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Effect of solid intake stimulation of suckling rabbit in the nest on survival and growth performance

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Effects of feeding extruded linseed on milk production and composition in dairy cow: a meta-analysisT. Meignan^{1,2}, C. Lechartier³, G. Chesneau¹ and N. Bareille²¹Valorex, La Messayais, 35210 Combourillé, France, ²BIOEPAR, INRA, Oniris, La Chantrerie, 44307 Nantes, France, ³URSE, Univ Bretagne Loire, Ecole Supérieure d'Agricultures (ESA), 55 rue Rabelais, 49007 Angers, France; thomas.meignan@oniris-nantes.fr

The objectives of this study were to quantify the effects on production performance and milk fatty acid (FA) profile of feeding dairy cows extruded linseed (EL), a feed rich in α -linolenic acid, and to assess the variability of the responses related to the dose of EL and the basal diet composition. This meta-analysis was carried out using only data from trials including a control diet without fat supplementation. The dependent variables were defined by the mean differences between EL supplemented groups and control groups. The data were processed by multivariable regression testing the effect of each potential interfering factor associated with the dose effect, and then stepwise regression with backward elimination procedure with all potential interfering factors retained in previous steps. This entire strategy was also applied to a restricted dataset including only trials conducted within a practical range of fat feeding (only supplemented diets with less than 60 g fat/kg DM and supplemented with less than 600 g fat from EL). The whole dataset consisted of 17 publications representing 21 control diets and 29 EL supplemented diets. The daily intake of fat from EL supplementation ranged from 87 to 1,194 g/cow/d. No effect of dose or diet was identified on dry matter intake, milk yield or milk protein content. Milk fat content decreased when EL was supplemented to diets with a high proportion of corn silage in the forage (-2.8 g/kg between low and high corn silage-based diets in the restricted dataset) but did not decrease when the diet contained alfalfa hay. Milk trans-10 18:1 proportion increased with EL supplementation in interaction with corn silage proportion in forage. A shift in ruminal biohydrogenation pathways, from trans-11 18:1 to trans-10 18:1, probably occurred when supplementing high dose of EL with high corn silage-based diets, related to a change in the activity and/or composition of the microbial equilibrium in the rumen. Finally, EL supplementation increased linearly proportions of potentially human health-beneficial FA in milk.

Effect of solid intake stimulation of suckling rabbit on survival and growth performanceS. Combes¹, S. Ikken², T. Gidenne¹, E. Balmisse³, P. Aymard³ and A. Travel²¹INRA, GenPhySE, INRA Toulouse, 24 chemin de Borde Rouge, CS 52627, 31326 Castanet Tolosan, France, ²ITAVI, URA, l'Orfrasière, 37380 Nouzilly, France, ³INRA, UE PECTOUL, INRA Toulouse, 24 chemin de Borde Rouge, CS 52627, 31326 Castanet Tolosan, France; sylvie.combes@inra.fr

The objective of our study was to stimulate the solid intake of suckling rabbit by modulating the age of access to pelleted solid feed (8 days vs 18 days) or protein-starch ratio of the pellet. Three groups of 17 litters were used. In group 1, suckling rabbits had access to P + A- pellet (13.5% digestible protein, 6.8% starch) as early as 8 days in the nest. In group 2, the suckling rabbits had access to the same pelleted feed but only from 18 days in feeders. In group 3, the suckling rabbits were fed from 18 days with a P-A + pelleted feed in feeders (digestible protein: 9.9%, starch 8.9%). At weaning (35 days), the young rabbits of all 3 groups were fed at 80% of the voluntary intake. The health status was monitored on a daily basis, the milk production of the does was measured twice a week. Live weight and feed consumption of the young rabbits, were measured in the nest between 8 and 18 days, and after nest removal until slaughter weight (18-70 days). The mortality rate was not different between the groups (2.8% between 8 and 35 days, and 0.4% between 35 and 70 days). In group 1, the ingestion of pelleted feed in the nest between 8 and 18 days was 0.75 pellet/rabbit/day. This early consumption of pelleted feed did not affect the milk production of the does or the growth until weaning of the young rabbits. During the period 35-70 days, group 3 had the highest growth (39.5±0.4 g/d), the lowest was observed for group 2 (37.6±0.4 g/d) while group 1 has an intermediate value (38.8±0.5 g/d). These results confirm the ability of young rabbits to ingest a solid feed with no adverse effect on health. In our favorable sanitary conditions, the lowest protein-starch ratio feed shows an interest in post-weaning growth of young rabbits.