

## Comparative study of rabbit crossbreeding, between-breed and within-breed relationships between traits of the terminal products

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A total of 325 hybrid young rabbits of both sexes, born of nulliparous females *I.N.R.A. 1067* and of males from seven strains differing in adult weight, weaned at 4 weeks, contemporaneously raised in individual cages, fed *ad libitum* with the same standard diet and killed at 11 weeks, were examined.

The paternal strains were giant-sized (*Geant des Flandres* : 5,8 kg; *Géant du Bouscat* : 5,3 kg), middle-sized (*I.N.R.A. 1027*, experimentally selected on growth rate : 3,8 kg; *I.N.R.A. 1077* control strain raised without selection : 3,7 kg; *Rex Havane* : 3,5 kg) or small-sized (*I.N.R.A. 1089* : 2,8 kg; *Nain de Couleur* : 1,7 kg). The adult mean weight of females *I.N.R.A. 1067* was 3,6 kg.

At 11 weeks, the carcass fatness and the dry matter and lipid contents of muscle tissue were high in the hybrids from small-sized paternal strains and, within-type of crossing, in the heaviest young rabbits. The feed conversion ratio between 4 and 11 weeks was lower both in the rabbits of large-sized strains and, within-type of crossing, in the heaviest rabbits at 11 weeks.

These results indicate that the productive efficiency and the body maturity present different relationships between or within genetic types. In the latter case, it appears that a high maturity at killing and a reduced production cost are compatible objectives.

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### VI. — HYGIENE AND PATHOLOGY

#### Obtaining and rearing of axenic and gnotoxenic rabbits. The heteroxenic rabbit: first results

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Young rabbits obtained by aseptic hysterectomy were raised in an isolator and fed either with artificial milk derived from cow's milk or with rabbit's milk. The artificial milk was autoclaved for 20 min. at 120 °C whereas the rabbit's milk was sterilized by irradiation (4 Mrads) after lyophilization. The young were kept in the axenic state until weaning (28 days); thereafter they received either BROMONT's flora of 3 bacteria, or a mixture of strictly anaerobic bacteria from rats or mice, capable of reducing the developpement of the caecum in the rat, or a mixture of 8 bacteria from the hare caecum and allowing the gnotoxenic hare to survive.

Among the 82 young rabbits fed with the artificial milk only 4 were weaned; 15 died from false deglutition and 51 from allergic-like pneumonia. Among the 72 young rabbits fed with rabbit's milk, 52 were weaned; 13 died from false deglutition, 10 from an intestinal haemorrhagic syndrome. The growth of the axenic young receiving rabbit's milk was similar to that of the conventional young rabbits.

The axenic young died after weaning and their caecum was hyperdeveloped. The rabbits harboring a microflora survived. In the case of the trixenic flora, the hyperdevelopment of the caecum was detrimental to pregnancy. Rat and mouse flora reduced the development of the caecum; in the case of the hare flora including 8 bacteria, a reproductive life was possible.

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