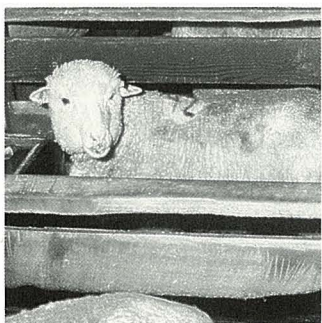


LETTERS TO ECOS



Wood chewers

In the article 'Iodine, alcohol, and mental deficiency' in *Ecos* No. 34, there is a passage which reads: 'Housed in a shed at Glenthorne, a former sheep farm and now the Division's experimental station on the outskirts of Adelaide, the first ewes soon began to chew through the timber of their stalls, as if they could sense that the wood contained some element missing from their official diet (the wood does indeed contain iodine)'.



Sheep chewed the timber of their stalls.

Taken in its context in the article following a description of the diet which is deficient in iodine and nothing else, this observation could be seen as evidence supporting the enormous myth that sheep have some sixth sense which identifies a deficiency in their diet and allows them to pick out a way of supplementing it by eating an unusual substance.

There are numerous well-documented cases of stock eating unusual substances

which fail to overcome a specific deficiency in their diet and the phenomenon occurs in stock which are not deficient in anything at all.

As for wood chewing by penned sheep, most stud sheep producers can tell of this being common with sheep known to have no deficiencies of any sort in their diets. Observations by producers of Sharnlea wool suggest that the wood chewing results from the form the feed is presented in, rather than its actual energy, protein, vitamin, and mineral content.

Wood chewing and wool biting have been overcome by providing *ad lib* roughage for penned sheep. It appears the particle size is the important aspect of feed which controls these tendencies. I assume that in the pelleted ration used in the experiment described the particle size was quite small. In such a case it is reasonable to expect wood chewing by the experimental animals in an attempt to satisfy their need for gut fill and their large-particle roughage requirements.

I expect it had nothing to do at all with the diet being deficient in iodine and I am disappointed that an organization such as CSIRO could even inadvertently give credence to disproven old wives' tales.

Paul M. Carberry,
Coonabarabran, N.S.W.

Mr Brian Potter of the Division of Human Nutrition comments: Mr Carberry is correct in stating that stud sheep without any deficiency will nibble or chew wood, a common feature of boredom in any sheep and one that we have often encountered in our own normal sheep.

However, I must disagree with his statement that

'this observation could be seen as evidence supporting the enormous myth that sheep have some sixth sense which identifies a deficiency in their diet and allows them to pick out a way of supplementing it by eating an unusual substance'.

Rather than being a myth, 'pica', as it is called, is a craving for unnatural articles such as wood, bones, rags, and other materials, and is frequently initiated by lack of a food component in the diet.

Thus, cattle in negative phosphorus balance have been observed to seek out bones lying in a paddock and lick and nibble them in an effort to obtain required phosphorus; and if sodium is lost in saliva (e.g., with a paratoid or oesophageal fistula) sheep will drink sodium bicarbonate solution in preference to water.

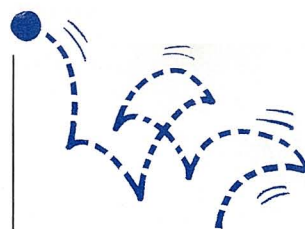
We have experienced this with our own sheep. Our iodine-deficient sheep did not merely nibble the wood; they actually chewed and ate it until we placed them in special non-wooden pens.

Particle size and roughage certainly matter, but I must point out that only part of the diet (pea pollard) was pelleted. Also, the control sheep that received the same diet but were supplemented with sodium iodide did not chew the wood with the same voracity as did the iodine-deficient sheep — hence our belief that eating the wood did have some association with lack of iodine in the diet.

How far?

I have enjoyed reading *Ecos* for many years. However, I would like to make three comments concerning No. 34, summer 1982–83, pages 11–15, 'Looking for the edge of the universe'.

1. In order to find out what you really mean by 'one



billion light years' I had to make some little calculations, especially as one billion in the U.S.A. is 1×10^9 and on the Continent (Europe) it is 1×10^{12} . In doing so I found an error in your calculation. Provided 17×10^{23} km is correct, then my answer is 180 billion light years instead of 18 billion. Therefore, I suspect that one of the data published in *Ecos* is incorrect. One decimal point seems to be displaced either one digit to the left or right (depending whether one starts converting the light years into km, or vice versa).

2. I have also noticed over a long period of time (10–15 years or so) that few people use o and ö correctly in some important foreign names: Doppler and Mössbauer are correct and not the other way round.

3. To my knowledge (as a hobby 3D-photographer overseas and here) your picture on page 11 is not a real 3D-representation; it is a so-called pseudo or quasi 3D-representation, as everything appears in two dimensions only. The latter applies equally to your picture and to the original chart print-out, which is indifferent to the fact that all three co-ordinates have originally been fed into the computer. The chart print-out itself gives only the illusion or impression for the human eyes of the third dimension.

Heinz Konczalla
CSIRO Division of Soils
Glen Osmond, S.A.

Yes, it's only 1.7×10^{23} km to the most distant quasar, not 10 times that far as a gremlin led us to misinform readers of *Ecos* 34.