



## TREATMENT OF DEJECTIONS IN PIG FARMING

Starting from results obtained in previous experiments with specific treatments using **E-LINE Wastewaters** by **NEPH**, research has been done in animal farming.

For such purpose environmental work has been performed applying **Z-LINE Pig, Sheep & Cattle Farming** plus **E-LINE Wastewaters**.

Hereafters are described and explained some of the experiments.

## E-LINE WASTEWATERS

Treatment of wastewaters from pig farming has been done with the express goal of integrating the wastewaters in byproducts recyclable either at farming level or as wastewaters in the normal treatment ways, with the lowest possible polluting loads.

## CONCLUSIONS

The results have gone beyond what expected and obtained in laboratory tests.

The treatment resolves ultimately the problem of solid residues and of liquids generated by the process of industrial farming and fattening of pigs. The parameters of treated wastewaters are within the norm for insertion in the normal sewage ways, with the possibility of using for irrigation. All foul smells are eliminated after a very short time, sanitizing drastically the stables and animal beddings.

Wastewaters are of a different color and, very important, ready for an immediate usage in agriculture.

The proposed process is activated with **Z-LINE Pig, Sheep & Cattle Farming** plus **E-LINE Wastewaters**. The system lends itself to the easy use within the necessity and affordability of any farm.

## FIELDS OF APPLICATION

Stables in general, pig farms, poultry and fur animals farms, fish farming. With the usage of bio-degradation sumps it is possible to completely eliminate all solid farming wastes.

It is a mixture of enzymes, natural humus and a liquid catalyzer that modifies the toxic reactions of waste, eliminating ammonia and sulphuric exhalations. **Z-LINE Pig, Sheep & Cattle Farming** is a strong oxidant of organic matter with a stabilizing effect and capabilities of activating the existing biomass. With **Z-LINE Pig, Sheep & Cattle Farming** it is possible to control coli bacteria and other pathogenic agents responsible of several illnesses in zootechnics. As already mentioned it is possible to obtain compost from solid dejections with better qualities and ready for agriculture usage.

## EFFECTS

**Z-LINE Pig, Sheep & Cattle Farming** improves the animal environment, reducing ammonia exhalations in stables and bedding which create respiratory, feeding and digestion problems etc. It reduces coli bacteria presence and humifies rapidly solid and liquid animal dejections.



It eliminates organic crust formations, reduces the presence of insects in stables. Eventually it reduces animal mortality due to having them live in a better overall environment and reduces the need for environment unfriendly chemical agents.

### **Z-LINE Pig, Sheep & Cattle Farming and E-LINE Wastewaters by NEPH.**

The combined utilization of **Z-LINE Pig, Sheep & Cattle Farming** and **E-LINE Wastewaters** by **NEPH** has been tested at many industrial-farming plants in central Europe.

In these farms mortality rates were relevant. During the test were also noticed the possibility of reducing water consumptions due to mixing sumps for making liquid and solid dejections flow. Such a system requires the automatic discharge three times a day of approximately 6 cubic meters of water.

### **PROPOSED TREATMENT PROGRAM**

A treatment program has been carried out entailing the application of **Z-LINE Pig, Sheep & Cattle Farming** every 15 days on the floors of two selected stables for a period of 90 days. The automatic operations of mixers were stopped, operating them manually once a month in a joint decision with farming personnel.

### **CONCLUSIONS**

As of the first application the ammonia level dropped dramatically from **30 ppm** before the treatment to values lower than **2 ppm** in a permanent way. Also very noticeable has been the reduction in insects and fly population. By the end of the application a **mortality reduction of 46%** compared to the preceding batch was measured.

### **BIO-REMEDY**

At experimental level it was tested a bio-degradation treatment for carcasses in mass graves with the application of **Z-LINE Pig, Sheep & Cattle Farming**.

The test was carried out on a set of mass graves of one of the farms of the area – six full or partially full graves with severe foul smell and insects problems. With the application of **Z-LINE Pig, Sheep & Cattle Farming** to the content of such graves, the biodegradation process was strongly activated reducing drastically the traditional disintegration time and the associated odors.

### **NOTE**

1. Bio safety of the farm was not affected.
2. The treatment and the application of products are extremely simple, safe and economical.
3. The process is completely with current norms and regulations .
4. The final residue is an extremely valid fertilizer.
5. The graves could be reutilized at the end of the cycle.

The bio remedy work was also extended to other areas and productive zones, and with other work groups dealing with pigs and poultry, looking for technologies that could improve the overall process within complete environmental safety.



With of **Z-LINE Pig, Sheep & Cattle Farming** it is possible to utilize filtered and fresh dejections in open fields avoiding toxic and smelly exhalations.

#### **SPECIFIC BENEFITS IN ZOOTECHNICS:**

**NO ODOR** – Reduction and/or elimination of foul smell generated by ammonia exhalations and sulphur based products; in yards, stables, graves, maternities, farms, fattening stages, dejection heaps, etc.

**MORTALITY REDUCTION** – Mortality reduction due to handling and installations.

**GROWTH** – Given the better environment for the animals, growth rate is increased during weaning, development and fattening period, with an associated savings in animal feed all along.

**NO CHEMICALS** – Decrease or elimination of chemical agent usage, with less toxic elements exposed to the environment.

**RAPID HUMIFICATION PHASE** – The product accelerate the process of fragmenting and degrading organic waste, with a consequent more rapid transformation of lignin, cellulose and heavily digestible polysaccharides, as well as organic compost of monogastric animals.

**BETTER FEEDING PROCESS QUALITY** – Adding **Z-LINE Pig, Sheep & Cattle Farming** by **NEPH** results in additional benefits because the animal feeds in a healthier environment, desires higher quantities without risking bad consequences for development and the fattening phase.

**NO CONTAMINANTS** – The enzyme action of **Z-LINE Pig, Sheep & Cattle Farming** allows a better separation of liquids and solids phases, which is a condition that facilitates the treatment of wastewaters in a non-contaminating biological way.

**HYGIENE** – Humification has a hygiene action due to enzymes and co-enzymes that antagonize pathogenic germs, virus and fungi. They also accelerate the transformation of organic matter inhibiting the formation of larvae, interrupting the fly reproduction cycle, originating a product very rich in organic matter which is easily bio-available, allowing a reduction of chemical fertilizers for a better agriculture and/or gardening.

**SAVINGS IN WATER CONSUMPTION** – Utilization of these products decreases the need of frequently washing yards, stables, grates, etc so smaller amounts of water are needed in the overall farming process.

**AVOIDS CRUSTS** – The frequent application of the products prevents the formation of solid crusts that are normally difficult to eliminate and are a breeding ground for pathogenic germs. It facilitates the evacuation of dejections and keeps ducts cleaner and without foul smell.

**ELECTRIC ENERGY SAVING** – Avoiding the formation of ammonia exhalations, sulphur and mercaptans the utilization of ventilation equipment is strongly reduced inside stables.



**BENEFITS OF USING Z-LINE Pig, Sheep & Cattle Farming IN FINAL DISPOSING OF CARCASSES, PLACENTAE AND PIGS.**

**NO FOUL SMELLS** – applying **Z-LINE Pig, Sheep & Cattle Farming** right from the very beginning it is noticeable a strong decrease of foul smell of decomposition. Additional treatments will be easier to apply since will be carried out in absence of foul smell.

**TRANSFORMATION OF ORGANIC MATTER** – It speeds up the degradation process of organic matter, supplying at the end residue that are much easier to manipulate.

**INSECT CONTROL** – The components of the product strongly reduce the proliferation of larvae interrupting the reproduction chain.

**ECONOMIC PROCESS** – The process of applying the product is very simple and rapid in execution. There are no sophisticated machineries involved and the only rule is that once the process has started it is enough to keep adding the product proportionally to the new quantities to treat.