



JH | AGRO



JH Acidification NH_4^+

Fertilizer acidification for cattle- and pig stables

www.jhagro.com

JH Acidification NH₄⁺



The JH Agro A/S purification plant is the optimal choice for reducing nitrogen in cattle- and pig stables. The plant has a very large capacity. The plant is simple in its construction and automates the slurry acidification. The plant improves the indoor climate in the stable and allows for maximum gap area in the paths.

JH acidification NH₄⁺ for cattle and pig stables reduces ammonia emissions

- In the stable
- During storage in storage tank
- By spreading the fertilizer on fields

Revenue from acidification

- The fertilizer contains more nitrogen
- Yield in crops rises by approx with 15%
- Minimal manganese deficiency
- No predator flies to fly combat
- Positive impact on animal welfare in the stable

Verified technology

- test and verification of environmental technology in the agricultural sector
- to strengthen a well-functioning international market for environmental technology
- multinational cooperation Denmark, The Netherlands and Germany



Sulfuric acid is added automatically directly to the gel in a closed system controlled by pH sensors. The farmer never comes in contact with the acid.

JH Acidification NH_4^+ to cattle stables



That's how it works

In JH acidification NH_4^+ + sulfuric acid is added to the gel to lower the pH to approx. 5.5. Ammonia is changed to ammonium, which is water-soluble and thus remains in the soil instead of evaporating.

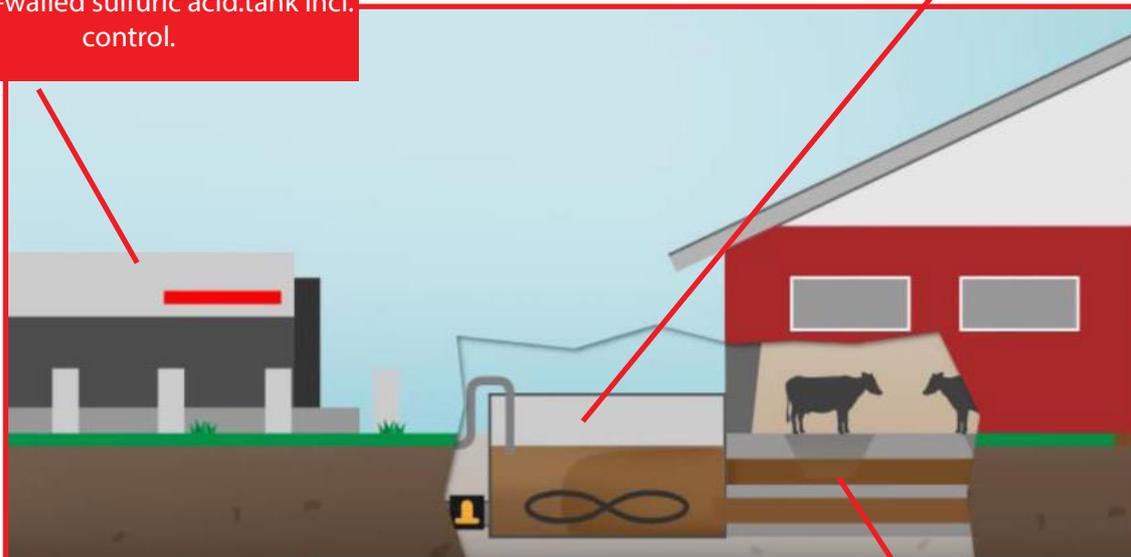


JH Acidification NH_4^+
Reduction of ammonia emissions
Fully automatic control
Automatic data retrieval

Installation

Double-walled sulfuric acid tank incl. control.

The plant will be installed directly at the stable.

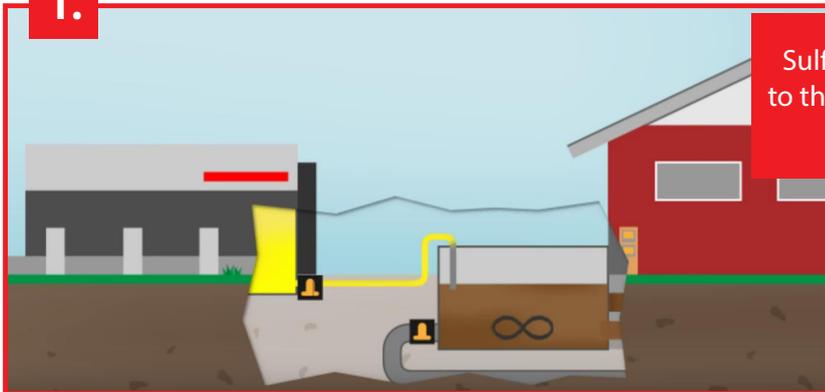


The fertilizer ducts in the stable are a prerequisite for this system.



THE PROCESS

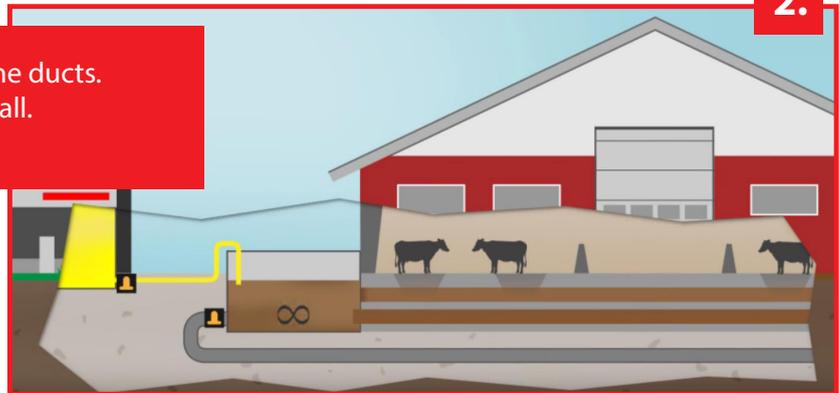
1.



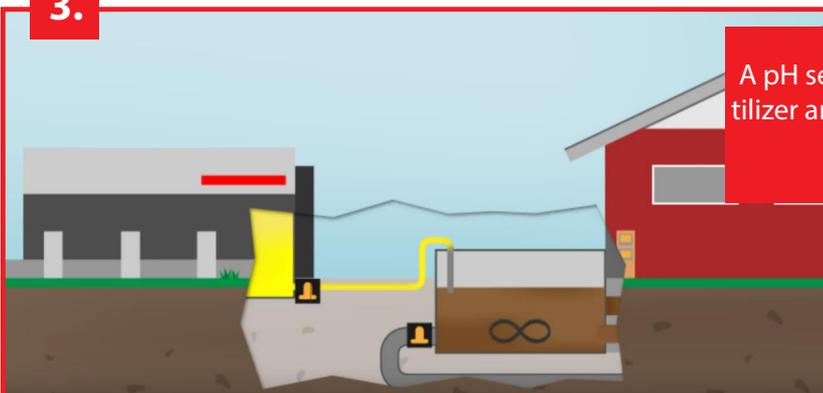
Sulfuric acid is pumped from the oxygen tank in to the front tank and mixed with fertilizer from the stable.

2.

The treated fertilizer is stirred around the ducts. Here emissions of climatic gases fall.



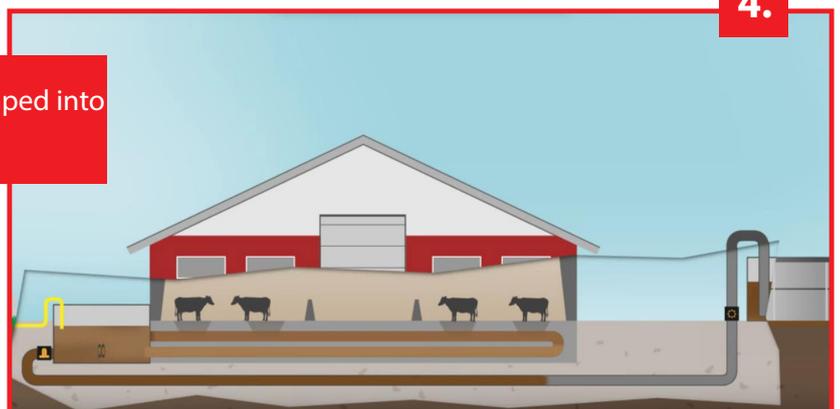
3.



A pH sensor constantly measures the pH of acidified fertilizer and doses the sulfuric acid to keep the pH constant at 5-6.

4.

The treated fertilizer is automatically pumped into the storage tank.



JH Forsuring NH_4^+ to pig stables

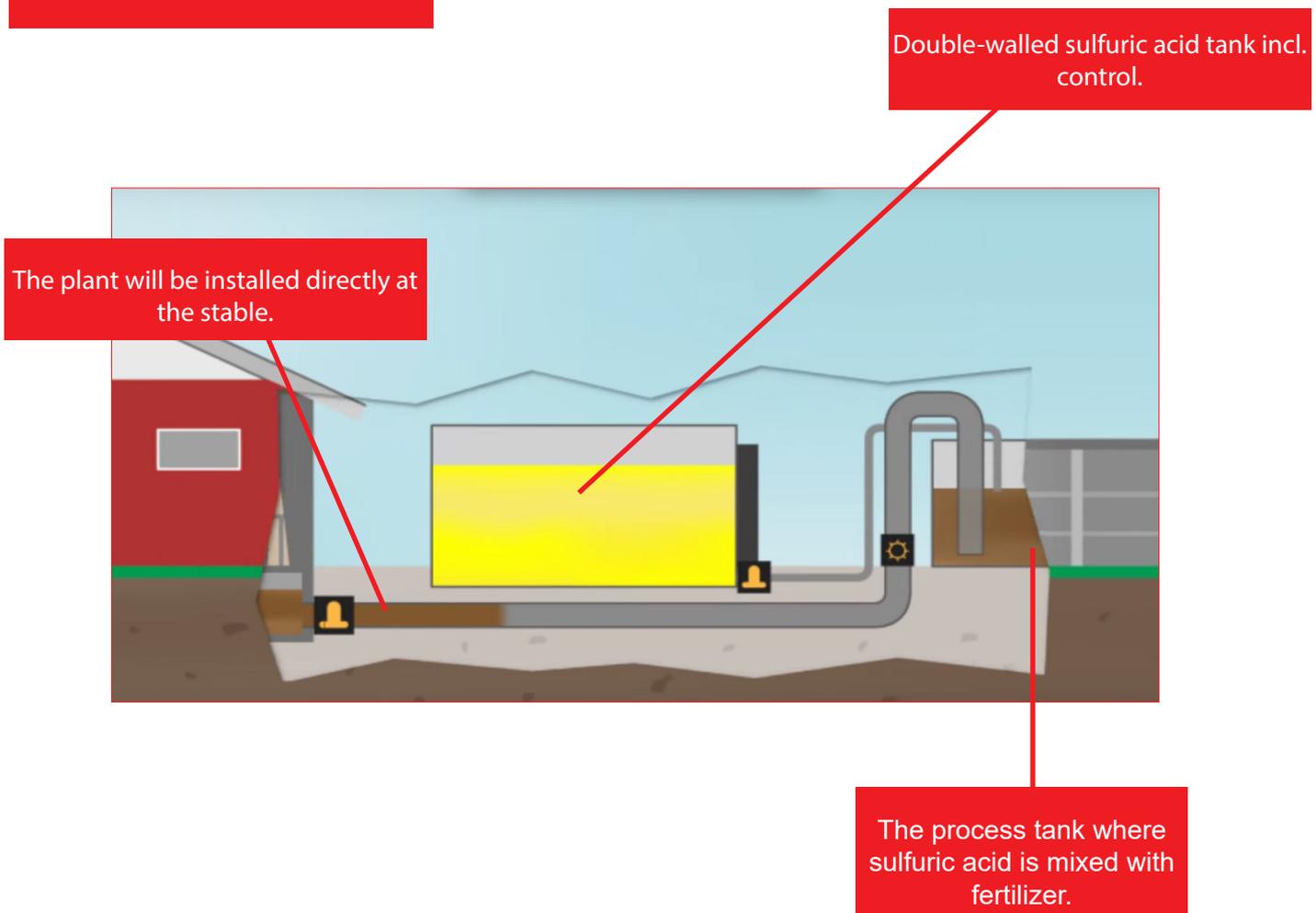


That's how it works

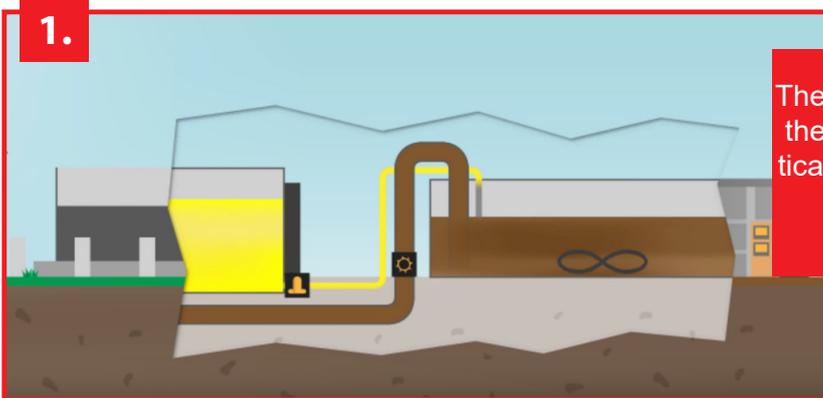
In JH acidification NH_4^+ + sulfuric acid is added to the gel to lower the pH to approx. 5.5. Ammonia is changed to ammonium, which is water-soluble and thus remains in the soil instead of evaporating.



Installation

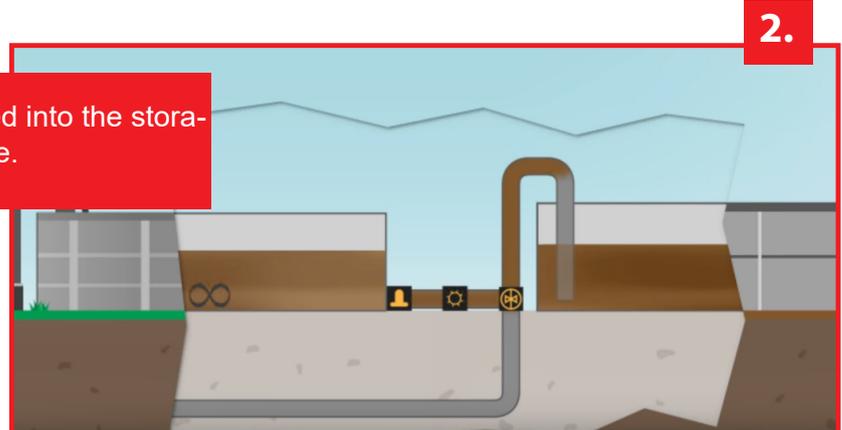


THE PROCESS



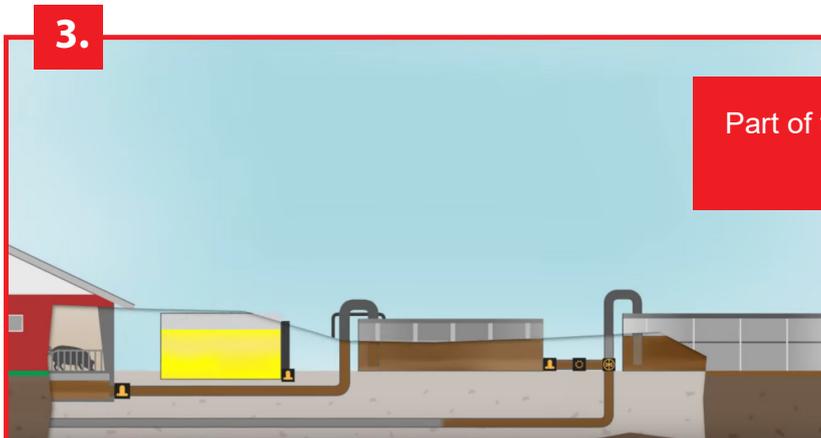
1.

The fertilizer is pumped directly from the stable in the process tank, where sulfuric acid is automatically metered. The dosage is controlled by a pH sensor.



2.

The treated fertilizer is automatically pumped into the storage tank and back in the stable.



3.

Part of the treated fertilizer is pumped back into the fertilizer ducts in the stable.



4.

With treated fertilizer in the ducts, emissions of climatic gases are reduced to the benefit of the environment, animal and human sobriety in the stable.



JH SmellFighter

Smell reduction with JH SmellFighter

JH SmellFighter is groundbreaking in reducing smell from pig stables. The process takes place in a simple mechanical solution, which means that the technology is cheap in both purchasing and operation. JH SmellFighter works with our JH Acidification NH₄⁺ + shedding plant, which adds 64% of sulfuric acid by adding sulfuric acid. With a JH SmellFighter solution, you get both environmental improvement and significant odor reduction in one solution.



Process

JH SmellFighter is a simple construction with a drummer mounted in a container that separates a fraction of the fibers into the rim, thus backing down a thinner acidic slurry to the barn system. The thick separated part is passed into an external container or directly in to the storage tank. The process takes place as an integrated, fully automated part of the acidification process. With a combo solution of JH Acidification NH₄⁺ together with JH SmellFighter, less sulfuric acid is used for the acidification process and a minimal energy consumption.



Establishment of JH SmellFighter

Especially on the purchasing and construction site there are big savings to be collected. JH Acidification NH₄⁺ and JH SmellFighter can easily be established in new as well as existing pigs stables with a fertilizer system. No expensive rebuilding of roof constructions or other changes in the stall system should be made to achieve the ammonia reduction of 64% and the odor reduction of 51%.



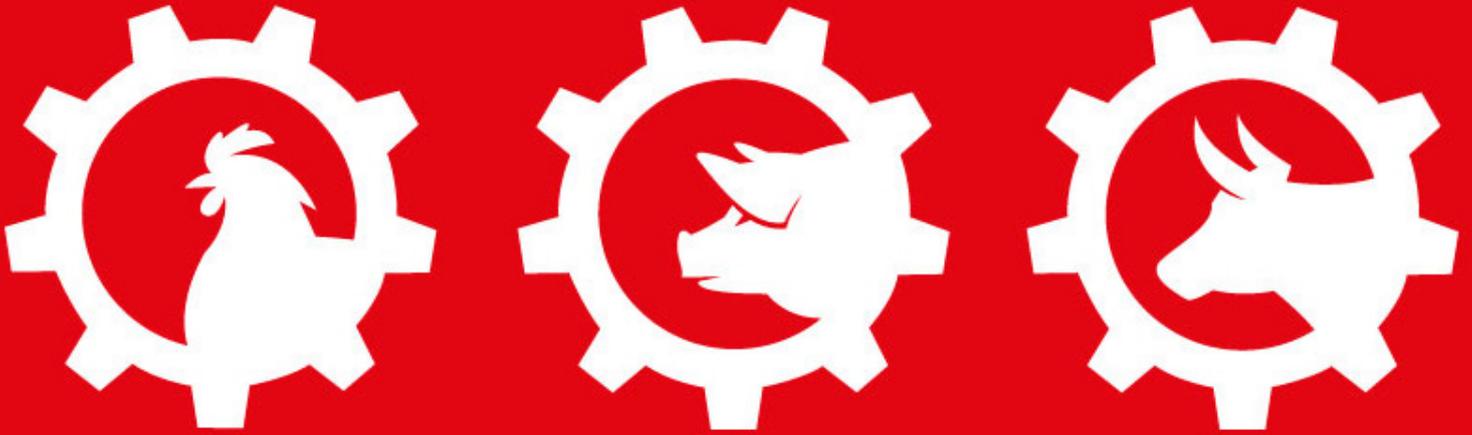
Achieve great benefits

JH SmellFighter is a much cheaper alternative to air purification and the system comes with benefits:

- The segregated part has a high biogas potential
- The separated part can be used for soil improvement
- The separated part contains the largest proportion of phosphorus. The thin part can be brought to fields with full N-supply for crops without reaching the phosphorus limit.

Low operating costs, many benefits!

Fully automatic fertilizer handling
More and better nutrition in the fertilizer
Possibility of using straw as bedding
Better air in the stable for animals and humans
Happier neighbors!



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