

aleatory part of which the overall system takes advantage. Generally speaking, the heterogeneity of the production units provides each system with the flexibility required for obtaining correct reactions to environmental changes.

VI. — ENVIRONNEMENT

Mineral composition of swine waste. Agronomic value

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The aim of the present study was to determine the mineral composition of swine waste. The influence of various factors (storage, physiological stage, ration) was examined. Furthermore a complete study was made on a total of 96 waste samples. The findings show a large variability in the mineral content. The only related parameters seemed to be the total nitrogen content and the ammonia content.

1 m³ of swine waste with 5 p. 100 dry matter contains :

- 4.5-11.5 nitrogen units,
- 3-7 potassium units,
- 3.5-7.5 phosphoric acid units.

Influence of a high pesticide (Lindane) level in the diet on ovulation rate and embryonic mortality in the sow

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The purpose of the present experiment was to examine if a more or less massive ingestion of the pesticide lindane affects the ovulation rate and embryonic mortality in multiparous sows and to study the distribution of the insecticide within different organs.

The experiment was made on 18 sows divided into 3 groups of 6 animals. They were fed individually during the whole experiment a diet contaminated with one of the three following doses of lindane : 0, 50 or 500 p.p.m. The experiment started at the beginning of an oestrus cycle ; after this cycle, the animals were mated and kept pregnant for about one month and thereafter slaughtered.

The growth rate, but not the feed intake seemed to be reduced when the animals were in sexual inactivity : 432 g/day in groups 2 (50 p.p.m.) and 3 (500 p.p.m.) versus 530 g in group 1 (0 p.p.m.). This unfavourable effect was not observed any more during pregnancy.

On the other hand, no differences were recorded between the groups with respect to ovulation rate (group 1 : 13.2 ; group 2 : 13.8 ; group 3 : 14.0), number of viable embryos at 30 days of pregnancy (group 1 : 9.5 ; group 2 ; 10.3 ; group 3 : 10.5), mean weight of the embryos and weight of embryonic adnexa.

The amounts of lindane detected in the embryo or in the embryonic adnexa were small and proportional to the particle content of the diet (in the embryo : group 1 : 0.0009 p.p.m. of lindane ; group 2 : 0.021 ; group 3 : 0.241).

Pesticide contents of the adipose tissue were comparable as regards backfat and leaf fat and were higher in group 3 (82.2 p.p.m.) as compared to group 2 (6.8 p.p.m.).

The ratio between lindane concentrations in the adipose tissue and the blood was of the same magnitude in groups 2 (650) and 3 (980).

All organs and tissues analysed were contaminated after even small consumptions of pesticide, but this contamination appears to be somewhat proportional to the contamination of the diet.
