

should be remarked. There is an increase in total activity with age (as in the case of the pancreas), particularly of maltase and invertase, in the two posterior segments of the intestine. Thus, for example, the activity of maltase, very low at birth ( $1 \cdot 10^4$  International Units) attains  $15 \cdot 10^4$  IU at 3 weeks and  $50 \cdot 10^4$  IU at the 8th week in the jejunum. The total quantities of invertase show the same changes, but the activity at birth is null in all the segments studied; it attains  $10^3$  IU at 1 week and  $10 \cdot 10^3$  IU at 8 weeks in the jejunum and a similar value in the ileum. This is a classic result and it allows the conclusion to be made that there is an adaptation similar to that observed for pancreatic amylase. On the other hand, with regard to the localization of the enzymes, our results differ from those of DAHLQUIST (1961) who worked on only a small number of animals.

Lactase evolves in a particular manner i.e galactosidase activity is high at birth in the jejunum ( $3 \cdot 10^5$  IU), but there is a maximum activity at about 6 weeks ( $15 \cdot 10^5$  IU), the activity is lower in the ileum ( $2$  to  $4 \cdot 10^5$  IU) and appreciably constant with age, while it is almost null in the duodenum. In general, the values obtained differ from the usual data, which have almost always been derived from measurements on the enzymatic activity of the intestinal mucus alone.

However, the results presented here allow the principal phenomena of the development of the piglet during the suckling period and at weaning to be specified. One can consider that this period is characterized not only anatomically by the increase in weight of 2 digestive organs, the pancreas and the intestine, but also by an increase in enzymatic activity.

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## CONTRÔLE DE L'ÉVOLUTION DE L'ÉQUIPEMENT ENZYMATIQUE DU PANCRÉAS EXOCRINE DU LAPIN DE LA NAISSANCE A 6 SEMAINES

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Dans le but de vérifier l'hypothèse d'une adaptation du pancréas exocrine du lapereau sous la mère, aux variations de composition du régime alimentaire au moment du sevrage (LEBAS, CORRING, COURTOT, 1971) (1), 2 lots de 60 lapins ont été affectés aux régimes expérimentaux suivants :

1. Régime lacté maternel uniquement, de la naissance au 30<sup>e</sup> jour et sevrage brutal avec un aliment amylicé.
2. Régime lacté maternel uniquement, de la naissance au 20<sup>e</sup> jour et sevrage brutal avec le même aliment amylicé.

Le dosage des 4 principales enzymes digestives pancréatiques a été réalisé à 9 stades répartis entre 7 et 42 jours. Les activités lipasique, amylicasique, trypsique et chymotrypsique ont été dosées sur des broyats de pancréas.

Quel que soit le régime expérimental, les activités enzymatiques présentent toutes une aug-

mentation vers le 24<sup>e</sup> jour. Ceci semble indiquer l'existence d'un facteur stimulant le développement des enzymes pancréatiques autre que l'aliment. Ces activités sont cependant légèrement supérieures chez les animaux sevrés à 20 jours que chez ceux sevrés à 30 jours.

### SUMMARY

#### CONTROL OF THE DEVELOPMENT OF THE ENZYMIC APPARATUS OF THE EXOCRINE PANCREAS IN THE RABBIT FROM BIRTH UNTIL 6 WEEKS OF AGE

The purpose of the present study was to examine the hypothesis of an adaptation of the exocrine pancreas of the suckling young rabbit to the variations in the composition of the diet at weaning (LEBAS, CORRING, COURTOT, 1971). 2 groups of 60 rabbits were fed the following experimental diets :

1. Only maternal milk from birth until the 30<sup>th</sup> day and immediate weaning with a starch diet.
2. Only maternal milk from birth until the 20<sup>th</sup> day and immediate weaning with the same starch diet.

The dosage of the 4 main pancreatic digestive enzymes was performed at 9 stages between 7 and 42 days. The lipasic, amylasic, trypsic and chymotrypsic activities were dosed on pancreatic homogenates.

Whatever the experimental diet, all the enzymatic activities show an increase about the 24<sup>th</sup> day. This seems to indicate the existence of another factor than that of the diet stimulating the development of the pancreatic enzymes. However, these activities are a little higher in the animals weaned at 20 days than in those weaned at 30 days.

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(<sup>1</sup>) LEBAS F., CORRING T., COURTOT D., 1971. *Ann. Biol. anim. Bioch. Biophys.*, **11** (sous presse).