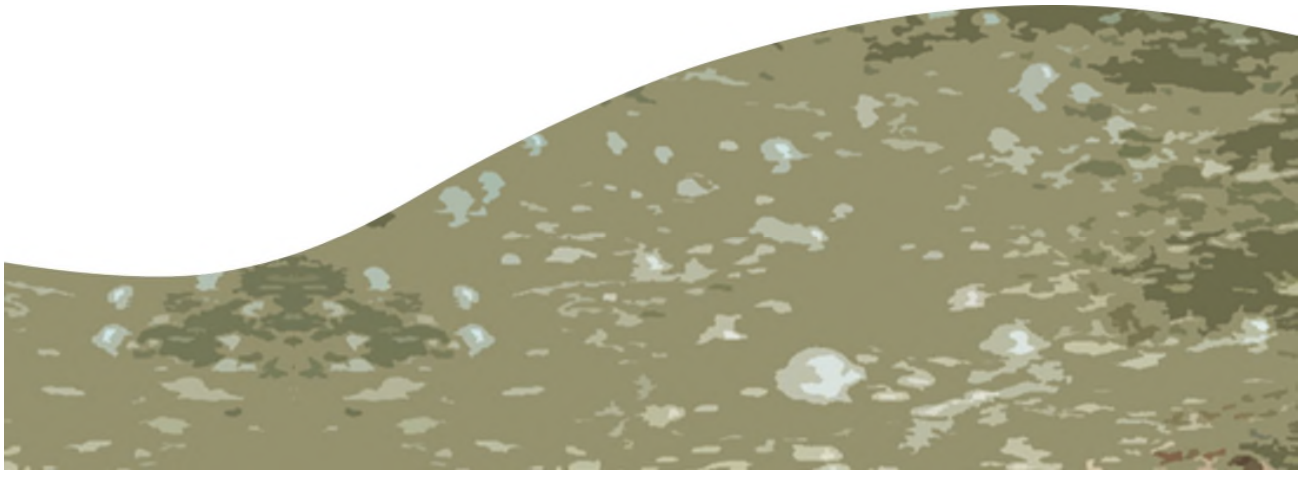
penergetic
the natural biotechnology

penergetic g

FAQ



What is penergetic g?

1. What are the effects of penergetic g?

The information that has been programmed on to the carrier material leads to an optimization of the slurry's consistency, making it homogeneous and free-flowing.
The aerobic conversion process (rotting state) reduces floating and sedimentation layers and leads to a reduction in odor emissions. The optimized consistency and the rotting state make the slurry more valuable in terms of its fertilizing effect and less aggressive (less scorching). The slurry is also more readily absorbed after spreading.

2. How does penergetic g work?

Specific parts of oxygen and mineral information are transferred to the product. This information can help the slurry to homogenize and break down the sediment and floating layers. This effect is due to aerobic microorganisms being activated. The putrefaction process is stopped and gives way to a rotting process.

3. What is penergetic g used for?

It can be used for all types of slurry / liquid manure.
Penergetic provides specialized products for certain slurry types, e.g. pig slurry.

- Please see the penergetic g application notes for more details.

4. Where should penergetic g NOT be used?

penergetic g should not be used in biogas plants.

5. What types of slurry can be treated?

In principle, penergetic g can be used with all types of slurry. However, Penergetic provides specific products for different types of slurry.

- Please see the penergetic g application notes for more details.

6. What is the difference between penergetic g and Penergetic k?

penergetic g was developed especially for treating slurry / liquid manure. In order for it to achieve optimal results, the matter it is applied to must be liquid (contain urine, water). penergetic k stimulates fungus formation and the storing of nutrients. It can be used in a drier or viscous environment.

7. What is the difference between slurry and manure?

Slurry is a natural fertilizer, mainly consisting of the urine and dung of farm animals. Depending on the water and bedding content the resulting slurry is known as thick

slurry, thin slurry, slurry or liquid manure (see manure). Pig slurry contains approximately 7% of dry matter; cow slurry contains approximately 8 to 11% of dry matter. Solid manure contains 22% or more of dry matter.

8. What are the indicators for changes?

The floating and / or sedimentation layers are reduced and the slurry becomes homogeneous. The air quality in the barn improves as well. In many cases the formation of bubbles in the slurry can be observed. This effect is particularly pronounced with cow slurry, which tends to form floating layers more often than pig slurry.

9. How long will it take until results can be observed?

How long it will take for the first reactions to take place after initial application of the products depends on the original condition of the slurry. In favorable conditions the effects may become discernible after approx. 3 - 4 weeks. On average the slurry will be in a rotting state after 3 - 4 months (sometimes a floating layer forms at the surface. However, this does not have an adverse effect on the process). In difficult cases the transformation may take up to a year.

10. No results after several weeks?

If the effects do not start to take hold after several weeks of using penergetic g, it is possible to stimulate the aerobic process by 'vaccinating' the slurry with slurry from a different farm.
If penergetic g is used in 'old' slurry tanks, the slurry might change back to its original condition after a period of penergetic g producing effects. This proves penergetic g efficacy, since it means that old slurry sediments are being dissolved. This degradation process leads to increased emissions of poor-smelling and flammable gases.
Please be careful during spreading!! It is vital to continue treating the slurry in order to ensure that old deposits are broken down completely.

11. Will pathogenic germs be killed?

Various studies have shown that pathogenic germs in the slurry are severely reduced by the activity of the aerobic microorganisms. Salmonella, clostridia, enterococci and coliform germs, for example, can be reduced as a result of the production of natural antibiotics (especially yeasts).

12. Does penergetic g improve the climate in animal houses?

As soon as the aerobic processes stabilize the climate will improve. However, it also depends on the feed.
Therefore we recommend also using penergetic t and AquaKat.

13. Will the nutrient content of the slurry increase?

Since ammonia is converted to ammonium, the overall N-content of the slurry increases and the fertilizing effects improve. In addition well-rotted slurry promotes soil life, improving the availability of nutrients.

14. Will grass seeds in the slurry be reduced if it is treated with penergetic g?

penergetic g does not have any chemical or systemic effect on seeds. When using penergetic g, microbiology in the slurry is stimulated and anaerobic conversion is promoted.

15. Does penergetic g improve the soil structure?

Long-term use of slurry that has been treated with penergetic g can improve the soil structure since it promotes humification. This in turn promotes natural soil life and, ultimately, improved fertility of the soil.
Using rotted slurry on fields and meadows has a positive effect on the fertility and structure of the soil. Farmers know that soils that are optimally supplied with nutrients tend to be less weed-infested.
penergetic g does not have a direct effect on the soil structure; we recommend using penergetic b to achieve this.

16. Why is penergetic g used in such small doses?

Transformation of the slurry results from the activity of the aerobic organisms that are present in the slurry already and not from any chemical or biological effect on the part of penergetic g. penergetic g acts as a catalyst to activate microorganisms and is thus used in small doses.

17. Can penergetic g be used in biogas plants?

penergetic g should not be used in biogas plants. penergetic g stimulates aerobic processes and an anaerobic process is required to produce biogas.

18. Is penergetic g in any way harmful to humans, animals or the environment?

penergetic g is completely harmless to humans, animals and the environment.

Carrier materials

1. **Calcium carbonate**

   Suitable for long-term activation.

   - Please see the safety data sheet (SDS) on calcium carbonate for more details.

2. **Molasses**

   penergetic g **molasses** – for rapid effects, suitable for mixing with liquid fertilizers.

   - Please see the safety data sheet (SDS) on molasses for more details.

3. **Can penergetic g molasses and calcium carbonate be combined?**

   Yes, we recommend a combined application. Molasses can be used as a rapid activator (starter) and calcium carbonate for a long-term, sustainable activation of the slurry.

   - Please see the penergetic g application notes for more details.

Application of penergetic g

1. **In effluent channels without floating layer**

   Mix penergetic g with water in a watering can and pour evenly over the channel. Better results may be achieved by pouring 2/3 of the recommended amount at the head of the channel.

2. **In a slurry tank or lagoon**

   Pour the penergetic g / water mixture over the rotating agitator. If no agitator has been fitted, puncture the floating layer with a suction hose and introduce the penergetic g / water mixture through the hose. Pump sufficient slurry out of the tank or lagoon to fill the suction tank and then pump it back into the slurry tank / lagoon. For large slurry tanks / lagoons the procedure should be repeated at several points.

3. **In underground pits and cleanout channels**

   Mix penergetic g with water in a watering can and pour evenly over the empty channel or pit. Repeat this procedure each time the channel or pit is drained.

4. **Can penergetic g still have an effect if it is used for the first time just before the slurry is spread?**

   Application of penergetic g should commence at least 4 weeks before the slurry is spread.

However, it would be preferable to apply it in autumn or to leave at least 3 months before initial application and spreading.

5. What happens if straw is used as bedding?

Long straw may lead to floating layers building up again, since long straw tends to float. If penergetic g is used regularly, this straw rots and the floating layer's thickness remains more or less constant. Pouring Penergetic k molasses or sprinkling Penergetic k powder onto the surface speeds up the rotting process in these conditions.

6. Can other slurry treatment agents be used in addition to penergetic g?

A combination of penergetic g and other additives is possible in principle if no other informed products are used. "Chemical" agents may reduce the effects of
penergetic g.
Using antibiotics or disinfectants may have an adverse effect on desired aerobic microorganisms and thus reduce the effects of penergetic g.

7. Can penergetic g be fed to animals?

No. It is not advisable to feed penergetic g to animals since it is not intended as a feed and thus does not comply with the relevant feed directives.

8. Is it permissible to apply slurry treated with penergetic g in water protection areas?

The spreading of slurry, even after it has been treated with penergetic g, must be carried out in accordance with the provisions of local law.

9. Can penergetic g be used in all slurry containers?

Yes.

10. Is it possible to use penergetic g with very small and very large volumes of slurry?

Yes, penergetic g can be used in all situations.

Dosage / time frame / duration

1. Dosages

- Please see the penergetic g application notes for more details.

2. **Why are subsequent doses of penergetic g necessary?**

   The initial treatment with penergetic g activates the slurry that is already in the tank. It is necessary to re-apply penergetic g to the new slurry that is continuously added in order to keep the stimulated rotting bacteria active.

   - Please see the penergetic g application notes for more details.

3. **Are subsequent doses necessary for stored slurry?**

   Yes, the slurry must be re-treated every 2 months. Dosage: 1 kg per 100 m^3 of slurry. If slurry is added periodically to the stored slurry, this must also be taken into account.

4. **Is it possible to use too much penergetic g?**

   If after 2-3 years the slurry should return to its original condition (sediment and floating layers, odor), the weekly application of penergetic g should be stopped immediately. The situation should return to normal within a short period of time. After that penergetic g should only be used sporadically.

Further product details

1. **Which approvals have been granted?**

   Penergetic Int. AG is ISO 22000 certified and registered with the following organizations: FIBL, InfoXgen, Bio-austria, IFOAM.

2. **What is the shelf life of penergetic g?**

   The powder lasts 5 years from the date of manufacture.
   The molasses lasts 18 months from the date of manufacture.

3. **How should the product be stored?**

   Dry and on wood. Can be stored in glass or plastic containers without losing its efficacy. The products should not be stored on metal and placed as far as possible from electromagnetic sources.

Tips and tricks

1. **How can the effects be enhanced?**

   - By using additional Penergetic products and the AquaKat.
   - By occasionally briefly stirring the slurry.
   - If the slurry is particularly thick: add 10% water.

Specialized products

1. Specialized product: penergetic g/k

Slurry produced by dairy cattle sometimes contains a large amount of straw. For this purpose penergetic g/k was developed. Its use has proven that the rotting of straw can be speed up and the formation of floating layers reduced.

- Please see the penergetic g application notes for more details.

2. Specialized product: penergetic g for pig slurry

Only used for pig slurry.

- Please see the penergetic g application notes for more details.

3. Are there any other specialized products?

We offer further specific penergetic g products, please ask for details.

Example scenarios

1. After a period of the product being effective, the slurry returns to its original condition

Generally, it should first of all be ascertained whether any inhibiting agents have entered the slurry. It is also possible that old residues may have dissolved in the slurry itself. The treatment should definitely be continued.
A temporary thickening of the slurry can also occur as a result of reduced water intake by the cattle in winter.
If the animal house / slurry pit / channel has been constructed very recently, the fresh concrete is alkaline and inhibits the formation of microorganisms. In those circumstances it takes a little bit longer and possibly some "old" slurry to activate the organisms in the slurry.

- More information under point 14 (dosage / time frame / duration).

2. The number of flies has increased since penergetic g is in use

The use of penergetic g results in a reduction of the fly population, as putrefaction processes attract flies. However, a temporary rise in the fly population may occur until the slurry is fully transformed into an aerobic state.

3. The slurry smells more strongly since penergetic g has been in use

This usually occurs when old deposits dissolve and indicates that the slurry is reacting. In order to get through this phase as quickly as possible, it might be necessary to add extra penergetic g or add a single dose of penergetic k to the slurry (do not stir).

4. Is it possible that a floating layer is still there after penergetic g has been applied?

It takes some time to break down floating layers. A thin floating layer will always be on top of the slurry because straw in the slurry will float to the top.

5. Bubbles form after the initial application of penergetic g, later on this stops. What has happened?

Bubbles only form during the initial application period. Later on they will disappear.