

Holistic application of EM Technology leads to a large odor reduction and a virtuous cycle in the farm.

The Kawamura Hog & Dairy Raiser Association uses EM Technology widely inside their farm and its surroundings. Good quality Activated EM is added to the drinking water of the cows and hogs. EM rice bran bokashi is mixed to the feed to help in its fermentation. The beneficial microbes in the bokashi help maintain the balance of the intestinal microbes of the animals. The animals grow faster and naturally healthier. After the start of EM use, there has been very significant smell reduction in the animal dung and an improvement in the overall sanitation of the sheds. The benefits that they have received from the use of EM Technology include better meat quality offered at the market and expense reduction from the hogshed bedding and electricity for heating.

■ Drinking water application



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Good quality Activated EM is injected into the drinking water source. EM Ceramics is also hung inside the water source tank.

■ Feed application

The feed is made from *tofu* byproducts taken from a *tofu* processing company and mixed with EM bokashi. A sweet-sour smelling fermented feed is made through this process.

■ Compost recycling

The dung from the EM treated cows help keep the bedding material from deteriorating quickly, making it last longer. Also, the dung do not stick on the cows laying on them, keeping the cows clean. The bedding material mixed with dung is taken from the cowshed and then transferred to the hogshed where it is composted. The compost heap's temperature rises up to 80°C, suppressing the harmful microbes. After this, the compost is used as bedding (about 40cm thick) for the hogs in the fattening phase. After the fattening period, the recycled compost bedding is transferred to the large-scale composting area. The compost is turned over and only has very little smell. The appearance of white fungi covering the compost indicates that the fermentation is going on well.

■ Waste Disposal

The waste goes to an open septic tank. Only a little smell could be detected from it. The waste liquid goes through a clarifier in an old processing tank. With the holistic use of EM Technology, the processing time of the sewage is cut by half of the initial processing time. This is another energy savings factor. The wastewater from the final settling tank is sprayed on the pasture grass nearby, making them lush.

■ Aiming for holistic recycling

The EM treated wastewater has become highly-functional in growing lush pasture grass which becomes silage for the cows and is the start of the eco-friendly resource cycle. One aim of the farm in the future is to process the wastewater to become multi-purpose recycled water.

■ Summary of observed benefits of EM use

- Widescale improvement in foul odor control and suppression of insect attacks
- Higher valuation of the meat at the market indicates improvement in the quality
- Improved birth rate; lowered mortality rate.
- Decrease in the rate of fatalities of the animals
- Actualization of energy savings management practices



■ Compost recycling process ■ Waste disposal process

