

(6.48 kg). Thus, *the risks of feed intake increase depending on seasonal influences* penalized more the females, not restricted during early growth.

For production in batches of separated sexes (DESMOULIN, 1969-1971), seasonal feed restrictions can be accompanied by a preferential choice of cereals : maize in the castrates, barley in the females.

---

**Survey on the monitoring  
of an aeration processed waste disposal unit treating a mixture  
of swine and cattle manure**

J. SENNELIER, P. POULET, J.-P. RAYNAUD

*Station de R et D. Vétérinaire et Nutrition animale,  
Pfizer International, B.P. 42,  
37400 Amboise*

*Biologie appliquée, Option Hygiène de l'Environnement,  
Institut Universitaire de Technologie,  
37000 Tours*

---

We are presenting the results of the handling of a waste disposal unit (aeration process) treating a mixture of swine and cattle waste. This study was undertaken to obtain an acceptable effluent and to improve the efficiency of this unit. It was demonstrated that the following measures had to be followed for a good processing :

1) Screening to retain non biodegradable crude fibres (important if dairy cattle). It is not necessary to use too fine a screen as we found that there was practically non difference between a 400 and 600 screen.

2) Sufficient quantity of water to obtain a diluted manure. In this unit, we found that the decantation was disturbed when over 9 g/l of total suspended solids were present in the oxidation tanks. With a maximum sludge load of 35 kg of BOD<sub>5</sub>/day, the volume of water varied between 30 and 50 m<sup>3</sup>/day.

3) A correct concentration of oxygen in the oxidation tanks and a sufficient flow of the return sludge. After studying the evolution of the microflora involved in the nitrogen cycle, of the different forms of nitrogen in the effluent and of the concentrations of dissolved oxygen obtained in the oxidation tanks, we were able to determine an optimum operating time for the compressor (the average temperature of the water : 17°C) of 65 p. 100 *i. e.* 15.6 hours/day.

We estimated the operating cost at 86 F/day. This is a high figure, but if we estimate the maximum possible total pollution given by swine only, it is comparable to already published costs on similar units : 33 F for 1 swine from weaning to slaughter.

---