

A. — RABBIT RESEARCH

I. — Nutrition and feeding

EVOLUTION OF THE INTESTINAL MICROFLORA OF CONVENTIONAL RABBITS FROM BIRTH TO WEANING

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Using 7, 14, 21, 28, 42 and 56 days old holoxenic (conventional) rabbits fed usual diets, we counted the number of bacteria from the stomach, small gut, cæcum and colon that could be cultivated in anaerobiosis. The anaerobic technique used was that preconized by HUNGATE. The strains isolated from the dominating microflora of each organ were characterized.

— In the stomach the total number of bacteria is generally low, increasing with age and stabilizing after weaning between 10^4 and 10^8 bacteria/g of content.

— The implantation of bacteria is faster and more abundant in the small gut than in the stomach. The microflora stabilizes after weaning between $5 \cdot 10^6$ and 10^8 bacteria/g.

— The cæcum and colon contain from the first week an abundant flora (10^7 - 10^9 /g); thereafter the number of bacteria constantly increases (10^9 - 10^{10} /g) and varies little according to age and samples.

Anaerobic species and especially non sporulated Gram negative bacilli (Bacteroides) are dominant at all levels of the digestive tract. This phenomenon is probably related to coprophagy of the animal. The *Lactobacilli* are generally absent in the digestive tract of the rabbit. *Enterobacteria* are also generally absent in young rabbits; they appear and reach a maximum (10^7 /g) at the moment of weaning (21 days) then decrease rapidly and stabilize about 10^4 /g.

In the stomach of 7 days old rabbits *Streptococci* are nearly always absent, whereas in the small gut, cæcum, colon, they reach the level of the dominating microflora. After weaning they disappear from the small gut and stabilize between 10^3 and 10^6 /g in the cæcum and colon. The *Clostridia* only appear after weaning and exclusively in the cæcum and colon (10^3 - 10^6 /g)
