

# Scientist Studies Copper Effect In Poultry Diet

High levels (50 to 300 parts per million) of copper in drinking water of feed will inhibit a variety of microorganisms in poultry, Dr. Thomas W. Sullivan, University of Nebraska poultry scientist, reported in Minneapolis last week at the

23rd Annual Pfizer Research Conference.

Sullivan explained that this antimicrobial activity of copper has been used with varied success to treat or prevent trichomoniasis, hexamitiasis, aspergillosis, candidiasis, avian

monocytosis and crop mycosis. Published data from controlled studies do not in all cases substantiate the prophylactic and therapeutic value of cupric sulfate at high levels (0.05 to 0.10 per cent) in feed or drinking water. Field reports have for many years favored the use of cupric sulfate as an antifungal or antimycotic agent, he added.

Copper was recognized as an essential nutrient for poultry in 1929, according to Dr. Sullivan. Poultry requirements vary from 2 to 10 p.p.m. of copper.

High levels of copper in the diet of young birds will increase body weight gain and improve feed efficiency. He pointed out, however, that these responses have been less consistent and of lower magnitude than obtained with various antibiotics. Pigs respond more favorably and more consistently to high copper levels than do

chicks and poult.

Dr. Sullivan listed some risks or dangers associated with high levels of copper in poultry diets:

1. High levels of dietary copper reduce or cancel the antihistominal activity and perhaps the antibacterial activity of arsenic acid compounds (nitarsone, carbarsone and arsanilic acid).

2. The "growth-promoting" activity of penicillin, streptomycin, the tetracyclines and perhaps other antibiotics is reduced by the presence of 120 to 240 p.p.m. of dietary copper.

3. Feeding high levels of cupric sulfate or cupric oxide greatly increases the level of copper in poultry manure and litter. The influence of high copper manures on soil chemistry and productivity is not known.

4. The human health

hazard associated with high level copper feeding is not clearly defined. The element does not accumulate in edible tissue other than the liver based upon the Nebraska research work.

Dr. Sullivan emphasized that these high levels of copper have not been cleared for use in the feed by FDA. He said that in his opinion the risk versus benefit ratio in relation to the use of high

levels of copper is such that he feels that FDA should not clear high levels of copper for use in poultry feed.

Several hundred representatives of business, government, academia and the feed industry heard Dr. Sullivan speak at the Pfizer conference, which is part of the program of the annual American Feed Manufacturers Association convention.

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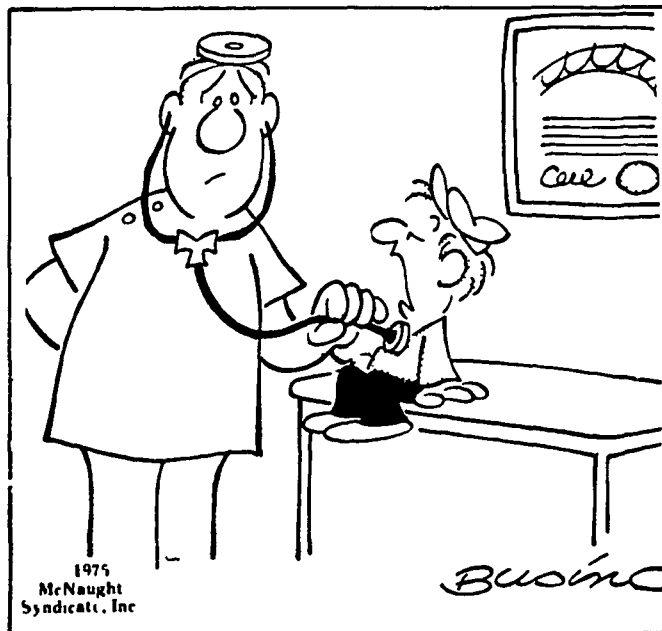


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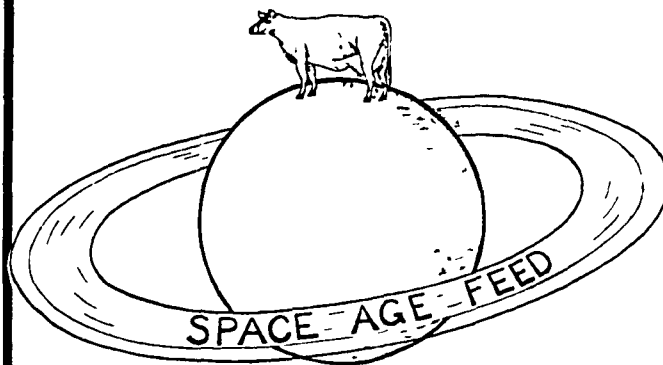
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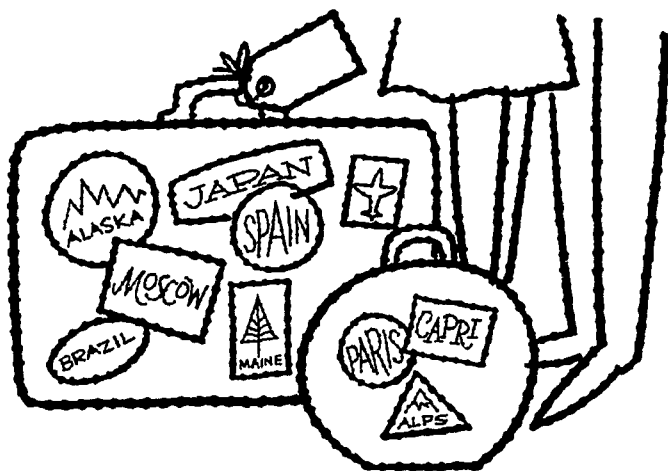


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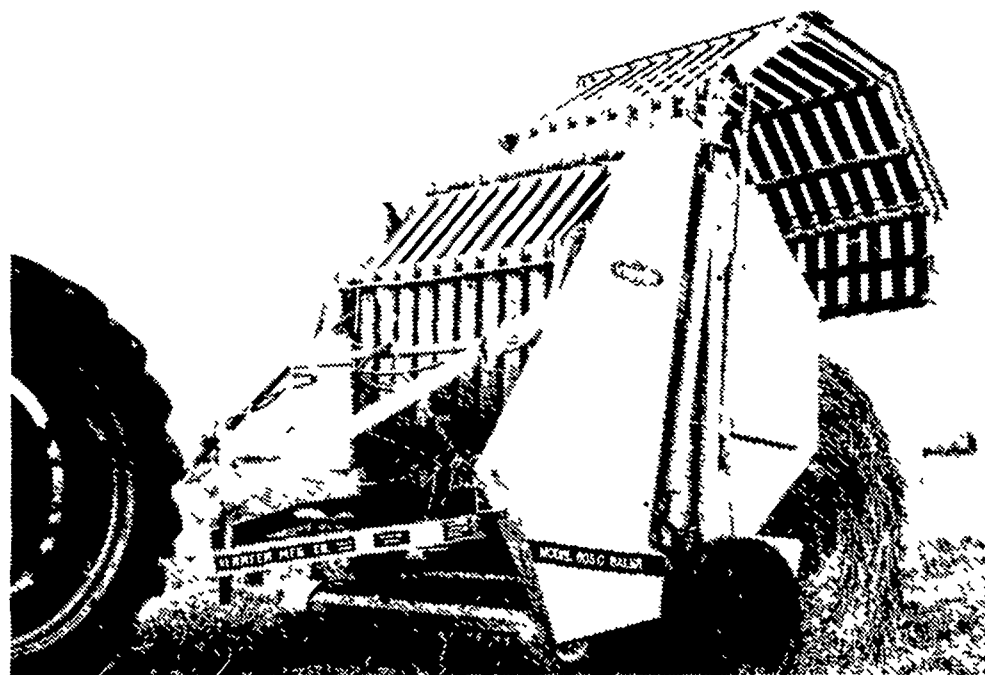
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