

REPORT OF THE SCIENTIFIC COMMITTEE FOR ANIMAL NUTRITION ON THE USE
OF COPPER COMPOUNDS IN FEEDINGSSTUFFS FOR PIGS

Opinion expressed 1 June 1983

TERMS OF REFERENCE (June 1982)

The Scientific Committee for Animal Nutrition is requested to give an opinion on the following questions : could copper compounds in feedingstuffs for swine be admitted without prejudice in contents higher than 125 mg/kg complete feedingstuffs, subject to limitations according to the age or destination of the animals, as indicated in the proposals (a), (b) and (c) hereafter?

	<u>Maximum content</u> <u>(mg Cu/kg complete feedingstuffs)</u>
<u>Proposal (a)</u>	
piglets up to 13 weeks	200
swine, with the exception of swine for breeding	100
swine for breeding	50
<u>Proposal (b)</u>	
piglets up to 16 weeks	200
swine up to 6 months	125
swine of more than 6 months	50
<u>Proposal (c)</u>	
swine up to 4 months	200

BACKGROUND

In its opinion delivered on 15 April 1982 (Commission of the European Communities 1983), the Scientific Committee recommended that the maximum content of copper in complete feedingstuffs for swine does not exceed 125 mg/kg. This limitation was justified by reasons of protection of the environment.

Proposals (a), (b) and (c) mentioned above were established taking into consideration both the particularly beneficial effects of copper on the growth of young animals and the protection of the environment. These proposals were presented to the Commission as alternative solutions for the recommendation of the Scientific Committee of 15 April 1982.

OPINION OF THE COMMITTEE

The Committee compared proposals (a), (b) and (c) with the proposal on which it delivered an opinion on 15 April 1982, in terms of the consumption of feed in the various types of pig farming in the Community.

Allowing that the quantity of copper excreted by a pig is proportional to the quantity ingested (Brajon and al. 1980, C.L.O. 1978), proposals (a), (b) and (c) are acceptable from the environmental point of view in certain farming conditions. The duration of the breeding cycle and the spacing out of slaughter in relation to the weight or age of the animal are determining factors. The variability of these factors, together with the gradation of the quantities of copper administered according to the age of the animal or the purpose for which it is being raised, though does not favour the adoption generally of these proposals. The significant variation that this would entail in the quantities of copper excreted could in several cases be detrimental to the objective of protecting the environment.

Furthermore, the change in diet for 13-week-old piglets under proposal (a), or for 4-month-old piglets under proposals (b) and (c), which is common practice in certain types of pig farming, is unsuitable for others where a uniform system of feeding is carried out. The exclusive rearing of piglets fed as in proposals (a), (b) and (c) would also help undermine the above mentioned objective since it would involve the ingestion of quantities of copper 1.6 times greater than those proposed by the Committee in 1982.

Moreover, research into the effects of heavy metals on the selection of bacteria resistant to antibiotics has shown that increasing the quantity of copper from 125 up to 200 mg/kg in pig feed favoured the selection of strains of E. Coli resistant to chloramphenicol (Gedek 1981).

In the light of these findings, the Committee considers that proposals (a), (b) or (c) do not constitute alternative solutions to its proposal of 1982, namely that the maximum content of copper in complete feeding-stuffs for piglets and swine should not exceed 125 mg/kg. However, because of differences in the composition and the physical-chemical nature of soils and of the population density of swine as influenced by housing and types of pig farming, alternative solutions could be envisaged, in particular by allowing the use of copper levels somewhat higher for some categories of swine and rearing times.

REFERENCES

Brajon C., Lorenzini R., Macri A. 1980. Rame; impiego zootecnico e problemi correlati. La Rivista della Soc. Ital. di Scienza dell'alimentazione, 1, 63-82.

C.L.O. 1978. Instituut voor de veevoeding De Schoothorst, Hoogland. Growth promoting effect of supplemental copper on pigs (Report).

Commission of the European Communities 1983. Reports of the Scientific Committee for Animal Nutrition, 4th series, EUR No 8769, p. 60.

Gedek B. 1981. Zur Wirkung von Kupfer im Tierfutter als Selektor antibiotikaresistenter E. Coli-Keime beim Schwein. Tierärztl. Umschau 36, 6-21.