



Kobus and Danie Louw of Eensgezind farm near Klipheuwel with their new RMH Megamix 21 W.

Meals on wheels

by Carli Nel and Rudi Massyn

In the modern age of farming where competition is stiff, the economic climate is unstable and the conditions are harsh, ensuring economic sustainability is imperative and keeping abreast with the latest technological advancements plays a major role in securing the farmer's future.

Self-propelled, self-loading feed mixers are one such technology but have yet to make their mark in South Africa.

This is strange considering the acceptance and obvious successes of other machines such as monster self-propelled forage harvesters, crop sprayers and combine harvesters, which have come to be the norm. Saving time and money are crucial for any business. Being able to save time and money at the same time while increasing

productivity is an all-round win most would not ignore.

These self-propelled feeders offer many distinct advantages over trailed machines. There are not many machines required to do more work on a farm than a feed mixer and, logically, at least, it would appear to make sense to have a single dedicated self-propelled unit that did not rely on the need for a tractor being available to operate it come stock feeding time. A trailed feeder model

also needs a loader to place the required rations into its mixing hopper – yet another machine that must be available to serve the feeder. In addition, dairy and beef operations are now larger than ever and the total time taken to feed several different classes of livestock is an important consideration, particularly when shelling out large overtime payments on weekends for the job to be done.

Counting the cost

International markets have slowly ventured into this technology and many farmers abroad attest to its success. Some have even accounted a cut of 15% in feeding time. Considering many farmers spend several hours a day feeding, a 15% reduction in time spent on this activity is very cost effective. In Israel and Italy, for example, self-propelled machines outnumber the volume of trailed units.

Willem and Paul Basson, dairy farmers milking 1 000 cows at Uilenkraal, a stone's throw from Darling in the Western Cape, were introduced to the self-propelled feeder concept after a visit to the RMH head office and manufacturing site in Israel. There they investigated the possibilities with their local Deutz dealer, Gerald Abbott of Weskus Enjinherbouers. With the impressive

features of the feeder and Abbott acknowledging he could easily provide local service, Willem didn't hesitate and took delivery of a Megamix 21 W in June, 2013.

Trials indicate that a self-propelled mixer group produced 3 kg more milk than a trailed mixer in exactly the same herd with the same feed and same operator owing to greater accuracy of mixing

The forecasts and expected benefits were based on feeding trials in Israel, which showed that a self-propelled mixer group produced 3 kg more milk – an increase from 42 to 45 kg of milk – than a trailed mixer in exactly the same herd with the same feed and same operator. This increase came as a result of the greater accuracy of mixing achieved with the self-propelled mixers loading arm and its chopper. This type of machine has excellent loading accuracy, which translates into better feed quality, consistency of mix and less wastage (approximately 2 to 5%), as the loading arm does not mess during the loading process. In addition, it reduces labour cost as the self-propelled machine works fewer hours to feed the same number of cows. This translates into a reduction of fuel cost in comparison to the tractor and loader combination but also because of better efficiency of mixing and again reduced time to mix.





This is a one-man operation. Willem himself operated the mixer for the first few weeks and easily fed their 1 000 milk cows three times per day. The Megamix 21 W has a 21 m³ capacity and can easily load, mix and deliver up to 9 000 kg of feed, be it high roughage or high concentrate mixes.

Reduced silage wastages

As the Basson's silage clamp is too far from the dairy for direct usage, they are unable to benefit from the reduced silage spoilage as yet but have changes planned to do so in the foreseeable future.

Danie Louw of Eensgezind Farm near Klipheuwel in the Western Cape, acknowledges that one of the reasons for his purchase of a Megamix 21 W is because of its reduced silage spoilage and wastage. This is a major plus as most farmers using silage aim to reduce wastage.

A clean face remains when silage is cut and very little spoilage can take place in the bunker.

Wastage is also reduced by monitoring the weight of silage in the chamber. As soon as the required weight is noted, the cutting stops. Should there be any extra feed on the belt the belt direction will be reversed and the surplus will be offloaded. With experience this extra amount can be reduced to zero. Similarly, feed straw or lucerne can be loaded by the rotor as it is pushed into a bale with its strings removed, and any needed concentrates can be sucked directly from the floor. "There is no reason to climb out of the feeder

cab from start to finish," Willem says. "As the ingredients are loaded, the auger turns to create the traditional 'volcano' action, its blades reducing material size down to the required lengths easily and quickly."

As a result of the use of the Megamix 21 W, Uilenkraal has seen improved rumen function and a far more consistent daily milk production and fat and protein levels.

How it works

The 208 hp Deutz motor provides hydrostatic drive for the all the feeders systems. Servicing is provided by the local Deutz dealer who received extensive on-site training. In front of the engine bay is the 21 m³ oval-shaped mixing chamber with its single vertical auger.

Moving forward from the cab resides the key part of the mixer and the piece of equipment that sets it aside from a trailed mixer wagon.

The most notable detail here is the thickness of the metal floor, which has to be strong enough to support the action of the augur as it spins during its mixing cycle. Directly ahead of the mixing chamber is the feed-out cross conveyor, fed from an outlet in the front of the chamber. A guillotine door is raised hydraulically to allow the mixed feed to exit onto the conveyor and out to either side of the machine. A tilting conveyor is placed on the left hand side of the conveyor for trough feeding and the right hand side feeds onto the ground in the dairy sheds. A magnet is placed so as to catch any metal object.

The cabin has sufficient space for one man and a good view of proceedings. The main control stick, located over the right of the driver's seat, is for the operation of the loader unit, but there is also a large screen to display ration component weights, plus a screen connected up to a rear-mounted camera. Vehicle speed is controlled by a single pedal. As the engine is rear mounted noise levels are of no consequence.

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arm has at its business end a 1,5 m-wide rotor on to which knife blade sections are bolted at intervals and angled to draw material into the centre. A belt drive will propel it into the mixing chamber. When loading silage from a clamp face the rotor's hood is lifted clear and the loading arm, with its internal conveyor, raised to the top of the silage clamp.

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The hydraulically powered rotor is fired up and the arm slowly lowered down the face of the clamp, the rotor taking about a 20 cm "bite". The cut silage is conveyed up the wagon's elevator and then into the mixing chamber.

Conclusion

This triumph in technological advancement of feeding systems is a feat not easily ignored. Farmers are often bombarded with new innovative products aimed at improving profitability and long term success. These machines are usually extremely costly and require a rather large capital investment. This deters many farmers as they are often unable to justify the money spent against the results of the product. In the case of self-propelled feeding machines, the results seem to speak for themselves.

This innovation will probably become the norm and not the exception as the successes and benefits are tangible and could dramatically improve the efficiency of a farmer's operation.

Carli Nel has a B Agric degree from Elsenburg in large and small stock and has been working at Lionel's Veterinary Supplies, a prominent wholesaler of various animal products, since 2012. Rudi Massyn is a freelance journalist with a special interest in agriculture. Contact Carli at carlinel@lantic.net for more information relating to this article. **TDM**



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