



Manure is precious! smell equals losses

Research & development



Farm animal's excrement is full of nutrients, as in general the feed is only partially degraded. In most cases, undigested fibre components are directly excreted in the manure and may result in floating layers and a bad viscosity.

Odour formation cannot be entirely avoided. Each development of odour indicates a loss in nutrients, as it means that nutrients are evaporating, e. g. ammonia from urea.

Storage times for manure will be extended by legislation. Maintaining viscosity and pumpability is and will remain a huge challenge.

Manure is a precious asset – it pays to enhance it!

The bacteria contained in **lagoon** use the manure's nutrients to produce fibre-degrading enzymes. Thus, solids in the manure are reduced, time and effort required for stirring and pumping can be reduced and it is easier to distribute the manure onto the fields. Less stirring reduces costs and nutrient losses.

lagoon is a freeze-dried powder containing live microorganisms. It is added to the manure in small amounts. The manner in which the manure is stored (lagoon, concrete silo ...) is irrelevant. Ideally, dissolve the product in water and apply it during stirring – either directly through the slits or via the extraction shaft. **lagoon** works in all climates and stays active even under ice.

Bubbling after use of **lagoon** indicates an increased biological activity. The surface will stay wet for longer.

i lagoon manure upgrading

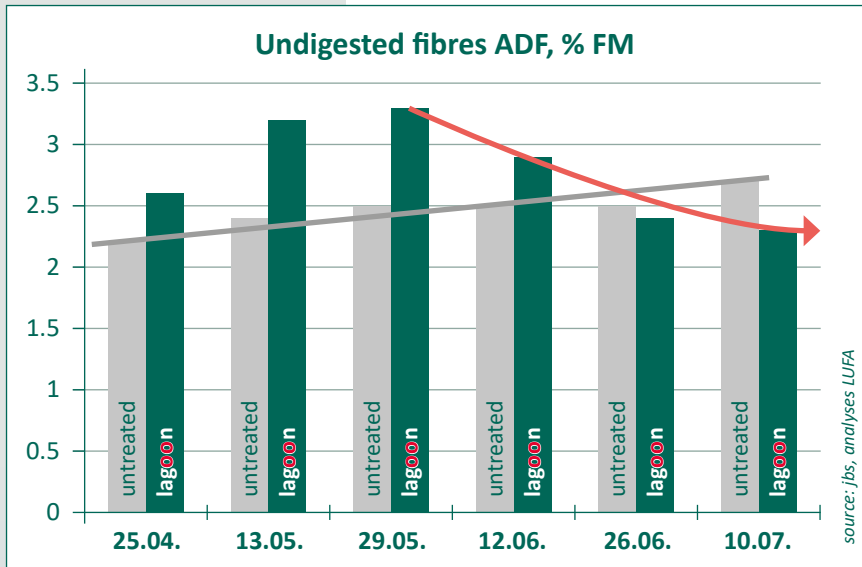
- produces fibre-degrading enzymes
- reduces floating and sinking layers as well as crust formation
- improves fluidity
- reduces time and effort needed for stirring and pumping
- improves distribution on the field
- lowers odour emissions
- treated manure can be used in biogas production without any problems
- increased biological activity
- not harmful to animals or environment
- uncomplicated application



Effects on manure

The trials described in this leaflet were effected with manure from a cattle fattening farm. Dry matter was at 9.3 % at the beginning of the trial. After 3 months, it was down to 6.7 %.

Effect No. 1: Fluidity



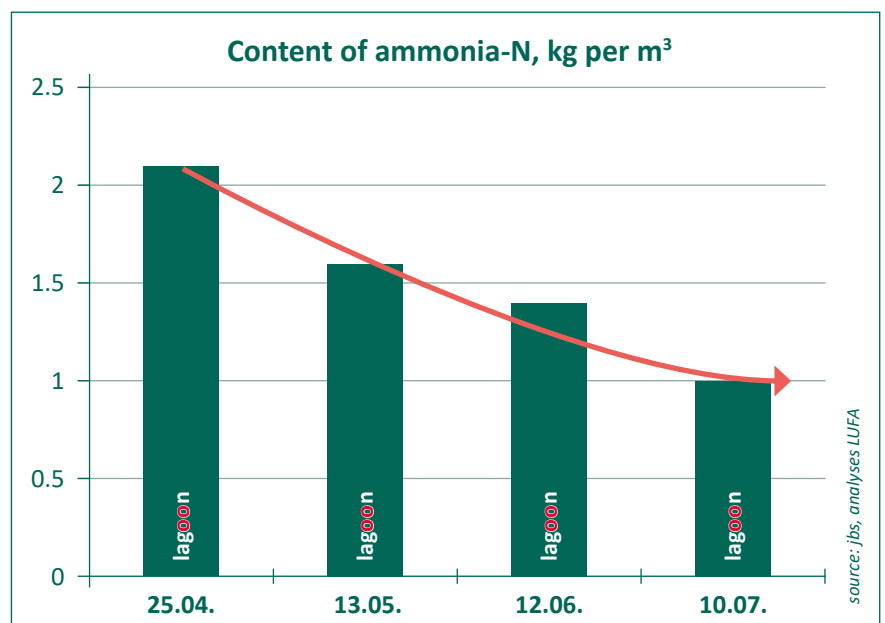
The bacteria contained in **lagoon** feed on the nutrients available in manure and produce fibre-degrading enzymes, thus breaking down solids in the manure. Stirring up the manure before application in spring takes up a lot of time and energy. Both may be reduced with **lagoon**, as it reduces swimming and sinking layers and improves viscosity. It get's easier to empty the container.

Effect No. 2: Odour reduction

How does odour develop?

Odour develops when volatile fatty acids such as acetic or butyric acid, as well as aeriform ammonia, are released.

The observation of a reduced smell in farm trials fits to the reduced content of ammonia-N.



The unpleasant odour of manure which may be noticed by you, your neighbours, or your animals, is significantly reduced. Ammonia defines the smell of manure. The bacteria contained in **lagoon** use ammonia as nutrient source and multiply. Farmers using **lagoon** have noticed a milder odour, especially on stirring or distributing the manure.



Effect No. 3: Even consistency

As to the application of manure onto the fields, the trend is developing towards drag hoses or slurry injectors. This increases the danger of damaging the cultivated plants by applying a punctually larger amount of manure. **lagoon** improves the manure's flowability. It distributes more evenly and is better absorbed into the soil. The fertilizing effects are spread more evenly. The manure is less aggressive and it's easier for the plant to absorb the nutrients.

Consistency trial



In short

lagoon meets the demands made on the handling of manure and on manure additives in many ways:

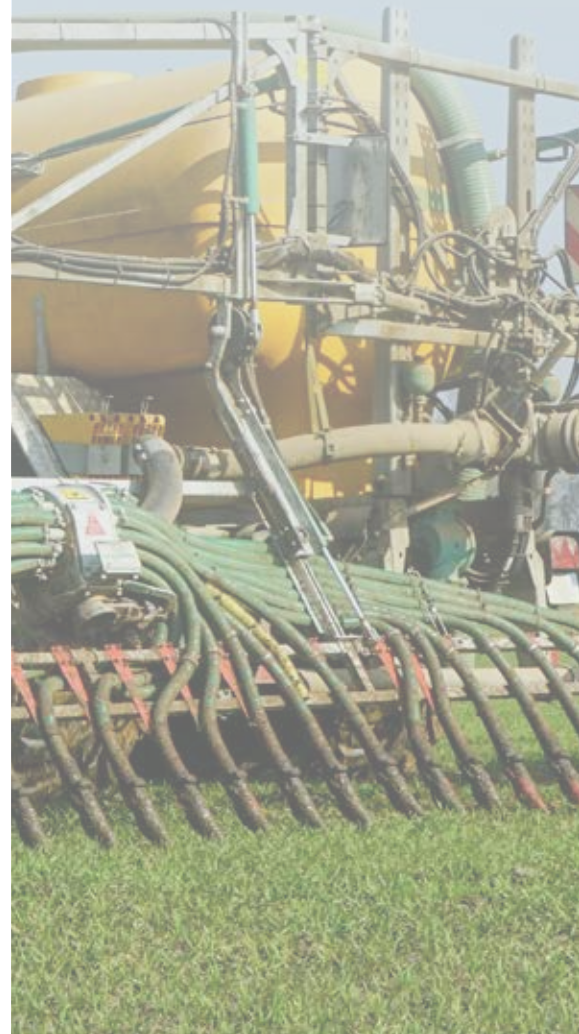
- **reduced smell** ensures a higher acceptance (better image) and fewer losses (reduced emissions)
- **reduces amount of flies** ensures calmer animals, less stress and improved performance
- **easier to stir and pump** – saves power, hours of work and machine capacity
- **improved flowability** facilitates an even distribution and consistent fertilizing effects on the field
- **easy to use** in all storage facilities
- **beneficial for animals, humans and the environment**



not harmful to animals or environment

lagoon does not contain chemical or water-polluting ingredients.

lagoon may be used to enrich the manure of all types of animals.



Practical application of lagoon

On a “hay milk” farm



Hay milk farms don't feed silage but only hay and concentrated feed in winter. Therefore, there was a floating layer approx. 50 cm thick on the manure before using **lagoon**, as naturally a lot of undigested fibre material remains in the manure.

Stirring up this manure in different places of the manure container took more than an hour. **lagoon** was applied according to usage instructions every fourteen days on a regular basis.

In April, the floating layer was down to approximately 15 cm. The manure could be stirred into a homogenous mass in a little under 10 minutes – and that from just one place in the container. The occurring smell was a lot more pleasant and mild than before using **lagoon**. The distribution of the manure onto the field was noticeably more even, as fluidity was improved and the manure was more homogenous.

Piglet rearing



One farmer used to have recurring problems with ear necrosis, mainly when the piglets were between 6 and 8 weeks of age. He and his veterinarian observed that he could reduce the amount of drugs after he started using **lagoon**. He dis-

solves **lagoon** in water and pours it through the slatted floor every three weeks – meaning twice within the eight weeks. Since he has been doing this, there have hardly been any necroses. The vet assumes that this is due to a reduced amount of ammonia in the barn.

In the slurry pit



The farmer started to apply **lagoon** every 14 days, pouring it through the slatted floor directly into the slurry pit. He started beginning of January. Mid-February, the slurry pit was filled to the brim so that he had to pump off a small amount before

being able to stir. The manure was liquid after just a short period of stirring and there was no clotting. Later on, when he prepared the manure for application onto the field, all of the manure could be set into motion by the stirring unit for the very first time - and even in significantly less time. Only the corners of the pit in which a larger amount of manure tended to settle were not totally cleaned out. However, there was no need to water the manure down in order to ensure a more even distribution.



lagoon

Packaging:

aluminium pouches containing 500 g each

Storage:

Store in a cool, dry place – ideally in a fridge. Seal pouch as tightly as possible after opening and sampling (use clips, rubber bands or tape).

Usage instructions

Application:

5 g per m³ of manure

Dissolve **lagoon** in 10 - 20 times the amount of water.

In the barn

Pour in between the slatted floor resp. into the pit while stirring unit is running. Use every 14 days.

Slurry container

Pour the **lagoon** solution into the hose and pump it into the container along with the manure.



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