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Influence of air temperature and velocity on performances of piglets weaned at 3 weeks

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Two experiments were carried out in order to study the influence of temperature (trial 1) and air velocity (trial 2) on the performances of piglets weaned at 22 days, on an average, and raised for 6 weeks (from 22 to 64 days of age) in a 1 tiers battery. The piglets were kept in groups of 6 on an area of 0,24 m² per animal and were fed *ad libitum*.

Trial 1 was divided into 2 parts:

- a) comparison of performances obtained at 30 and 25 °C (48 × 2 piglets);
- b) comparison of performances obtained at 20 and 25 °C (48 × 2 piglets).

The group reared at 25 °C constituted the control group for comparison of the 3 treatments. Two diets containing 4 and 9 per cent copra oil were used. Considering the overall period of measurements, the growth rate (g/d), feed intake (g/d) and feed conversion ratio decreased linearly with the temperature increase, i.e. 433, 655 and 1.51, respectively at 20 °C; 388, 579 and 1.49 at 25 °C; 374, 548 and 1.45 at 30 °C. Growth rates obtained at 20 and 30 °C were significantly different ($P < 0.01$). At 30 °C, the feed conversion ratio was 25 per cent ($P < 0.10$) lower than at 20 °C during the second week of the trial and 11 per cent lower during the 3rd and 4th weeks. The rise in the energy level of the diet did not significantly affect the growth performance and feed intake of the animals. Neither the air temperature nor the copra oil content of the diets had any significant effect on the apparent digestibility of the energy of the diets.

Trial 2 was made on 96 piglets distributed into 2 groups and placed in 2 compartments with similar room temperature (26 °C summer, no heating). The air velocity was constant (10 cm.s⁻¹) in one of the compartments; in the other it was increased to 40 cm.s⁻¹ between 10.00 a.m. and 4.00 p.m.

For the whole period of measurements, a temporary increase in air velocity during the day had no marked effect either on growth rate (397 *versus* 379 g/d), feed intake (604 *versus* 591 g/d) or feed conversion ratio (1.54 *versus* 1.61).

Composition of pig manure : Influence of the type of management

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An investigation was made to ascertain the agricultural value of whole pig manure. A proximate chemical analysis was performed to measure NTK, P₂O₅, K₂O and trace elements in 26 samples.

Among the samples collected in storage pits, a high correlation was found between dry matter content and NTK and P₂O₅ concentration.

NTK (g/l) = 0.53 (DM p. cent) + 3.16 $r = + 0.80$
P₂O₅ (g/l) = 0.7 (DM p. cent) + 1.25 $r = + 0.84$