

Trioliet Mullos B.V.

Solomix 2-2000 VLH-B Feed-Mixer Wagon

Mixing, weighing, power consumption

DLG Test Report 6154F



Applicant/manufacture

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DLG e.V.
Testzentrum
Technik und Betriebsmittel

Brief description

- trailed, single-axle feeder, mixer and distribution wagon
- mixing augers driven by the tractor's power take-off
- hydraulic components driven by the tractor's hydraulics
- mixing container with two vertical mixing augers, each with five replaceable Trioform knives with three knife positions that can be defined freely
- two counterblades that can be retracted hydraulically and a hydraulically operated discharge door on the mixing container
- operating console for discharge door and discharge belt
- programmable weighing device with three weighing bars
- two-speed Shifttronic powershift gearbox for auger speeds of 31 min⁻¹ and 18 min⁻¹, with operating console
- mixing container with asymmetric feed baffle plates and wear ring

(See page 5 for Description and technical data.)

Assessment – summary

Test characteristic	Test result	Evaluation*	
Mixing			
Mixing accuracy	chaff grass/maize		
– half-full mixture	average deviation 2.2%	good	+**
– full mixture	average deviation 1.8%	good	+**
Weighing			
Accuracy (max./min. load)	deviation < 1 % or 1.8% from true fill weight	very good	+ +
Power consumption for mixing chaff grass and maize silage			
Mixing half-full mixture			
– auger speed 31 min ⁻¹	specific power consumption 10.9 kW/t	medium	○
– auger speed 18 min ⁻¹	specific power consumption 6.1 kW/t	very low	+ +
Mixing full mixture			
– auger speed 31 min ⁻¹	specific power consumption 7.5 kW/t	very low	+ +
– auger speed 18 min ⁻¹	specific power consumption 4.5 kW/t	very low	+ +

* Evaluation range: + + / + / ○ / - / - - (○ = standard)

** Evaluation range for mixing: + / ○ / - (+ = best possible evaluation according to DLG testing programme)

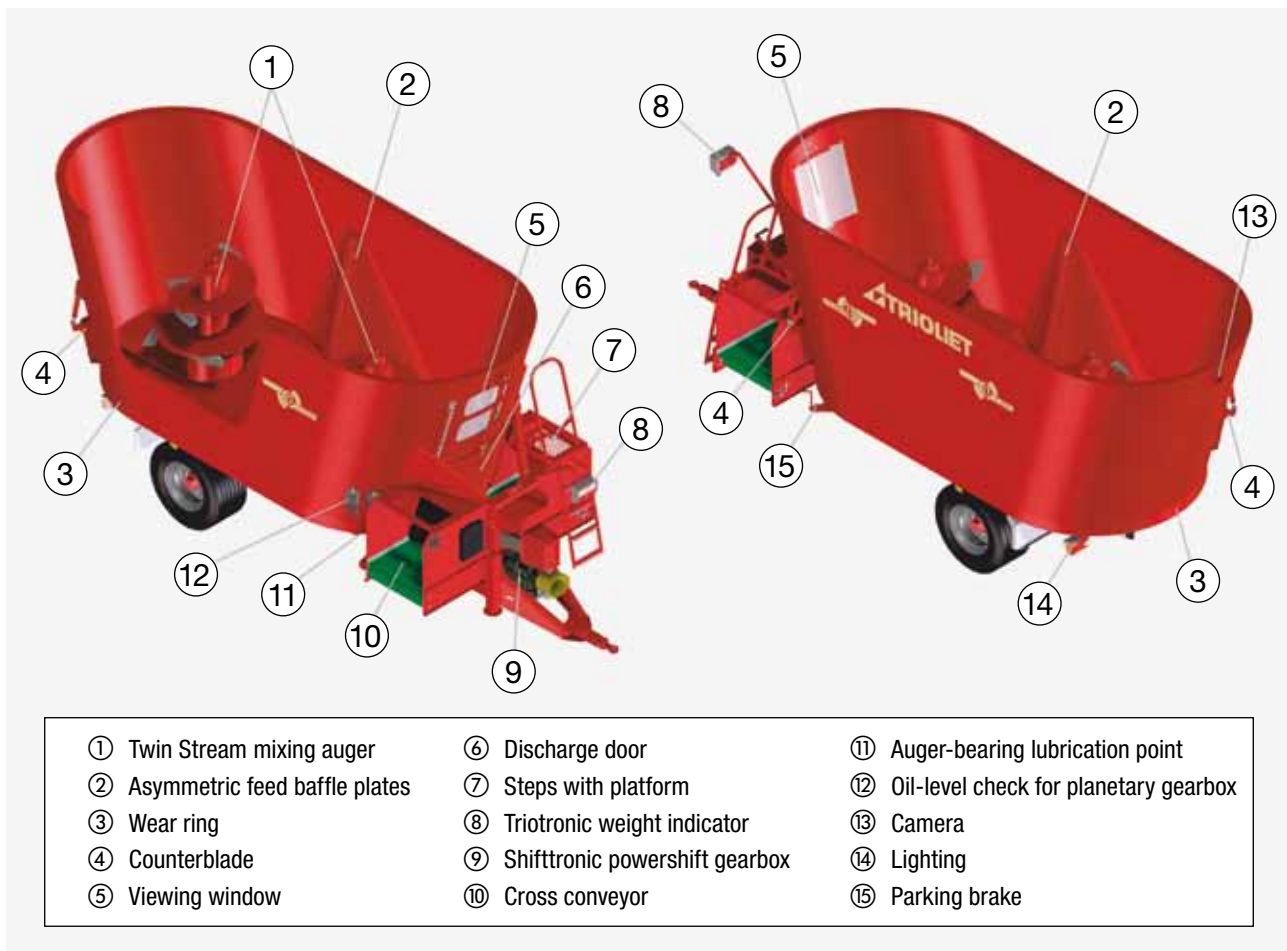


Figure 2:
System diagram of Trioliet Solomix 2-2000 VLH-B feed-mixer wagon

Test results and individual assessments

Mixing

The mixing accuracy was determined by way of the dry matter (DM) derived by mixing two components (chaff grass and maize silage). The DM content was determined by drying in a drying cabinet for 24 hours at 105 °C. Before mixing, ten samples were taken from each of the two mixing components. Samples were then taken at eight points along the full length of the discharge route. Five samples were taken at each of the eight sampling points. Mixtures that filled and half-filled the machine's capacity were investigated. The counter-blades were dispensed with during mixing. The mixing time was limited to three minutes after the addition of the final component. The mixing results were determined in the second speed increment with an auger speed of 31 min⁻¹.

For the tested mixing variety of chaff grass and maize silage, the Trioliet Solomix 2-2000 VLH-B feed-mixer wagon achieved good mixing accuracy (the best possible evaluation according to the DLG testing programme) for both full and half-full mixtures (see Fig. 6).



Figure 3:
The vertical mixing augers of the Trioliet Solomix 2-2000 VLH-B feed-mixer wagon



Figure 4:
Filling the feed-mixer wagon



Figure 5:
Mixing at half load

Weighing

Three weighing bars are arranged between the mixing container and the chassis. The weight is displayed on an electronic, programmable weighing computer.

The weighing computer's weight indicator was tested at the test centre with the aid of calibrated weights. The accuracy of the weight indicator depends on the fill weight. At a minimum quantity of 100 kg,

we determined a very low deviation of 1.8%; at maximum load, this was < 1%.

Power consumption

The power consumption while mixing chaff grass and maize silage was determined by measuring the required drive power using a torque measuring hub on the power take-off. For mixing at an auger speed of 31 min⁻¹ (speed of tractor power

take-off: 540 min⁻¹), the power consumption of the Trioliet Solomix 2-2000 VLH-B feed-mixer wagon is very low (full mixture) or comparatively average (half mixture). For mixing at an auger speed of 18 min⁻¹ (both full and half mixture), the power consumption is very low.

The measurement results can be found in Table 1.

Table 1:

Power consumption of the Trioliet Solomix 2-2000 VLH-B feed-mixer wagon for mixing chaff grass/maize silage

Feed components	Mixture [kg]	DM content [%]	Maximum power consumption [kW]	Specific power consumption [kW/t]
Mixing at auger speed: 31 min⁻¹				
– half-full mixture of chaff grass/maize	2830	36.5	38.3	10.9
– full mixture of chaff grass/maize	5390	38.0	47.5	7.5
Mixing at auger speed: 18 min⁻¹				
– full mixture of chaff grass/maize	2790	36.8	21.3	6.1
– full mixture of chaff grass/maize	5400	37.8	28.7	4.5

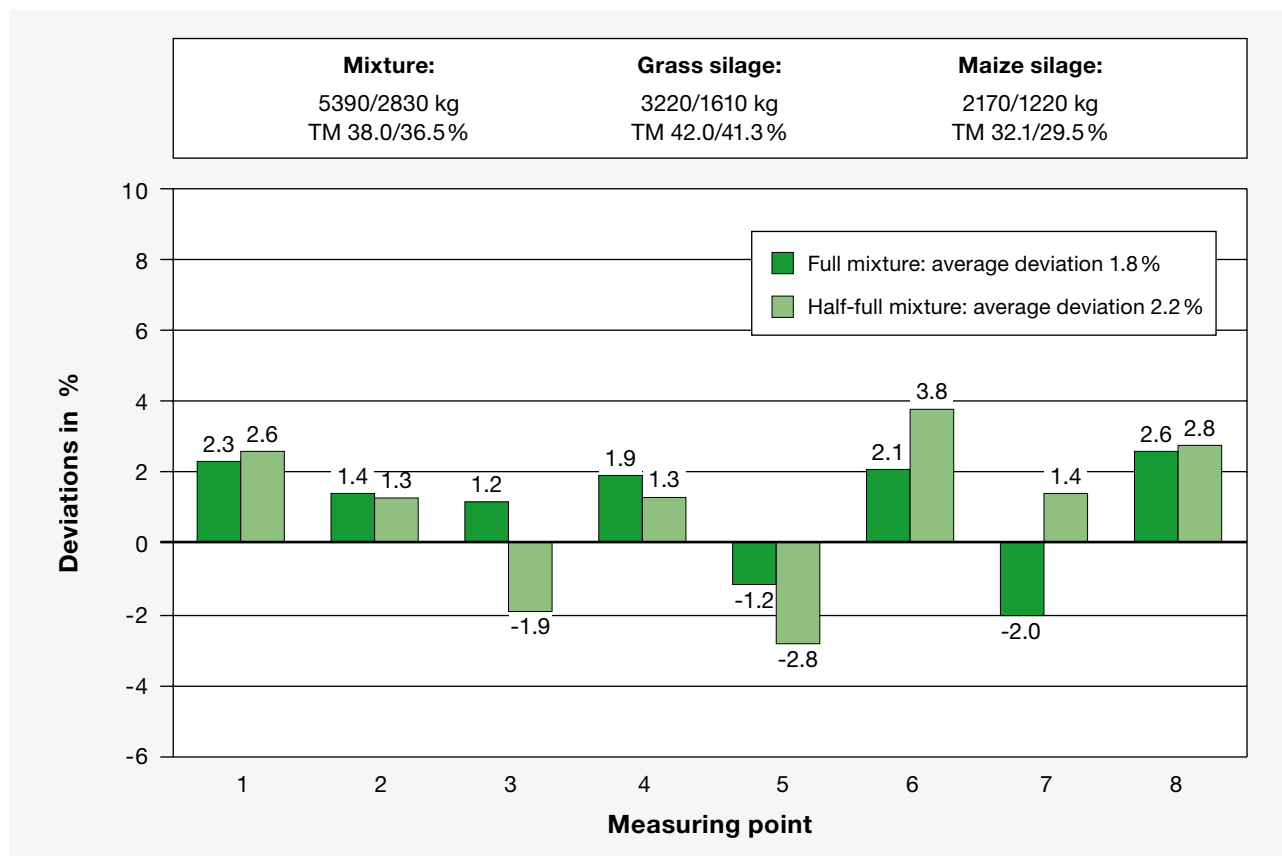


Figure 6:

Deviations in % for mixing chaff grass/maize silage – full/half mixture

Description and technical data (measured values)

Construction

- trailed, single-axle feeder, mixer and distribution wagon
- brake: hydraulic braking system with parking brake
- maximum permissible speed: 25 km/h

Main dimensions and weights

Length	7140 mm
Width	2290 mm
Height	3010 mm
Tyres	435/50 R 19.5
Track width	2150 mm
Distance from ground to bottom of cross conveyor	660 mm
Total permissible weight	12000 kg
Permissible axle load	10000 kg
Tare weight	6900 kg

Container

Capacity	20 m ³
Opening at top, length x width	5380 mm x 2110 mm
Container height	2320 mm

Test

The DLG Focus Test included technical measurements at the DLG Test Center and at the real-life farm of Hans Laudenberger in 64720 Michelstadt-Vielbrunn. The weighing and mixing accuracy and the power consumption were measured.

Other criteria were not investigated.

The test was based on the DLG Testing Framework for Feeder, Mixer and Distribution Wagons, as at October 2010.

Test execution

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