

# Spreading value

Words and images by Mark Fouhy



...and after!

Te Awamutu dairy farmer Allen (AJ) Bryant knows the value of effluent, efficiently making the most of nutrients available. This month I caught up with him and his new Buckton 9MS muck spreader, which helps him manage and make the most out of the valuable by-product.

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**Buckton 9MS muck spreader**

|                          |  |
|--------------------------|--|
| Capacity                 | 9m <sup>3</sup>  |
| Bin dimensions LxWxH     | 4.46m x 1.71m x 1.29m  |
| Overall dimensions LxWxH | 7.5m x 2.74m x 2.8m  |
| PTO speed                | 1000rpm  |
| Brakes                   | Front axle hydraulic   |
| Tyres                    | 400/70Rx22.5   |
| Options                  | Lighting package<br>Hydraulic jack<br>Quick-hitch skid<br>Tyre configuration |
| Warranty                 | 12 months  |

**Others in class**

| Brand      | Model           | Capacity          |
|------------|-----------------|-------------------|
| McIntosh   | Manure spreader | 7.5m <sup>3</sup> |
| Joskin     | Siroko          | 9m <sup>3</sup>   |
| SIP        | Orion 100       | 9m <sup>3</sup>   |
| West       | Rear discharge  | 8.7m <sup>3</sup> |
| Strautmann | BE9             | 9m <sup>3</sup>   |

**G**rowing up on the farm he now owns, Bryant had the responsibility of pumping and spreading the effluent from a small sump near the cowshed and spreading this onto the paddocks to be cut for silage. He can remember running out of effluent one year, leaving the paddock partially uncovered before the silage was ready to be cut. This made the value of spread effluent obvious, with the strip down the right-hand side of the paddock that hadn't been covered only reaching the top of his red band gumboots, where the left-hand side, which had received effluent, was nearly up to his knee.

In 2007, Bryant got the chance to see a variety of muck spreaders in action while overseas at the Grassland & Muck event in the UK, and was pretty sure machines of this nature would be available Down Under before too long. With the building of a new covered concrete feeding pad/standoff area, with 100 cubic meters of effluent storage, Bryant needed a machine to handle the valuable nutrient, which is where the new Buckton 9MS muck spreader comes in.

**The test**

After hiring a spreader in the past at \$700-\$1000, with varying results, Bryant thought it was best to do some research and find a machine that would suit his

The shiny new Buckton before the s#\*t hits the fan...



Testing time: spreading a load of wet animal manure



Clear visual sight glass



The recessed floor chains and scrapers do a good job of getting the bin cleaned out



The braked front axle is a standard feature of the Buckton MS

Hydraulically-controlled rear door and floor chains control supply of material to the twin spreaders



operation and spread a variety of materials from wet to solid.

Buckton has been manufacturing all three muck spreaders with 12- and 20-cubic-metre capacity that are more suited to contractors. Bryant has opted for the 9MS spreader, through Ben Peters at Giltrap Agrizone (GAZ) in Cambridge, which is an apt farm machine, capable of carrying around nine cubic metres of wet slurry and 10-12 cubic metres of drier material. A 100-horsepower requirement is sufficient, but on the undulating Te Awamutu hills, the extra weight of a six-cylinder 130-140hp machine would be my recommendation.

Bryant has a number of tractors on his property — the one we needed, with the 21 spline PTO to connect to the spreader, happened to be out of action on the day of the test. Fortunately, GAZ, in Otorohanga, was able to loan us a little Case Puma 230 for the job.

Controls for the Buckton MS are fairly simple — two sets of hydraulic remotes are required. The first set is to operate the rear door (with liquids you only want the door open a small amount; with solids you can open the door up a lot more). The second set of hydraulics is to control the floor and the material fed back to the horizontal twin spreader unit. With no fancy electronic control box, you will need to adjust flow rates on the tractor hydraulics to speed up or slow down the floor. I certainly don't see the simplicity of the Buckton operating system as a downside — lack of electronics in machines can save quite a lot of time and allow for less-experienced operators to still do a job which would otherwise require a more skilled/experienced operator.

The rear beaters run off the PTO at 1000rpm. With a straight shaft running beneath the floor and gearbox at the rear, power loss

### Buckton Engineering

Since 1950, the Buckton family name has been associated with the manufacture of solid, hard-working farm equipment that gets the job done. From humble beginnings, like so many businesses throughout the country, Buckton Ag was started in a garage in Paengaroa in the Bay of Plenty. Founded by Victor Buckton, initial projects were based around recycling old truck chassis into solid farm machinery, like trailers. The Buckton team is still manufacturing hydraulic tip trailers, a range of side- and centre-feed silage wagons, and a series of flail mulchers. Pond stirring and slurry tankers have also been part of Buckton Engineering's range of equipment for some time, with the solid muck spreader range a more recent addition.

Today, even though manufacture has shifted to Otorohanga in the Waikato, the philosophy at Buckton remains the same — still offering a tough, reliable range of equipment to make life easier for the New Zealand farmer. This range has also found its way around the world, with dealers and markets in the United States, South America, South Africa, and Australia.

is minimised. With the easy-to-check oil sight gauge at the rear of the machine, you only need to get under the machine to tend to the couple of grease nipples on the shaft, brakes, and oscillating axle setup.

For the test, Bryant had initially filled the spreader with a liquid effluent waste. Without being certain where the run-off property I was heading to was, Bryant was going to be in front of me heading from the home farm, which I thought was ideal — I could just follow the spillage from the machine until I found him! However, this was harder than expected as the rubber seals front and rear, coupled with the recessed chains, meant the machine hardly spilt a drop.

The Buckton has a clear panel to check on the front, and, with the liquid loads, I thought it could be good to have one on the side as well, to avoid over-filling and the load surging over the top. The manufacturer hasn't added a clear side panel, as over time it will probably end up

stained and green. Testing with Bryant, my rough measurements gave a spread of 10 metres with the very sloppy load, and about 12 metres with the more solid load, with the tractor at lower revs. To achieve the best spread, (other contractors and owners are achieving an 18- to 22-metre spread pattern) the Buckton needs to operate at high revs. With around 200 cubic metres of waste to spread annually, Bryant still wants to do a little more trial work and check the spread pattern and rates for various products to help maximise his maize and pasture crops, while minimising environmental impact and unnecessary fertiliser spending.

Some of the other European machines Bryant looked at have just a single axle with a large rear tractor-type tyre. The Buckton has a twin axle with 400/70R22.5 tyres as standard. Bryant opted for 500/60R22.5 tyres on his machine, which will provide better flotation, less soil compaction, and



Oscillating tandem axle keeps loading and overall height down

increased stability on the hills. With the oscillating axle used on the Buckton spreader, like a lot of silage wagons in New Zealand, wheelbase is increased by having the wheels under the body of the machine, as well as lowering the height for loading and making it easier for a front end loader.

## Build quality/ construction

Functionality over style is a key feature of Buckton and other New Zealand-made equipment. The MS spreader doesn't look fancy, it looks like a muck spreader — what you are paying for is plenty of steel where it counts. The four floor chains have the scrapers welded to them and they do a good job of emptying the body of the spreader. Twin hydraulic floor motors, and the split floor chains, are the major differences in the Buckton machine versus some of its competitors, meaning a lighter chain and drive motor can be used for each side, spreading the load and weight. Four thick box-section ribs hold the



- Designed and made in New Zealand to suit our conditions
- Locally owned so parts and service are not a problem, feedback from customers is valued and changes have been made to design and machine tested already
- Sensibly-sized machine to suit the larger dairy farm or smaller contractor
- Ability to spread a variety of materials from 90-percent liquid to almost solid
- Four floor chains with a drive motor on each side



- No ladder to get up and safely check/clean the machine (although, this is being rectified)
- No visual sight gauge at the front to tell you how wide you have the rear door open



To achieve the best spread, the Buckton 9MS requires high revs

## Potential uses

- Liquid slurry
- Wood chip/bedding material
- Solid animal waste when using a solids-separating effluent system
- Other animal waste eg. chicken, pig manure
- Drain cleanings/top soil

weight of a loaded bin of muck, and strong vertical beaters with extra steel blocks at floor height handle the bricks or whatever other random objects that accidentally find their way into the machine. Quality fittings/components are used throughout and the machine is finished off with a Buckton orange paint job. Provided you keep chains tensioned correctly with the simple tensioning system, and give it a regular shot of grease, before use and after cleaning and storing, you will have no warranty worries in the first 12 months (and very few issues over the next 20 years, I would imagine).

## Extras

There a number of extras available for the Buckton spreader range from tyres, hydraulic jacks, and lights. Lights are a good idea if you intend to use your machine on the road, but if you are seldom on the road, 'wide load' warning flags may be sufficient. A quick-hitch

stand is available, but unless you have a European-style pickup on your tractor, like Bryant, this won't be a lot of use to you because of the PTO, so a hydraulic jack may be the way to go for spreading/loading with the same tractor.

A couple of the features Bryant and I felt were missing from the machine were a ladder at the front to safely check load capacity or for hosing out, and a yolk to hold the PTO while not connected. Paul Gleeson, sales manager at Buckton, says these features will become standard on new 9MS machines, and Bryant's machine was going back to have these additions added, which is excellent.

Overall, the Buckton MS is a no-nonsense, practical, versatile, well-built machine to last for years. Six years ago, Bryant saw muck spreaders in action in the UK and with a new Buckton on-farm to help take care of the spreading duties and extract the most value out of his effluent, he's away laughing. ■

A wet load of muck being hauled, with no spillage – impressive

