



FAQ

Penergetic-g

Questions concerning its function

1. What happens when Penergetic-g is added to liquid manure?

In most cases the liquid manure is in a state of anaerobic putrefaction which is indicated by a prevalence of unpleasant odours. Adding Penergetic-g will systematically convert the liquid manure into a state of aerobic decomposition.

2. Why is Penergetic-g used in such small quantities?

The conversion of the liquid manure into the desired state of decomposition is brought about by the activities of aerobic micro-organisms and not through a chemical reaction caused by Penergetic-g. Penergetic-g acts as a catalyst in activating the relevant micro-organisms. This is achieved with small dosages.

3. Why does Penergetic-g have to be applied more than once?

The first treatment will enable the liquid manure present at that stage to decompose. With the constant addition of further liquid manure Penergetic-g must be added again as animal excreta tend to putrefy in the conditions brought about by today's ways of keeping and feeding animals. The first treatment is with 1-2 kg of Penergetic-g per 100 m³ liquid manure. Regular subsequent dosage is with 5 g per LSU and week. In serious cases a further dosage of up to 20 g per LSU can be applied during the first six weeks.

4. What types of liquid manure can be treated?

Penergetic-g can basically be used with all types of liquid manure. With pig manure the Penergetic-g pig slurry can be applied in the beginning to ensure success. Extensive experience has been gained in the treatment of cattle -, pig -, duck - and chicken manure.

5. How long does the process have to continue before results can be obtained?

The time taken between application and first visible results depends on the original condition of the liquid manure. In favourable cases the effects can be seen after about 3 to 4 weeks. On average the liquid manure will have reached a stage of fully homogeneous decomposition after 3 to 4 months (a floating mantle may possibly begin to cover the surface, but this is of no consequence). In difficult cases the conversion can take up to a year.

6. Can Penergetic-g also be used in winter?

Yes, its strength is not diminished in winter.

7. Can other agents for treating liquid manure be used in addition to Penergetic-g?

Penergetic-g should not normally be used in combination with other agents. The parallel use of chemical agents such as nitrification inhibitors or cyanamide reduces the effect because it impedes the activity of the micro-organisms. Very recommendable on the other hand is the parallel application of Penergetic-g, Penergetic-t and the AquaKat. In difficult cases additional inoculations of pure pre treated slurry would be advisable and/or some of the following supplements could be used:

- seaweed in the form of fresh seaweed extract, seaweed meal and powdered seaweed
- strains of bacteria and types of yeast which are naturally contained in good liquid manure
- rock dust from ground basalt- and pre-Tertiary dolerite
- highly expandable clay minerals

8. Does liquid manure in storage have to be treated more than once?

No, because no fresh manure is added to it. However, if retardant substances (e.g. antibiotics, chlorine based dairy cleaners) get into the stored manure, a further dosage may become necessary.

Questions concerning the product

9. How long can packaged Penergetic-g be stored?

Packaged Penergetic-g can be stored indefinitely. For optimal retention of its powers Penergetic-g should not be stored near electric installations (milking machine, switchboard).

10. Is Penergetic-g harmful to humans or animals?

Penergetic-g is completely harmless. Swallowing it or feeding it to animals can lead to flatulence as it stimulates micro-organisms in the bowels.

11. Can Penergetic-g be fed to animals?

Adding Penergetic-g to animal feeds is not useful as the microbiology in the digestive tract of animals differs from that specific to liquid manure.

12. How long must Penergetic-g be used?

Penergetic-g must basically be used until the liquid manure manages to maintain itself in its aerobic condition. Use of the entire Penergetic system (esp. Penergetic-t and AquaKat) can speed up the whole process. The quantity of Penergetic-g used initially can normally be reduced gradually after ca. 2-3 years or it can be applied sporadically whenever the decomposition of the liquid manure shows signs of slowing down.

Questions concerning its effect

13. How does one recognise its effect?

The floating layer of matter and/or sediments dissolve as the liquid manure becomes homogeneous. At the same time the air in the stable becomes less unpleasant as ammonia is increasingly converted - via a declining pH value resulting from the aerobic conversion - to ammonium. In many cases the formation of bubbles can be observed in the slurry. This effect is especially pronounced in cattle manure which shows a higher tendency than pig manure to form floating layers of matter.

14. Can treatment of liquid manure with Penergetic-g enable a saving of mineral fertilizer?

According to the research findings of Dr. Prestele, Department of Agriculture, Laufen (Germany), the use of treated liquid manure as fertilizer can reduce the amount of nitrogenous fertilizer needed by a clear 31 kg per hectare. In addition the humification of the soil further stimulated by the treated liquid manure leads via an increased availability of nutritive substances to greater plant growth and helps counter impoverishment of the soil through elution and erosion.

15. Will pathogenic germs be reduced?

As various investigations have shown, pathogenic germs present in liquid manure are strongly reduced by the activity of the aerobic micro-organisms. The production of natural antibiotics (esp. yeasts) leads to an extreme reduction of e.g. salmonellae, clostridia, enterococci and coliform germs.

16. What factors impede the successful application of Penergetic-g?

The use of antibiotics, growth stimulants (which often include antibiotics) or harsh dairy cleansers tend to impede the creation and growth of the desirable aerobic micro-organisms strongly. The residues of chemicals to set a cow dry adds more undesirable substances to the liquid manure. Problems can also arise when long-stemmed straw is used as bedding. In this case, the use of chopped up short-stemmed straw is recommended. Beddings of wood shavings or sawdust can also reduce the effectiveness of the treatment and may require a higher dosage of Penergetic-g, the addition of water to the manure or more frequent stirring.

17. How can the effect be improved?

- Blowing 2-4 kg per m³ of finely ground rock dust from ground basalt- and pre-Tertiary dolerite into the liquid manure
- Occasional brief stirring up
- An inoculation of Penergetic-g treated liquid manure may be taken from a nearby source of aerobic decomposing slurry
- In the case of extremely thick slurry it can be thinned with 10 % water.

Questions: What if ...?

18. After a period of effective progress the liquid seems to be reverting to its original state

Generally it should first be determined whether impediments have entered the liquid manure. It is also possible that remnants containing e.g. antibiotics were present in the manure itself and may have been dissolved. The treatment should in any case be continued. Often the problem is caused by an increased use of antibiotics or the disinfection of the stable with chlorine based substances. It is recommended that disinfection be achieved instead by the use of a mixture of Penergetic-g and tea tree oil or grapefruit seed extract.

In stables in which Penergetic products have been used for years the amount being used should be reduced (20 - 50 %). After application has taken place for a long time the concrete flooring takes over the oscillation from Penergetic-g and transfers it to the manure raising the total dosage too much.

A temporary thickening of the liquid manure can also be caused by decreasing water intake by animals due to poor water quality or a cold winter.

19. Since beginning to use Penergetic-g the flies have increased

The use of Penergetic-g will result in a reduction of the fly population as flies are attracted by putrefaction. However, a temporary increase of the fly population can take place, lasting until the manure has been fully converted to the aerobic state.

20. Since using Penergetic-g the liquid manure smells more strongly

This is usually the case when undesirable substances previously contained in the manure begin to dissolve. It shows that the manure is reacting to the treatment. To speed up this phase one could consider adding very finely ground pre-Tertiary dolerite rock dust to the liquid manure.

Further effects of Penergetic-g

21. May liquid manure treated with Penergetic-g be used in water conservation areas?

The application of liquid manure that has been treated with Penergetic-g in water conservation areas is basically recommendable as the increased humification of the earth is conducive to water conservation. However, the law does not distinguish between aerobic and anaerobic manure. Consequently even the use of manure treated with Penergetic-g must accord with the law of the region.

22. Is the air in the stable improved by Penergetic-g?

The application of Penergetic-g stabilizes the ph value of the manure at the neutral level. In this process ammoniac is converted to ammonium which leaves the air far cleaner.

23. Does Penergetic-g improve the structure of the soil?

The long term use of liquid manure that has been treated with Penergetic-g improves the soil structure substantially as it promotes humification. This increases the organic content of the soil, its ability to retain water and hence its fertility.

24. Is there an increase in the nutritive value of the liquid manure?

Since ammoniac is converted to ammonium, the total nutritive value of the manure increases and hence its effectiveness as fertilizer. Decomposed manure also stimulates the life of the soil, generally improving the availability of its nutritive content.

Miscellaneous

25. Can Penergetic-g be used in all manure storage facilities?

Yes, as long as the storage facilities are not airtight.

26. Can a floating mantle still cover the liquid manure after treatment with Penergetic-g?

It takes a certain time for substances floating on the surface to become decomposed. A thin mantle can actually be useful particularly in summer when evaporation is higher.

If the manure storage system has been built to drain the liquid manure off the top, leaving the solids behind, then Penergetic-g will be unable to dissolve the floating mantle. This problem occurs most frequently in manure storage facilities which include an overflow or run-off facility. These would have to be removed.

27. Is application of Penergetic-g possible where the quantity of manure is very small or very large?

Yes, Penergetic-g can always be used

- for very small quantities of manure (less than 50 m³) the dosage should be increased by 20 %.
- for very large quantities (more than 1000 m³) the dosage can be lowered if the whole mass can be stirred well.

28. After application bubbles could be seen in the liquid manure. Later these disappeared. What happened?

It must first be determined whether the aerobic process has been stopped by the presence of retardant substances. If the manure is homogeneous and the air in the stable does not smell of ammoniac, then the process is proceeding normally and the absence of bubbles can be ignored.