



Leading Innovators in Farming Sustainability Technology 2021 - UK

Aerobact Limited, located at Keel University Science and Business Park, Staffordshire, have won an award for Leading Innovators in Farming Sustainability Technology 2021 – UK. With its creative technology and state of the art products and services, Aerobact is making valuable contributions to the future of innovation in farming.

Aerobact Limited has developed from over 20 years of experience supplying aeration systems to the wastewater industry using its research undertaken with the support of Staffordshire University and Keele University. Among its innovations is the ground-breaking Slurry Conditioning System that is already pioneering revolution in farming practices of the UK.

Its Slurry Mixing and conditioning System is easy to install, user friendly and extremely cost effective. Other benefits of its unparalleled product are that it captures lost nitrogen, ammonium nitrogen increases between 100% to 400% as

it captures the normally lost nitrogen (ammonia gassing), which means it will grow more grass for the same effort and its retrofittable with no need to empty the store first.

Grass requires nitrogen and other nutrients to grow and the natural bacteria in the soil breakdown sources of Nitrogen to form inorganic soluble nitrate. When manure is produced in the field, this process occurs naturally (The Nitrogen Cycle). However, during storage, anaerobic conditions are created which results in the production of lethal gasses including methane and deadly hydrogen sulphide. Pungent odours are produced, and significant amounts of nitrogen are lost as ammonia gas (up to 80%).

Using the Aerobact system provides oxygen to change the bioecology of the slurry to meet Biological Oxygen Demand (BOD) and create a partial aerobic environment for the selected bacteria to thrive. Additionally, the resultant liquid is homogenous and a plant friendly fertiliser.

Furthermore, the system uses unique fine bubble diffusers which require no fixing and are easy to install. Fine bubbles need less energy to produce and provide a highly efficient transfer of oxygen. Rising bubbles create an excellent mixing action allowing aerobic bacteria to digest biosolids. The anaerobic conditions are significantly reduced and, in some cases,

eliminated altogether. The nitrogen that would otherwise be lost is then captured within the liquid. Maximising the use and value of slurry is vital to keeping farm costs down and protecting customers against ever increasing artificial fertiliser costs. Its air diffusers are easily installed as well, as they are simply thrown into the liquid and allowed to sink to the bottom. Additionally, the diffusers can be easily removed. The inoculant of micro-organisms is added only once, then the aeration creates a healthy environment for the bacteria to thrive and multiply.

Overall, the Slurry Aeration and Microbial Systems captures nitrogen, reduces lethal and toxic gasses, its homogenous liquid is ready to spread, it reduces odour, enhances grass yield, and is a plant friendly fertiliser. With innovation exemplified in systems like these, Aerobact is making great strides in farming technology, leading the way in sustainable farming practices that will support and nurture our planet for generations to come.

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