

Waste water from Milk processing Sewage plant, Ökodorf Brodowin, Deutschland



Ökodorf Brodowin
<http://www.brodowin.de/>

Operation
1 liquid manure- and waste water basin with 5.000 m³ with OLOID Type 400

Period
Since 1998

Success
Reliable reduction of odours

Resolving of floating layer

Reduced energy consumption

Ökodorf Brodowin uses a circular basin with 960 m³ (diameter 18m) to collect its wastewater from milk processing, (15 m³/d), liquid cattle manure (5 m³/d) and domestic sewage. In January 1998 an OLOID Type 400 A was installed in this basin for aeration and homogenisation.

Prior to 1998 the floating layer on the basins liquid was so massive that plants and small trees grew on it. A small part of it had to be removed to install the OLOID. Three months after installation the entire floating layer was dissolved (see picture above). Aeration leads to a partial nitrification of the ammonia.

The treated manure is much more valuable for the plants than untreated manure:

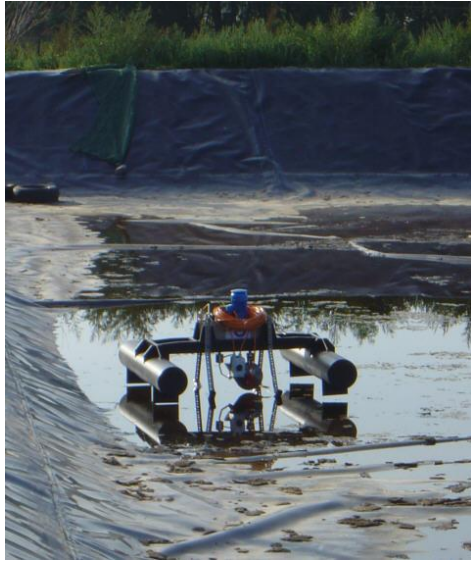
The plants are not burned anymore when manure is applied and there is no stop in growing anymore. When untreated manure was applied, the plants stopped to grow for about two weeks.

Oxygen concentration does not drop much after application of the manure anymore and roots grow better. Nutrients are taken up the roots much better, so less nutrients are washed away into run-off and ground water.

In 2003 a basin was build for as a storage for manure during winter. This became necessary as it is not allowed to apply liquid manure on frozen soil. The basin is covered with a geomembrane.

The basins size and big surface area (50 x 50 m = 2,500 m²) and its low depth (1.5 to 2 m) are advantageous because much oxygen is introduced at the waters surface by circulation.

The new basin 2003



BOD₅ (biological oxygen demand in five days) and temperature in the new basin from its first filling until August 2004. BOD₅ is a measure for the organic loading of the water. A high BOD₅ can lead to a lack of oxygen in the soil.

