

VII. — HOUSING AND ENVIRONMENT

**Rearing houses for early weaned piglets. Realization,
control of environment, investment and energy expenditure**

A. AUMAITRE, J. LE PAN, L. BINA

*Station de Recherches sur l'Élevage des Porcs, I. N. R. A., C. N. R. Z.,
78350 Jouy en Josas*

Rearing houses for piglets weaned at 12 days and placed by litter in batteries (3 tiers with 3 cages each) were constructed for housing the production in successive batches of 25 to 30 sows. On account of the particular environmental conditions required by the animals (mean temperature of the air : 25°C, relative humidity 50 to 70 p. 100, velocity of the air as slow as possible and close to 0.10 m s⁻¹), the thermic isolation of the floors, walls and ceilings was good (mean $k = 0.60$) and the rooms were heated either electrically (with accumulation) (2 houses) or by propane gas (3 houses). These piggeries were used for an experiment on early weaning in batteries conducted in 5 farms in the « Côtes du Nord » region. In spite of heating and conditioning costs, the housing cost price per animal always remained lower than that of an animal of same weight suckled by the dam or reared on the floor in a classical piggery. Using the principal values registered for air temperature, relative humidity (by means of the temperature of the dry and moist bulb) and velocity of the air (by means of the kata thermometer) it was possible to check the homogeneity of the pre-conditioned environmental standard conditions. However, it was noticed in the region with sea climate where the relative humidity of the air was high (90 to 95 p. 100) that the saturation level of the air inside the houses was low in winter and very high in summer ; such a result might be explained by the necessity of treating the rooms during the winter.

Measurements of the amounts of energy consumed were made over 2 years from a total of 403 days of recordings in 2 piggeries fitted with electric radiators and 1 505 days in 3 piggeries fitted with a propane gas generator and calculated for each piglet produced. The daily expenditure per piglet for heating was estimated to 500 kcal (93 p. 100 of the electric current at night price) and 1 000 kcal for the buildings fitted with gas heating, corresponding in 1973 to 1.22 F/piglet and 1.58 F/piglet, respectively, which was less expensive than the heating costs of an infra-red lamp.

According to the data collected, the following microclimatic standard conditions ;

- air temperature 23-26°C ;
- relative humidity ranging from 30 to 70 p. 100 ;
- air velocity under 0.10 m s⁻¹ ;

allow obtention of good performances in piglets placed in batteries with wire-floor. The rhythm of ventilation should be very low in winter (5 renewals per hour or 3.5 m³/piglet seem to be sufficient), but in summer should depend not only on the high temperatures, but also on the relative humidity of the air.