

BioAktiv Liquid Manure mode of action

How BioAktiv helps to deal with it

Over the last few decades, industrial nations have dramatically increased their food production from animal protein. As conventional agriculture was unable to meet the demand for meat and meat products, they developed factory farming which uses the latest scientific findings to rear, slaughter and market animals for the sole purpose of producing high-quality meat.

It is this type of livestock management that has made liquid manure a problem. The animal droppings fall through slatted floors into channels, are mostly stored in basins and spread on fields at certain times as natural dung.

In conventional farming, the excrements fall on the ground that provides feed for the animals and are digested by aerobic bacteria which recycle nutrients to the soil. Liquid manure handling completely modifies this natural process because feces are kept in channels, tanks and deep basins for months. While the aerobic strains are decimated by a lack of oxygen, the growth of putrefactive anaerobic bacteria makes liquid manure worthless as a natural substance. And whereas aerobic decay leaves living cells intact, anaerobic rotting breaks all organic matter down into its chemical constituents, liberating ill-smelling and poisonous gases which foul the environment and are lost as dung. Apart from being a nuisance for people and animals alike, this leads to considerable costs in the form of gigantic agitators built into the big basins to inject air into liquid manure. These stirring devices use enormous amounts of energy and cause a stench which pollutes the environment. Similar malodors result when liquid manure is spread on fields. The air which hundreds of animals breathe in cattle houses is so fouled that powerful ventilation systems are needed to prevent health hazards.

With extremely low costs, BioAktiv is ideal for this type of livestock management and benefits every animal

A specified amount of BioAktiv powder, which has been informed with the natural vibration of oxygen, is added to the feed or drinking water and thus ingested by the animals.

Alternatively, the powder may be dissolved in fresh water and directly mixed into the liquid manure, 1 - 2 kg being sufficient for 100 m³. Stimulated by oxygen vibration, aerobic bacteria strains multiply while putrefactive bacteria are reduced at the same time. The aerobic bacteria initially draw oxygen from the added freshwater which contains BioAktiv powder, or directly on leaving the animal from the surface of slatted floors and liquid manure channels. Their energy comes from the digestion of organic materials in which they "burn" carbon as all living creatures do. The resulting carbon dioxide (CO₂) is "exhaled" and has a dual function:

Firstly, it dissolves in the liquid of the manure (as CO₂ does in mineral water). At the same time, it is taken in by plant microorganisms such as algae and mosses known as the microflora, which then multiply. These monocellular organisms can assimilate, i.e. separate carbon from oxygen atoms, in the dark because they need only carbon. Oxygen is given off to the environment, i.e. the liquid manure, so that oxygen-loving aerobic bacteria can thrive. This in turn reduces putrefaction, and the liquid manure retains its organic value and turns a greenish color as the process intensifies continuously. **Secondly**, CO₂ acts as carbonic acid. At about 7.8 – 8, the pH of liquid manure is feebly basic in most cases, which has several negative effects. One is that in an alkaline environment, where the pH is above 7, the nitrogen compound NH₄ (ammonia nitrogen) breaks down into the poison gas NH₃ (ammonia). This does not happen at a pH of 7 or less where ammonia release is reduced or stopped. The liquid manure thus retains valuable and plant-available nitrogen so that no nitrogen fertilizer is necessary. At the same time, the air inside the shed and the ambient air are not polluted, which greatly benefits animal health. A very important logistic side effect for farmers is the fluidity, or viscosity, of liquid manure.

BioAktiv makes it flow better through channels and it can be pumped, which makes for better handling and spreading. In addition, spreading causes much less odor than in the case of untreated liquid manure. The treated substance has a neutral pH and therefore does not scorch crops when applied as a top dressing. **BioAktiv – the benefit is much greater than the cost**

VIDEO LINK:

How BA Liquid Manure (EvoActiv) stimulates microbes in the water <https://youtu.be/DRIWTigrbsl>