

Urine from pig manure by "VeDoWS" adapted stable construction system



Keywords: pig urine separated from solid manure • VeDoWS • adapted stable construction

Key facts

- **Product Category:** organic fertilizer
- **Input material:** raw pig manure
- **General appearance:** liquid and solid organic fraction
- **Nutrient Content (N-P-K %):** see key product features
- **Product status:** available on the market
- **Limitation of application:** the urine is nitrogen limited
- **Permit availability:** no restrictions
- **Geographical area:** no restrictions
- **Price range:** 0€/ha



Summary

In an adapted stable construction VeDoWS, pig manure is being **primary** separated in solid manure and urine in the stable. The main advantage of this separation technique is that there are less ammonia, GHG emissions and odour in the stable which is a benefit for the health of both the farmer and animals.

The pig urine which is separated **primary** from the solid manure contains most of the nitrogen and potassium, while the phosphorus is mainly found in the solid manure. The N/P ratio is high. Therefore the pig urine is suitable as a good fertilizer without being phosphorus limited. The solid manure is suitable as biomass feed for a digester because it is kept fresh due to a daily removal of the manure.

The disposal cost for separated collection of manure and urine is also less expensive compared to non-separated manure.

Due to the liquid composition field application and dose is easy to set. As the nitrogen content is limited, not more than 50 tonnes/ha can be applied.

How to use

- **Type of farming:** organic, conventional
- **Cultivation methods:** open field, greenhouse...etc
- **Recommended crops:** all
- **Application doses:** The urine is nitrogen limited. The product can be applied up to 50 tonnes per hectare.

Contact

Name: Geert Vermeulen

Company: Vermeulen construct

Web: www.vermeulenconstruct.be

e-mail: n.v.vermeulen@skynet.be



Urine from pig manure by "VeDoWS" adapted stable construction system



Key product features:

- Pig urine:
Organic carbon content (g/kg): 7.86 – 10.92 ; Total Nitrogen content (g/kg): 3.28 – 3.70 ; NKjehl content (g/kg): 3.32 ; C/N: 1.3 - 1.9 ; Phosphorus content (g/kg): 0.01 – 0.19 ; Other macro and micro elements (g/kg): K: 4.21 / Na: 2.15 / Ca: 0.42 / Mg: 0.42 Dry matter content: 0.6% – 2.7% pH: 8.70 – 9.26 EC (mS/cm): 24.2
- Solid pig manure:
Organic carbon content (g/kg): 214 – 384; NKjehl content (g/kg): 11.97 – 16.8; C/N: 10.7 – 12.7 Phosphorus content (g/kg): 6.33 – 18.87; Other macro and micro elements (g/kg): K: 5.51 / Na: 2.06 / Ca: 8.23 / Mg: 3.54; Dry matter content (g/kg): 263 – 472

Key product benefits:

- Liquid organic fertilizer which can be used in conventional and organic farming
- After separation in the VeDoWS stable construction no additional product changes are needed before using
- Due to the liquid composition field application and dose is easy to set
- VeDoWS urine barely contains organic components
- Rich in mineral components: K; high N/P ratio

Competitive position and advantages:

- The VeDoWS stable construction is an actual system proven in operational environment, full scale industrial replication model ready for market competitive commercial deployment.
- The separated manure and urine are being used on industrial scale, so the TRL/IRL is high (9).
- There are already several companies equipped with a VeDoWS system that produces the VeDoWS pig urine.
- The disposal cost for separated collection of manure and urine is also less expensive compared to non-separated manure.
- Once you have the VeDoWS stable construction you have a good fertilizer for free.
- The pig urine barely contains organic components, is high in K, and has a high N/P ratio.