ACTIVE-NS: A NEW OPPORTUNITY FOR SOLVING LIQUID MANURE MANAGEMENT PROBLEMS IN ANIMAL FARMS

Reference test results obtained in MESTER-PIG Kft's pig farm

The most common problems relating to liquid manure management include high ammonia emission and the related increase in ear abrasion, formation of pockets of solidified manure, the occurrence of blockages when the manure is drained, and the resulting wastage of large amounts of water. Active NS offers a solution to such problems.

Location of reference test

The additive Active NS was tested in practice in the pig rearing buildings of MESTER-PIG Sertéstenyésztő Kft. The testing involved measuring the effect of the preparation on the composition of air in the pig rearing establishment, the acidity, sedimentation and drainage of liquid manure, as well as recording the number and severity of ear abrasions. Samples taken from the produced liquid manure were subjected to sedimentation tests in the laboratory of Károly Róbert College.

Results

Acidity of liquid manure: The acidity of liquid manure proved to be lower (average pH value of 6 to 6.3) in the lagoons treated with the additive Active NS than in the control lagoons. The difference was between 0.2 and 0.5.

Concentration of harmful gases: No contamination with harmful gases (NH_3, CH_4, H_2S) could be demonstrated in the case of the rooms where treatment with the additive was applied. In the control rooms, ammonia, sulphur-dioxide and some methane contamination was measurable on a regular basis.

Homogeneity of liquid manure: The liquid manure samples taken in the pig farm were subjected to 1-10-24-168-240-hour sedimentation tests under laboratory circumstances to establish the effects of Active NS application on the sedimentation and homogeneity of liquid manure.
Our data show that the samples treated with Active NS were more homogeneous and had better rheological properties than the control samples.
The samples taken from various depths showed more even dry matter, ash and organic matter distribution as a result of treatment. As regards the distribution of dry matter content in the studied three layers, the proportions were 20:20:60 in the control sample and 30:33:37% in the treated sample, which means that the treatment provided a virtually even distribution.

Experiences with draining: The time required for draining reduced from 3-4 hours to 1-1.5 hours. As a result of treatment, the liquid manure became more even, and no pockets of solidified liquid manure could be formed. Since less rinsing was required in the draining process, water consumption could be reduced considerably. Blockages did not occur at all.

Frequency of ear injuries: The frequency of injuries and abrasions reduced by cca. 60% to some one-third of the frequency observed in the control group. The size of abrasions was significantly smaller in the test group that received Active NS treatment, and the majority of abrasions healed by the end of the rearing period. The abrasion rate was 92% in the control group (210 out of 229) and only 25-30% (45 out of 181 and 72 out of 233) in the test group.

FCSI ApS · Aagade Syd 99 · DK-8620 Kjellerup · Tel: +45 8688 1510 · Mobile: +45 2175 7136
info@slurryadditive.com · www.slurryadditive.com · info@fcsi.dk · www.fcsi.dk

Csaba Mihalik (MESTER-PIG Sertéstenyésztő Kft.) summarises the experiences as follows:
We use a liquid manure system in our pig farming establishment. Blockages used to be a daily problem. Another problem was the high frequency of ear abrasions, primarily in pigs kept in battery cages.

As a result of applying the additive Active NS, the homogeneity of liquid manure has improved, draining has become much easier, and blockages have stopped to occur. Since much less sedimentation can be expected in the storage tank, it will be easier to pump the manure when it is discharged onto the cropland.
The concentration of harmful gases has reduced in the pig rearing areas, which has led to a significant decrease in the number and severity of ear injuries, also making a beneficial impact on weight increase.