VIDEO

DLG spreader test V-Spread and 2-Spread

Outstanding spreading quality, officially verified by the DLG

◀ *Positioning of test trays for measuring lateral distribution.*

▶ *All 140 test trays have been positioned.*

At the end of March 2022, the German Agricultural Association DLG independently tested three different spreader units on three BERGMANN spreaders at an agricultural holding in Mecklenburg-Western Pomerania in Germany.

- **TSW 6240 W with V-Spread** (spreader disk ø 1,100 mm, 6 spreader blades)
- **TSW 2140 E with V-Spread** (spreader disk ø 1,000 mm, 4 spreader blades)
- **M 6240 W with 2-Spread** (two vertical beaters, ø 1,050 mm)

The tests were prepared by several BERGMANN staff in the week before the tests and also conducted later on. An employee of the DLG test centre in Groß Umstadt near Frankfurt was present for validation of the weighing systems, testing the spreader units and evaluating the results.

All three spreader units were tested in the category stable manure. The manure used had a dry matter content of 29.9 % and a bulk density of 736 kg/m^3 (fresh mass). Tests were performed for two criteria:

- **Lateral distribution**: Here, 140 test trays with a size of 50 x 50 cm were placed next to each other on the surface for each test to cover the exceptional spreading width (70 m) of the V-Spread. The spreaders then drove centrally across the test trays several times. The content of the test trays was evaluated and recorded after each test.
- **Longitudinal distribution:** The spreaders were driven in reverse up against a heap of stable manure that was piled up especially for the tests. The spreaders were then emptied according to a defined procedure and the evenness of unloading measured. Due to their high levels of accuracy, the tests could be performed using the BERGMANN weighing systems integrated in the spreaders. The measurements were taken using the ExaRate weighing compensation system, which continually measures the cargo weight reduction during spreading and compares it with the specified distribution quantity (t/ha). The actual distribution quantity is automatically adjusted to the specified distribution quantity.

All three spreader units achieved the highest available rating and were awarded the "DLG Anerkannt" label.

After the passes, the test trays are collected, weighed …

… and the results evaluated on the laptops.

Preparation for measuring longitudinal distribution.

Universal spreader TSW 6240 W with V-Spread wide spreading unit

Key parameters for stable manure distribution quality

	Stable manure			
Working width [m]	17	39	26	36
Target distribution quantity [t/ha]	10	10	30	30
Driving speed [km/h]	5,0	5,0	1,6	1,6
Lateral distribution, coefficient of variation (CV) [%]	9,9 (++)	19,4 (o)	10,0 (++)	14,4 (+)
Longitudinal distribution using ExaRate				
Coefficient of variation (CV) [%]	5,4 (++)		6,7 (++)	
Elongation within the tolerance zone [%]	84,3 (++)		82,9 (++)	

For stable manure with spread rates of 10 t/ha and 30 t/ha, the DLG test found the distribution quality to be mainly "very good" (++) and "good" (+) in both lateral and longitudinal direction.

Assessment of lateral distribution

CV for lateral distribution	Assessment
≤ 10 %	++ Very good
> 10 % to ≤ 15 %	+ Good
> 15 % to ≤ 20 %	o Satisfactory
> 20 %	– Insufficient

Assessment of longitudinal distribution

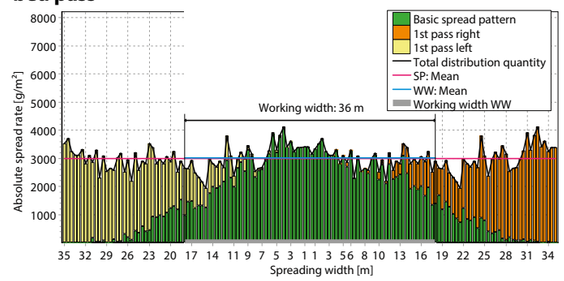
CV for longitudinal distribution	Assessment
≤ 10 %	++ Very good
> 10 % to ≤ 15 %	+ Good
> 15 % to ≤ 25 %	o Satisfactory
> 25 %	– Insufficient

Elongation within tolerance zone	Assessment
> 75 %	++ Very good
> 55 % to ≤ 75 %	+ Good
> 45 % to ≤ 55 %	o Satisfactory
< 45 %	– Insufficient

The advantages of the V-Spread wide spreading unit

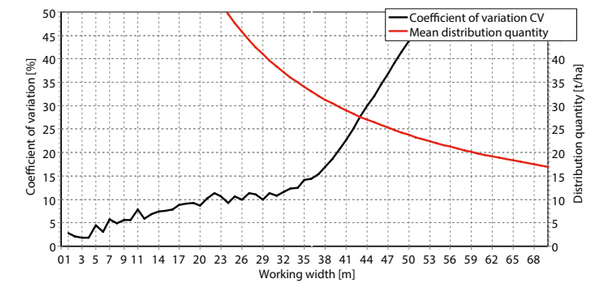
- Larger working widths through spreader disks arranged in a V shape laterally to the driving direction
- Fewer passes per area through greater working width, therefore prevention of ground compaction
- Use of tram lines also possible at more than 24 m
- Higher throughput than standard spreader units
- Reduced wear through fewer passes

Measurement of lateral distribution (symmetrical), bed pass



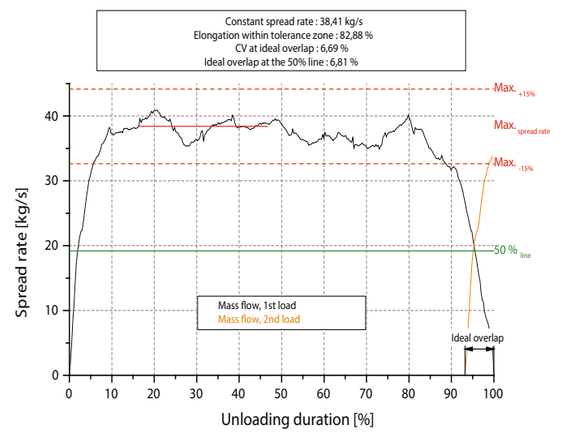
Basic and overall spread pattern when distributing manure at 30 t/ha

Coefficient of variation and distribution quantity



Coefficient of variation depending on working width when spreading 30 t/ha manure

Longitudinal distribution measurement with stable manure (30 t/ha) using ExaRate



The V-Spread spreader unit with spreader disks of 1,100 mm diameter and six spreader blades.

Universal spreader TSW 2140 E with V-Spread wide spreading unit

Key parameters for stable manure distribution quality

	Stable manure			
Working width [m]	19	37	24	38
Target distribution quantity [t/ha]	10	10	30	30
Driving speed [km/h]	3,2	3,2	1,3	1,3
Lateral distribution, coefficient of variation (CV) [%]	10 (++)	13,7 (+)	9,4 (++)	14,6 (+)
Longitudinal distribution using ExaRate				
Coefficient of variation (CV) [%]	10,3 (+)		8,8 (++)	
Elongation within the tolerance zone [%]	65,97 (+)		76,32 (++)	

For stable manure with spread rates of 10 t/ha and 30 t/ha, the DLG test found the distribution quality to be "very good" (++) and "good" (+) in both lateral and longitudinal direction.

Assessment of lateral distribution

CV for lateral distribution	Assessment
≤ 10 %	++ Very good
> 10 % to ≤ 15 %	+ Good
> 15 % to ≤ 20 %	o Satisfactory
> 20 %	– Insufficient

Assessment of longitudinal distribution

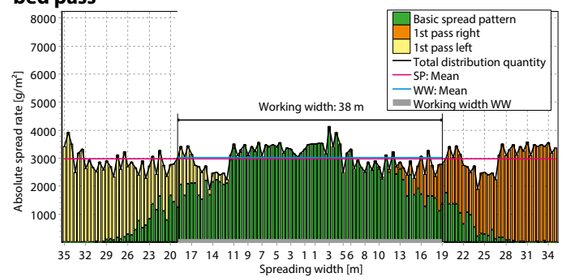
CV for longitudinal distribution	Assessment
≤ 10 %	++ Very good
> 10 % to ≤ 15 %	+ Good
> 15 % to ≤ 25 %	o Satisfactory
> 25 %	– Insufficient

Elongation within tolerance zone	Assessment
> 75 %	++ Very good
> 55 % to ≤ 75 %	+ Good
> 45 % to ≤ 55 %	o Satisfactory
< 45 %	– Insufficient

The advantages of the V-Spread wide spreading unit

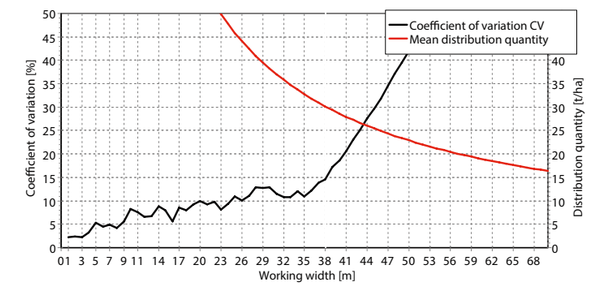
- Larger working widths through spreader disks arranged in a V shape laterally to the driving direction
- Fewer passes per area through greater working width, therefore prevention of ground compaction
- Use of tram lines also possible at more than 24 m
- Higher throughput than standard spreader units
- Reduced wear through fewer passes

Measurement of lateral distribution (symmetrical), bed pass



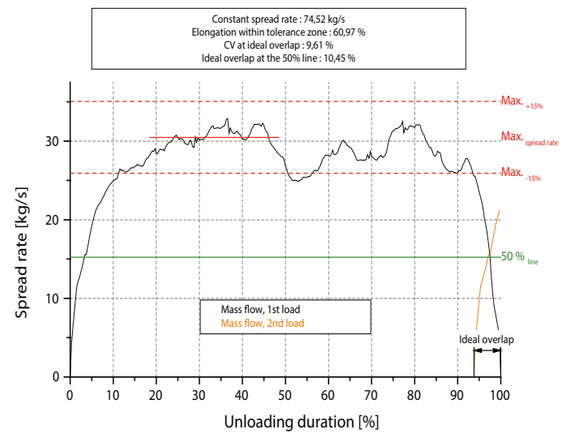
Basic and overall spread pattern when distributing manure at 30 t/ha

Coefficient of variation and distribution quantity



Coefficient of variation depending on working width when spreading 30 t/ha manure

Longitudinal distribution measurement with stable manure (30 t/ha) using ExaRate



The V-Spread spreader unit with spreader disks of 1,000 mm diameter and four spreader blades.

Manure spreader M 6240 W with 2-Spread hybrid spreader unit

Key parameters for stable manure distribution quality

	Stable manure			
Working width [m]	15	16	8	17
Target distribution quantity [t/ha]	10	10	30	30
Driving speed [km/h]	14,5	14,5	5,9	5,9
Lateral distribution, coefficient of variation (CV) [%]	9,6 (++)	12,0 (+)	7,5 (++)	12,3 (+)
Longitudinal distribution using ExaRate				
Coefficient of variation (CV) [%]	8,7 (++)		9,6 (++)	
Elongation within the tolerance zone [%]	64,8 (+)		60,97 (+)	

For stable manure with spread rates of 10 t/ha and 30 t/ha, the DLG test found the distribution quality to be "very good" (++) and "good" (+) in both lateral and longitudinal direction.

Assessment of lateral distribution

CV for lateral distribution	Assessment
≤ 10 %	++ Very good
> 10 % to ≤ 15 %	+ Good
> 15 % to ≤ 20 %	o Satisfactory
> 20 %	– Insufficient

Assessment of longitudinal distribution

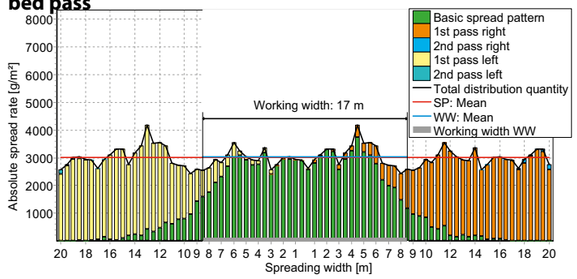
CV for longitudinal distribution	Assessment
≤ 10 %	++ Very good
> 10 % to ≤ 15 %	+ Good
> 15 % to ≤ 25 %	o Satisfactory
> 25 %	– Insufficient

Elongation within tolerance zone	Assessment
> 75 %	++ Very good
> 55 % to ≤ 75 %	+ Good
> 45 % to ≤ 55 %	o Satisfactory
< 45 %	– Insufficient

Advantages of the 2-Spread spreader unit

- Hybrid spreader unit: the ideal combination of manure and universal spreader unit, also suitable for lime, compost and other spreading materials
- Ideal milling of the material through the combination of spreader blades and tines on the beaters
- Requires less power than a universal spreader
- **That means:**
  - More efficient than conventional manure spreaders with vertical beaters
  - Spreading quality at the level of a standard disk spreader unit
- Throughput up to 100 % higher than a universal spreader

Measurement of lateral distribution (symmetrical), bed pass

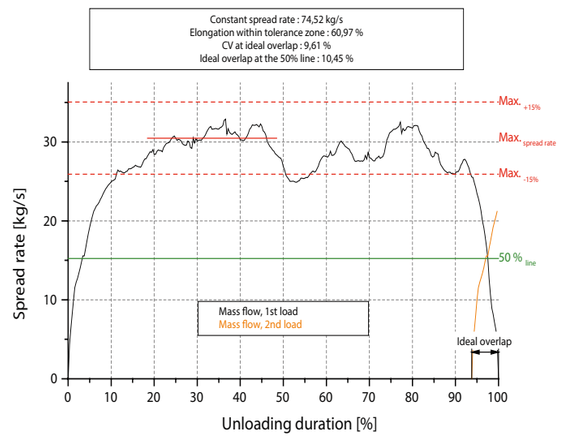


Basic and overall spread pattern when distributing manure at 30 t/ha

Coefficient of variation and distribution quantity

Coefficient of variation depending on working width when spreading 30 t/ha manure

Longitudinal distribution measurement with stable manure (30 t/ha) using ExaRate



The 2-Spread spreader unit with two vertical beaters.

Our product range contains the right vehicle for every operation and every application.

- Manure spreaders
- Universal spreaders
- Loader wagons
- Forage transport trailers
- Body swap systems
- Transfer trailers
- Beet transfer trailers
- Bodies for self-propelled systems

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