NawaRo-Maus

Efficient biomass logistics

ROPA

Superior class.

NawaRo-Maus

In many cases power is restricted in the harvesting of silo maize, because of insufficient or non-existent transport capacities. In particular, for large bio-gas plants which use high proportion of maize, transportation of chaff over large distances with agricultural trailers with ground protecting field tyres is no longer cost-proven in most cases. In accordance with traffic laws, for commercial bio-gas plants the trailer must also possess a commercial permit. As a rule the most cost-efficient option for chaff transporting on the roads is by trucks, the road tyres of the trucks have much lower rolling resistance, making the total diesel consumption per transported ton of chaff significantly lower. However, these should not be loaded in the field and definitely should not be driven alongside the chaff cutter in the field.

With the implementation of the NawaRo-Maus concept ROPA is now completing the missing link between the effective and soil protecting transport means on the field and cost-efficient and high-performance transport logistics on the roads, using trucks. The chaff is removed with ground protecting trailers or self-propelled machines and laid in a pile at the edge of the field. The pile on the edge of the field also serves as a buffer so that in the absence of removal vehicles the chaff cutter does not have to stop!

Subsequently, with the NawaRo-Maus the silo maize or the whole-corn silage is gathered up from the ground and loaded on to the trucks by a loader (up to 13 m from the middle of the pile). Due to the large overloading width the trucks can also be loaded over bushes and ditches and constant maneuvering is not required.

In practice the loading capacity is up to 15 m³ per minute, while due to the variable ground adjustment of the NawaRo pick-up system and possibility to load from always the same pile place the losses are negligible.

The division of chaff cutter and carriage logistics has considerable advantages, not just in fields but also at silo facilities. The chaff cutter running time is usually 14 hours per day with 250 t/h of silo maize. By using the ROPA NawaRoMaus the daily quantity can be supplied to the silo facilities evenly distributed over 24 hours, with fewer removal vehicles. The compaction work at silo facilities and the whole traffic to the facilities are more quiet and organized, as fewer vehicles with larger and more even transport volumes come to silo facilities. It results in steadier flow and better compaction.

The work can be performed also under rain and bad soil conditions, as field trailers have large tyres which cause less crop damage even on bad surface. Road contaminations and associated hazards for normal traffic can be avoided.

The hauling vehicles are not fully loaded in the field for a better traction and at the same time higher soil protection on less stable ground. It is possible without economic losses, because using overloading machines you do not need to load till the last cubic meter of trailer volume due to short distances in the field. In good soil conditions, there is an advantage, that even with wet chaff the entire trailer volume can be used, e.g. to ride through the whole field length without exceeding the maximum permissible weight.

Totally, it gives profit in terms of safety, efficiency and significant positive effect on the image of agriculture in society.

Loading always at the same pile place, thus no significant losses.

- **Capacity: over 15 m³/min.**

- 50 % less transport costs/t from 20 km distance
- No road contamination caused by soil
- Significantly higher soil protection
- More safe and quiet
- Nonstop chopping without any stress
- Significantly better energy and environmental balance.
- Less traffic and noise in localities
- Better public acceptance
- Higher total capacity of the chaff cutter
- Suitable for all bulk goods

Wood chips

GPS

Wheat

Cereals

NawaRo-Maus new machine

Engine:
Mercedes Benz diesel engine OM 926 LA exhaust norm EURO-MOT IIIa, 6-cylinder row engine with 220 kW/299 hp at 2,200 rpm, max. torque of 1,200 Nm at 1,300-1,600 rpm, cubic capacity 7.201 cc, fully electronic steering with fuel consumption accessed at the terminal, temperature dependant adjustable and reversible hydrostatic ventilator drive, flat belt alternator drive with automatic belt tensioning, fuel tank capacity 1,340 l.

Traction drive:
Stepless hydrostatic drive with 4-gear drive, 2 separately activated differential locks, cruise control, automotive driving on roads, speed regulation through electronic steering when in crawling gear. Speed: 0-20 km/h; optional 25 km/h.

Hydraulics system:
Pump distributor gear with load-adjustable multiple disc clutch for activating all pumps (easy starting of the diesel engine even at extremely low outer temperatures), pressure circuit lubrication with lubricating oil level control, adjustable drive transfer for reducing revolutions at loading, a load-sensing pump for feeding the entire hydraulic system, large propulsion pumps for speed-reduced driving on roads in automotive mode.

Steering:
Front axle steering, rear axle steering, all-wheels steering, turning, automatic mid-position with display at the terminal, turning angle front 30°, rear 32°.

Cabin:
Sound-proof, all-round view cabin with tinted glazing and low line vision, control panel at rotating seat with integrated colour terminal, function keys with selector dial, 2 proportionally driven multi-function joysticks, engine monitoring at the terminal, air-conditioning unit, rotating and air-sprung comfort seat with lock, MP3-CD radio with audio system, 60 l storage cubicle in the cabin back wall, screen wipers front, left, right and rear.

NawaRo-Maus pickup system:
8,00 m wide, hydraulic height guiding via 4 supporting feet, 2 worm conveyors, infeed conveyor filler adjustable in speed and height
Loading capacity: up to 900 m³/h

Infeed and overload conveyors:
80 cm wide, closed band

Overloading height: up to 6.00 m

Overloading width:
11.50 m (standard), optional - 13.00 m (prolonged overloader).

Electrics:
24 volt, 2 light units of 100 amps each, 12 volt sockets, 2 x 24 volt sockets

Driving on roads and working mode:
The switch-over from road driving to working mode takes appr. 2 mins.

Dimensions during road driving:
Length 13.35 m; width: 3.00 m; height: 4.00 m

Weight: 21,000 kg

Tyres:
710-75 R34, Load Index 178 A8

Turning radius: 8.30 m inside

Standard equipment:
Central lubrication system, climate control, parking heater, board tool kit

Additional equipment:
13.00 m overloader, 25 km/h version, overloader camera, data-export via USB card.

Corn loading at the field edge pile.

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