



The ZG-TS is seen here as a trailed version at the Agrargenossenschaft Kitzen cooperative near Leipzig, Germany. Photos: Brüse

Which is the ideal configuration for a fertiliser spreader – trailed or mounted?

## Two ways of doing things right

There are two strategies for spreading fertiliser on a large scale – either using a trailed spreader complete with hopper or a self-propelled unit.



Patrick Kühn, Gunter Zeutschel and Wilm Schnelle (l. to r.) are very happy with their trailed spreader.

**W**e compare the two approaches by looking at two farming operations which use a spreader from Amazone. Both businesses invested in the high-capacity ZG-TS 01 model, with the Agrarprodukte Kitzen e. G. co-op choosing the trailed version and TAS Burgstädt GmbH contractors the mounted version – in this case on a Unimog.

### More volume

This year, the ZG-TS 10001 ProfisPro spent its second season spreading for the co-op which is based near Leipzig. Their machinery department is headed by Gunter Zeutschel who opted for this version, because it ties up fewer staff than the two Amazone ZA-M Profis spreaders which it replaces. Those previous models were mounted versions that were served by two

fertiliser bins. This fertiliser fleet tied up four drivers for fertiliser application in spring. “Acquiring a larger granule hopper and getting rid of the fertiliser bins were the two top wishes on our list when we were planning for the replacement,” recalls Gunter Zeutschel. “Especially, with some fields being quite far away (up to 25km/h).” Luckily, these are ‘small’ enough so that the ZG-TS filled with 8 tonnes of granules can do the job without the need of a refill.

Of course, the new acquisition had to fit in with the existing machine fleet consisting of 140-290hp tractors. Says Gunter Zeutschel: “Our agricultural trucks do nothing else but hauling slurry. They are tied to that side of our business. Apart from that, not all our drivers have the necessary C/CE license (the former Class 2 license).” Furthermore, the company had good experiences with the trailed UX 11200 sprayer and this also tipped the balance towards the



The hopper is auger filled from a trailer parked up at the side of the field.

trailed version. “We had to weigh that against the high initial outlay,” says Herr Zeutschel. However, they were anticipating an efficiency boost from the investment, which indeed came to pass: “We now apply larger volumes with less equipment and labour and of course we also save a bit of



TAS Burgstädt contractors mounted their ZG-TS Truck on a Unimog.

## GOOD TO KNOW

- ▶ The Agrargenossenschaft Kitzen cooperative replaced two mounted spreaders with one trailed unit.
- ▶ TAS Burgstädt contractors mounted their spreader on a Unimog and use it primarily for contract spreading.
- ▶ Each system caters to individual conditions and field sizes.

time." In 2019, the new machine covered 6,400 hectares, spreading at an average rate of 230kg/ha, mainly applying lime Ammon, pelleted ASN and urea with tramlines spaced at 36m.

## Better weight distribution

Another advantage of the trailed system is the fact that both the spreader and sprayer can use the same tramlines, because both machines run on 520/85 R 46 tyres and have identical 2.25m track widths; and the tractors (Case IH Puma 185 CVX), too, are clad with identical 520/85 R 42 rear tyres. So, the tramlines are tidier now than in the past when the spreader was mounted to a tractor that didn't have narrow tyres and second growth has nearly been eliminated. Another advantage according to Herr Zeuschel is the better balance in terms of weight distribution: "The axle load was far too high on the mounted machine when it was filled to the brim."

This said, he does perceive various drawbacks, especially one: "When this machine

is down, it really is – and everything grinds to a halt." This really worries him and explains why he hasn't sold the previous spreaders yet.

The fertiliser chain is now run by two staff members who form a permanent team. The spreader is filled by means of a telescopic materials handler which unloads either directly into the ZG TS-01 or into the turntable steered 15t fertiliser bin with pivoting Can-Agro auger at the rear. A dedicated chaser bin wouldn't pay its way, according to Herr Zeuschel. The retrofitted hydraulic



Thomas Röder and Christhard Lägel (v. l.) swear by their mounted spreader-on-a-Unimog combination.

auger is much more efficient even though, depending on the material, it takes about 8 to 10 minutes to transfer 10 tonnes of material.

The transfers take place somewhere along the field. There is always a suitable spot. While the spreader is applying the fresh load, the trailer heads back to the store. This works out fine most of the time. By the way, the drivers always take turns, ensuring that the job is less monotonous. They are trained to operate both machines and are equally at home on either.

## Documentation

Herr Zeuschel uses the field-plot software from Agaroffice for documenting the jobs and also the fertiliser app from Amazone and the field trays for verifying the distribution across rows when changing fertilisers. His machine also has the optional WindControl sensor.

In addition to that, he uses the Yara-N sensor for determining the nitrogen requirement levels. Both systems interact quite well by now and optimise the distribution



The combination can use the dual carriage-ways around Chemnitz.

accuracy. Gunter Zeuschel is very happy with his trailed spreader, because it works very well for his business.

## The self-propelled option

Christhard Lägel from TAS Burgstädt contractors had very different priorities when he was looking for a spreader: "We've accumulated quite a lot of experience with self-propelled spreaders and didn't want to do without self-propelled kit given the local topography. Our location is in the foothills



The tramline track width is set by the trailed sprayer at 2.25m.



TAS Burgstädt contractors store most of the fertiliser they spread in their own stores. The hopper is filled efficiently by a telehandler.

of the Erzgebirge mountain range near Chemnitz, Germany.” Most of the business is contract work, both transport and field. In the past, they have operated trucks with the spreader mounted; and when these were due for replacement, their attention turned to Amazone.

Says Christhard Lägel: “The Amazone TG-TS 7501 Truck ProfisPro offered advanced features that suited our small fields which tend to be on slopes.” The features referred to are the Argus Twin vane control (profi 2/2016) and the multiple section control of the TS spreading system.

Yet to begin with, they had to decide on the host vehicle of the ZG-TS 01. Says Christhard Lägel: “We had trucks and two 400 Unimogs in our fleet. We felt that a Unimog, a U 527, would be suitable - for various reasons: its 1,95m track width is just fine and there are tyres available that are suited equally well for road and field work. Yet above all the Unimog offers the ground clearance we need for fertiliser application in late autumn.”

He continues: “A self-propelled machine allows us to travel fast between fields. After all, contractors spend a great deal of their time on the road.” Moreover, only one driver is needed for spreading and refilling. The latter is done with a telescopic materials handler both at the farm store and the aux-



The spreader is operated from the Müller Elektronik terminal in the Unimog cab.

iliary store. Herr Lägel also agreed with various customers that they buy their fertiliser themselves and run their own stores and also provide the loader for filling the spreader.

### Technical hurdles taken

Yet, the Unimog required a bit of tweaking before it was ready to accommodate the spreader. This was done in collaboration with the Mercedes Benz / Unimog dealership Henne who made a few modifications before the spreader could be mounted maintaining the proper angles. Yet, eventually they succeeded and the four weighing cells were installed.

Axle stabilisers will follow shortly. These would not be necessary if the spreader was

mounted directly on the frame. In reality, they installed an extra frame that houses the weighing cells and mounts the spreading unit at a specific angle. So the stabilisers help reduce vehicle roll.

### Truck licence required

Herr Lägel is quite forthright about the drawbacks of using a spreader as a self-propelled machine. “The Unimog driver must have a truck licence, which is indeed a drawback - especially in view of the shortage of good drivers. More than that, we cannot fill the hopper to its full capacity when going into wet and boggy fields. But our drivers do think ahead and plan accordingly.”

It is in these situations when the filling aid from Amazone proves useful. This flashes the work lights of the spreader when the filling level reaches the default setting - a minor but very smart feature that is of great help - also when emptying the hopper before swapping customers. After all, filling weights must always be precise.

The tramlines in customer fields are spaced at 24m and 30m. The fertiliser and rates applied range from 100-500kg/ha CAN, ASN, DAP to AS, NPK and grain potassium. In total, Christhard Lägel reckons the machine covers an area of about 6,000ha. All fields are quite close and within a radius of about 20km/h from the main farm. Running an extra store and have some customers maintain their own stores helps cut road time. Yet, all this requires a great deal of planning and management.

### Efficient work

“We don’t necessarily save time now over using our previous trucks, but now we can go faster and are more efficient, especially in terms of tank leftovers and fuel,” says Herr Lägel. The hectares and application rates are logged on operator slips and to the spreader’s electronic system. There is a printer installed on the machine that prints out the weighing slips. The Claas Isaria N-sensor helps in determining the variable-rate nitrogen requirement and the Amazone fertiliser app helps with machine settings. The new EasyCheck mats for measuring the distribution across rows are useful when swapping fertilisers and dealing with questionable batches. Data transmission to farmers still requires a bit of sorting as regards contractor-customer communication.