

Vulkamin®

Naturally Antiseptic Bedding Powder



Effective Micro-organisms Limited

Benefits of Vulkamin® compared to lime as a bedding powder

When lime is used as a cubicle bedding powder most of it ends up in the slurry. Lime reacts with ammonium nitrogen (NH_4^+) releasing ammonia (NH_3). This nitrogen is lost by evaporation from the slurry reducing its nutrient value. For each kilo of lime (96% calcium carbonate) a loss of up to 180gm nitrogen can be expected, making lime more expensive than we think. **With the price of nitrogen ever increasing, slurry is an increasingly valuable resource for dairy farmers.**

Vulkamin® is rich in nutrients, trace elements and soluble silicic acids.

These minerals are loosely bound in its crystalline structure and can be released later on. These components feed the grass through the soil when slurry is spread, improving the trace elements available to livestock in the forages. Vulkamin® is kind to cows teats and human eyes and hands, it can be applied throughout the year.

How Vulkamin® works as a bedding powder

Vulkamin® consists of a finely ground phonolite, a silicate rock of volcanic origin and its mineralogical peculiarity is that it is rich in zeolites, which have a special hollow crystalline structure. This gives Vulkamin® a large active surface area and is able to absorb large amounts of water. It therefore has a fast drying action, denying microbes the moisture they need to survive.

Being alkali rich it is able to raise the pH in bedding by 2 units in 15 minutes. Microbes cannot tolerate fast changes in pH, giving Vulkamin its disinfectant effect.

The financial losses due to mastitis

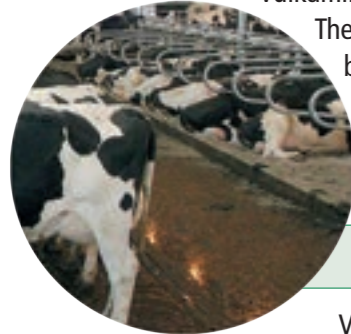
Mastitis remains a major cause of financial loss and animal welfare problems for UK dairy farmers due to:

- Reduced yields and milk quality from subclinical cases
- Cost of treatment and discarded milk from clinical cases
- Culling and increased replacement rates
- Reduced fertility following the inflammatory response to mastitis

A health and culling monitor report 2007/8¹ showed the average cost of mastitis per 100 cows as £4,111 with 17% of cows culled, leaving the herd for mastitis or high cell counts.

A survey² of the incidence of clinical mastitis gave an estimated rate of 47-65 cases /100 cows but encouragingly this was reduced by an average of 22% in those herds following the introduction of an integrated mastitis control plan.

The proportion of mastitis cases due to environmental pathogens has increased over the last 20 years and now accounts for nearly 50% of clinical cases³. However contagious mastitis remains a significant problem in many herds.



Technical Information

Consists of finely ground phonolite, a silicate rock of volcanic origin which is alkali-rich. Naturally rich in nutrients, trace elements and soluble silicic acids and its mineralogical peculiarity is that it contains zeolites*, which are special hollow part minerals. Thanks to the very finely ground elements Vulkamin® has large active surfaces and is thus effective even in small quantities.

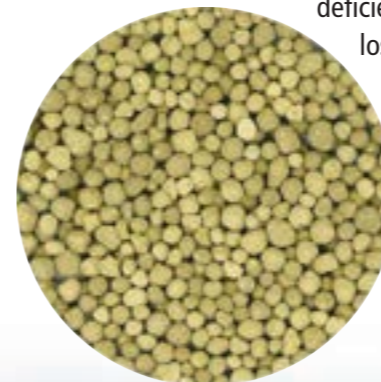
Used as a bedding powder the benefits of Vulkamin® go far further in enriching the soil with nutrients, trace elements and other useful elements in a well balanced proportion which is fundamental to healthy balanced plant nutrition. Contributing to the farm sustainability by reducing fertiliser costs. It balances the "loss of calcium" by its alkaline effect and stabilizes the soil at a favorable pH level - an important condition for good availability of nutrients, intact soil life and a good soil structure. It is rich in soluble silicic acid, which is directly absorbable for plants and strengthens their resistance to fungal disease and other harmful organisms - the use of chemical-synthetic fungicides can thus be reduced.

- Activates available reserves of phosphates in the soil by adding silicic acid - large unused deposits of phosphates can be better used
- Increases the quantity of available sodium, which has the same regulating effect as potassium in the water balance of plants and activation of enzymes - the quantity of potassium needed by plants will thus be reduced and the yield of certain useful plants (such as cabbage, barley) will be increased
- Potassium also helps to give grazing animals a healthy diet
- It is dissolved gradually, providing nutrients and trace elements evenly over a long period of time - the result is a mild effect and a long-lasting improvement of available nutritive elements in the soil
- Erosion is reduced to a minimum
- Improves conditions for micro-organisms living in the soil, especially for nitrogen-binding bacteria
- Using Vulkamin® is the best way of producing fertile soils over a long period of time

Enrich the soil with Vulkamin® Granulate

Vulkamin® is also available in granulate to be spread as a fertiliser. The soil needs more than N/P/K and can become depleted of essential trace elements which can prevent vigorous plant growth and increase the risk of soil/plant disease by diminished soil fertility. Soils with a low humus % are especially susceptible to trace element deficiency. The granulate subsistency is ideal for efficient spreading with minimal

losses. Zinc plays an important part in the formation of protein & enzymes in the plant. The titanium in Vulkamin® will contribute to the cow fertility for dairy farmers. Cobalt has been proven to support the cows immune system and boron is essential for healthy plant growth.



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Vulkamin® Analysis:

| Element | | | |
|-------------|--------------------------------|-------|------|
| Silicon | SiO ₂ | % | 48.2 |
| Aluminium | Al ₂ O ₃ | % | 18.1 |
| Sodium | Na ₂ O | % | 5.9 |
| Calcium | CaO | % | 8.3 |
| Potassium | K ₂ O | % | 5.1 |
| Iron | Fe ₂ O ₃ | % | 4.1 |
| Sulphur | S | % | 0.1 |
| Magnesium | MgO | % | 1 |
| Phosphorous | P ₂ O ₅ | % | 0.2 |
| Manganese | MnO | % | 0.2 |
| Zinc | Zn | mg/Kg | 760 |
| Boron | B | mg/Kg | 0.1 |
| Copper | Cu | mg/Kg | 11.5 |
| Cobalt | Co | mg/Kg | 6.5 |
| Molybdenum | Mo | mg/Kg | 9 |
| Water | | % | 6.7 |

Vulkamin® consists of a soft grey finely ground silicate rock of volcanic origin. Vulkamin® is naturally rich in nutrients, trace elements and soluble silicic acids. Its mineralogical peculiarity gives it natural antiseptic qualities.

**Available in 1000Kg
and 25Kg bags**



Application:

Cubicles: Spread a thin layer daily (50-100gm) of Vulkamin® where the bedding comes into contact with the udders and on damp areas.

Critical care areas: Calving boxes and calf pens; Lambing sheds and pens; Spread all over the floor daily at approximately 50gms m².

Stables: Spread all over the stable floor daily at approximately 50gm/m².

What do our customers say about Vulkamin®?

"We have found Vulkamin® to be a lot kinder to our cows teats, causing no irritation. It is less dusty than lime and so it is better for the person distributing it and in our slatted building the smell of ammonia has been greatly reduced. Having it in a 1000kg bag means less farm waste as well"

Devon Farmer

"I am really pleased with Vulkamin®. It is very soft on the teats and hands. We have been able to manage cell counts a lot better and have found it to be very cost effective against lime"

Cornish farmer

"Vulkamin® is a lot cheaper than our previously used product. It is also far superior from a health and safety aspect and is an excellent choice for all our cows and staff"

Devon farmer

"We started using Vulkamin® in Nov 2009 after hearing good reviews about it in the area. It is very easy to apply to the cubicles and cases of mastitis have definitely reduced over the winter period"

Devon farmer

Your Dealer:

EM® Effective Micro-organisms Ltd

E-mail › info@effectivemicro-organisms.co.uk Website › www.effectivemicro-organisms.co.uk

Vulkamin® is a naturally antiseptic bedding powder and is rapidly becoming the preferred cubicle bedding powder used in animal husbandry. In both cubicles and loose housing systems the beneficial properties of Vulkamin® are quickly noticed.

- **Fast drying capacity**
- **Disinfectant to prevent cross contamination and infection**
- **Improves and maintains the hygiene of the bedding**
- **Kill time less than 15 minutes**
- **pH rises by 2 points in 10 minutes**
- **Kind to teats and hands**
- **Minimal loss of nitrogen**
- **Increases mineral content in forage**

