heavyweights with which this dealer aims to score in the east of Holstein. This is one of the main reasons why a very large proportion of his customers reacted positively to DoKo's change of makes, adds Ulf Kopplin.

"And in the short period since then we're already fielding concrete enquiries from farmers and contractors with whom we haven't had any contact before", he says

1 "DoKo" technical service is supplied with three workshop locations, over 50 technical staff and 20 customer service vehicles.

2 New make, new parts: Andre Treimer, manager of the replacement parts store in Schönberg and his team have the parts ready for Krone products.

happily. "For me, this confirms how important it is for a specialised concern to have experts at the ready that can easily best cover practical requirements with a large number of products in the field."

SYSTEMATIC EXPANSION

One of the most important requirements for achieving the target is his team, a fact Ulf Kopplin is very aware of. For him, key terms here are solidarity, high motivation and appropriate qualifications. "This is why it was important for me to ask the opinions of staff beforehand about the change in makes. The feedback was absolutely positive – a reaction which could not be taken for granted. After all, where people have put their hearts into working with one particular make. They cannot mentally change in a blink to the next product. However, all have done so with commitment and in the knowledge that new opportunities are opening in this way."

The specialist dealer sees his team as very well prepared with regard to the aforementioned qualifications, also for the new make for DoKo, Krone. Training courses and further education are in general high up on his priority list. On the one hand, he has a total of 20 trainees on the three locations, representing a trainee quota of around 24% and, on the other, through a calculated 450 man-days invested in schooling in sales and technical service. Hereby, there's also an advantage in limiting the firm's range of makes. "No one can be above-average in everything, as a manufacturer or as dealership. However, this is exactly our aim – in competence as in market share. There's a very motivating effect in our experience when team members can help customers with serious technical problems", adds Ulf Kopplin.

Whereby this "helping" can also be something like boring through a thick board! Preferably, though, it concerns electronics and digitization. As example, Ulf Kopplin cites the case of a tractor and sprayer that couldn't "communicate". In the end, the cause was revealed as a repeated slight fall in voltage current in millisecond range in the tractor electronics. With the hypersensitive sprayer controls, this led to repeated blackouts. "We found the error, but neither of the two manufacturers involved saw themselves as responsible under the guarantee", reports the dealer. Similar problems happen regularly, with software updates too, and more so when the customer decides to have a go alone. "Sometimes you get the impression that Sisyphus must have been an agricultural machinery mechatronic from profession. However, contrary to him, we are able to complete even the difficult cases. After all, that is our accepted responsibility as specialist company", adds Ulf Kopplin with a twinkle in his eye. "And I am proud how committed our entire team is in filling with life our concept of service to our customers."

The extended radius of action and growth in product range also bring challenges. One of them is the search for new staff members in order to be able to continue to ensure the desired presence and speed of reaction, especially in customer service. Personnel expansion in these times of real shortages in specialists and trainees represents a strenuous job, as well as a never ending one, for the boss, as he reports. On top of this, the firm's mobile service is to be expanded for which DoKo currently has 20 customer service vehicles on the road as well as a low-loader for machine transport. "In the time of my grandfather and company founder Wilhelm Doormann the range radius of bicycles limited the extent of business. 100 years on, we are substantially better equipped – and cover wide distances to serve our customers as best we can", concludes Ulf Kopplin. «

KRONE FUTURE LAB

NEW VALIDATION CENTRE

The official spadework for foundations of the new Krone Group validation or proving centre took place recently in Lingen Industrial Park. Bernard Krone explained the idea behind the multi-site centre. "We have decided to bundle our validation activities within the company group. For this reason, we are building here in Lingen the Krone Future Lab where we will be undertaking technical security testing of all Krone product developments or also developing country-specific homologation of vehicles and machines." Further important subject areas are precise lifetime verification for vehicles, machinery and axles as well as development of autonomous driving concepts. From the Krone point of view, the location Lingen offers very good infrastructure with access to the A31 autobahn as well as to Lingen Campus, part of Osnabrück University of Applied Sciences with which Krone already cooperates closely.

The new Krone Future Lab covers a total area of around 13 ha. Planned is a machinery hall with workshops as well as a test hall with test stands and offices. The validation centre is also planned to ensure Krone is strategically best placed to deal with increasingly stricter legal requirements for the quality, function and ease of operation of manufactured products. Krone Group's investment in the first stage of the Future Lab runs to approx. 20 m €. «

MODEL SERIES EASYCUT

MORE CROP CARE

For its mower model series EasyCut B 870 CV/CR Collect and EC B 1000 CV/CR Collect, Krone starts now with a new 9.10 m breadth cross conveyor belt. The diameter of the belt rollers is increased by 25% and the manufacturer claims this enables higher belt speeds so that heaviest crops of forage can still be laid in perfect swaths. With its still-higher performance capability, the new conveyor belt ensures careful handling of all different forage crops. Additionally, working lifetime of the models is optimised through strengthened bearings for the cross conveyor belt.

Among the features for ease of operation in the field is the adjustable deflector plate for improved forage flow and perfect swath formation. The desired swath breadth can be approximately pre-set via a hole-plate on the mower frame; all further functions for flexible swath formation are easily controlled by the driver through the adjustable belt speed. Optionally available are height-adjustable swath accelerator rollers. Further plus points: the belt, which has no raised edges, is lighter than the previous model, reports Krone, for free-running performance under all conditions. Thanks to the new belt's improved accessibility, cleaning is now a much quicker job. Additionally, the mower models now have standard on-board hydraulics for the conveyor belt, so that it runs independently from the tractor hydraulics. «

HIRTER & TSCHANZ AG, SAFENWIL (CH)

PERFORMANCE PAYS

On some areas tractor and wagon have to reverse alongside the harvester. Perfect teamwork between both drivers is called for.

The Swiss virtues of quality, punctuality and dependability apply in that country for the forage harvest too – and set the yardstick high for farm contractors. Crucial for them are hectares per hour capacity and machinery power. We visit Hirter & Tschanz AG to learn how this company masters these challenges.

That one company can be run by a single family over several generations also remains the rule rather than exception in Switzerland, at least among farmers. The situation is more unusual for farm contractors, especially when two fathers founded the firm and their sons together continue the business, as is the case with Hirter & Tschanz AG. Here, Fredy Hirter and René Tschanz took over management of the company from their fathers Fritz Hirter and Hans Tschanz. “René and I had already worked together in the firm with our fathers. So it’s logical for us to continue management of the company”, states Fredy. The beginnings of this enterprise go back to 1961 when the 17-year-old Fritz Hirter, armed with a combine harvester, risked stepping into farm contracting work. Further farm work specialties such as ensiling grass and maize and winter municipal services were added until, in 1985, wood took over to a great extent. Since then, particularly in winter, large amounts of timber are chipped and transported. “This secures contracts for us over the whole year and we can keep our employees in continuous work: an important criterion for many when they’re searching for an employer”, relates Fredy Hirter. And once they are with this firm, staff members mostly stay. Two of the total ten full-time employees have been with the company for 20 and 30 years.

In summer the work focus is clearly on forage and maize. Grass silage harvest begins in April. Into action come two Krone BiG X 580s as well as another make as reserve and for the autumn grass. On average, the two Krone silage harvesters clock 300 engine hours per year – because of this low usage they can in most cases be used for around 15 years. Then, the oldest machine is replaced. When Hirter and Tschanz AG take on a job as farm contractor, the contracting farmer usually works alongside. “We undertake all work the farmer wants”, explains René Tschanz. “It’s seldom that we cover every aspect of a particular job. But, basically, we are willing to.” In most cases, the farmer carries out the mowing, turning and tedding. “We come to work when the forage is in the swath.” Before mowing, the customer phones the contractor to discuss dates. As this work is weather dependant, there are bottle necks every now and again. “But our customers know this, and this is why the agreements work well”, says Fredy Hirter. The respective operations are planned over Agrarmonitor software.

NARROW TIME WINDOW

In Switzerland too, 2018 was very dry. The first grass cut turned out good and the second, too, was acceptable. After

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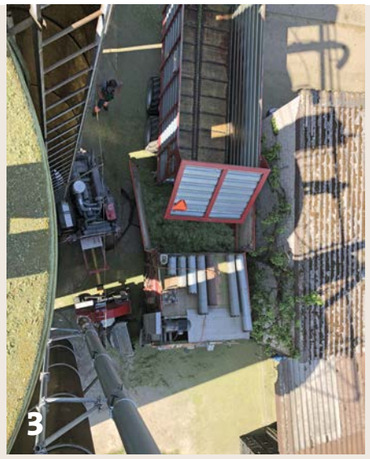
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1 Fredy Hirter (l.) and René Tschanz manage the contractor business in the second generation. Before them, their fathers also worked together.

2 On grass, the contractor chops around 350 ha with up to six cuts.

3 Many farms ensile their forage in silo towers filled via powerful blowers.

that, the drought became noticeable. “However, we weren’t affected quite as much because for many customers we take just a single cut”, explains Fredy Hirter. “There are others we do second and third cuts for, but only for very few do we help with all (up to six) cuts.” The complete harvesting chain including transport is only ordered by very few customers. Such a chain (silage harvester, three silage dosage wagons including blower with engine, inclusive drivers) is mostly ordered just before the farmer starts mowing. At that time, harvesting date would be arranged together. Harvester and trailers working in grass are billed based on drum hours. In a season, the company records about 150 drum hours. Tractor and blower are billed for by working hours and each driver by man-hours. The grass area covered is around 350 ha over all six cuts. Here area plays no role in billing. With many customers the grass cut is completed within one to two hours. Accordingly, often five to six farms are on a daily work list. “Grass ensiling is very time-sensitive and customers demand absolute punctuality. Because we are able to manage this, we harvest markedly more grass than maize. We would be delighted when we got to harvest more than just the grass on some farms. But better one service than none at all”, smiles Fredy Hirter.

Only in grass harvesting does billing by the hour function. With maize, the area harvested is billed - an almost constant 200 ha each year. Last autumn was optimal for maize. “We have very heavy soil in the region with a high water table. For maize, this was an advantage in 2018, the quality too was top!”, recalls René Tschanz. The Hirter & Tschanz AG has 63 maize customers. The firm travelled to those customers 108 times over the last season. The journey to the furthest away customer is 30 km. In Switzerland, many farms are small and the tendency towards amalgamation seems to be less than in Germany, for instance. While, here too, some farms are not taken over by a family member, the change to bigger units is a creeping one. On the other hand, there are increasingly more part-time farmers, and these are very powerful because through their full-time work they have a good income. “For them, we as farm contractors are naturally particularly interesting”, says Fredy Hirter.

MAINLY TOWER SILOS

“With maize harvesting, we see with our customers a growing interest in longer chop. With the VariLOC transmission from Krone we are able to offer this, but remain unsure whether this is really wise in consideration of the dominance of tower silos on farms and the associated dangers of compaction and reheating.” What is definitely unusual for upland regions is that there are contractors here without round bale silage in their services. Hirter & Tschanz is one of them: no round balers and only forage harvesters. This means the two owners have to accept that other contractors may pop-up ion their customers’ farms. After all, most farmers plan for round bale silage nowadays because bulk silage storage facilities are becoming squeezed. “This lack of silage space for herds that are expanding is a limiting factor now for silage harvester demand”, Fredy Hirter admits. This affects maize too, with forage maize increasing baled and wrapped. Additionally, such bales have the advantage of being practical for handling. “When we in Switzerland talk about silage space then mainly meant is the classic silo tower. By almost every barn there stands such a feed tower; as a rule, 10 to 15 m high and with volume capacity of a good 100 m3. The larger ones offer volumes of up to 700 m3. Higher silos have established themselves best and older silos are being replaced by new ones, although now mostly built with glass-enamelled steel and no longer with plastic protection. Our customers mainly have high silo towers. This naturally has consequences for the silage-making chain.” This is why Hirter & Tschanz run two high-performance blowers of 250/300 HP to keep workflow and area performance high.

Also helping in this requirement are four tandem dosage wagons with cross conveyor belts in front. Three normal silage wagons are also included. These unload at the rear into a special dosage machine that feeds the chopped silage into a blower. A 23 m3 tandem wagon, points out Fredy Hirter, can unload in three to five minutes. Mostly, three wagons are used in a chain with one tractor and trailer driven by the farmer. Important: one Hirter & Tschanz employee is always on duty at the blower. ”When the silo filling falters, the chain stops, the harvester too - we cannot afford this with our long daily list of customers”, emphasises Fredy Hirter. Just as important is that an experienced eye is always kept on how full the silo tower is.

INCREASING ORDERS

This contractor business started with a combine harvester and still carries out this job on farms, although nowadays together with another contractor. “The combining jobs have continually fallen off. We could have invested more, but in the end we decided to give up”, relates René Tschanz. Regular customers continue to be served, with one combine standing ready on the Hirter & Tschanz premises every summer. Either an employee drives it, or the partner contractor gets the job.

On the other hand, grass cutting continues to do well. Here, Fredy Hirter and René Tschanz aim to expand their customer base: an ambition not without its difficulties. There’s not a lot of extra grassland to share between contractors. Both businessmen aim to convince new customers that they have the right capacity. A step in this direction is adding their second Krone BiG X 580 to the equipment line-up. “We wanted to have two machines of the same type and so didn’t buy the successor model. For our people in the workshop it’s much easier this way, and the spare parts fit for both machines”, explains René Tschanz. It was definite that it would be Krone again. “The chop quality greatly impresses us and the service is very good. If we have a problem, with Krone we find a solution directly.”

The second machine is nothing like fully occupied so far, although already it has a lot of jobs, helping to get a foot in the door with potential customers. “We can offer the complete package: grass harvest with pick-up, wholecrop silage with the XDisc from Krone, maize harvest (OptiMaize) for all chop lengths with 8 to 10-row EasyCollect and milled corn com with an 8-row Ziegler maize plucker. Fundamentally, we want to offer what others cannot.” Thus the extra BiG X 580 is an investment in the future. «


excellence
by tradition
We at KRONE have been designing, manufacturing and selling parts of unmatched quality for more than 100 years. Today, you still benefit from this tradition of excellence in terms of exemplary precision, superior quality of work and maximum longevity.
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