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Ref: Farming Life Article "Sharp increase in TB reactor cases"

1. May I ask a question – Why is so much emphasis on cattle at pasture and so little research on housed cattle?
2. I have been a veterinary surgeon for over 50 years (graduated 1959). The first 9 years I spent in large animal practice where daily I carried out TB testing, the rest I spent in veterinary research in Edinburgh and Northern Ireland. Whilst at the Veterinary Research Laboratories DANI where I was head of the Immunology Department I never carried out TB research but for several years I was on the periphery of such research because of my knowledge of bovine immunity.
3. As a student, I was taught TB was a disease of housed cattle and not of grazing cattle. On the other hand Brucellosis was considered to be a disease of grazing cattle because bacteria in the aborted foetus and afterbirth contaminated the grazing in which the germ could survive over winter.
4. When I entered practice in Northern Ireland in 1959 the TB scheme was voluntary but if farmers entered the scheme they received a headage payment – quite minimal by today's standards.
5. Prior to this I was brought up on a dairy farm at Blackcave, Larne. We were one of the earliest herds to be TB attested (Herd No 1034) because we sold Grade A unpasteurised milk directly to the housekeepers in the area. This must have been around 1949 and from that time until the herd moved to Straid, Ballyclare in 1974, 25 years later we never had a reactor despite the fact we were the only TB free herd in the vicinity and cattle not uncommonly broke into our cattle fields because we had much better grass.
6. When I started TB testing I found reactors in dairy herds which were housed in winter but rarely in beef herds which at that time were grazed extensively and were not housed except in some cases for very short periods in very severe weather. So it was with people, consumption as TB was called in humans was due to people living in cramped cottages with low ceilings and small windows and several children sleeping in the same room and in the same bed. Most of the Bronte family died of consumption. Rural graveyards are full of children who died in early life.

7. In the early years of TB testing cattle both old and young were housed and tied by the neck throughout the winter. Cows each had a stand and in the summer at milking time returned to that particular stand. Thus within the byre the cattle did not mix. When testing one could find a reactor in a stand and perhaps the 2 neighbouring cows doubtful. Further down the byre one might find another example. If these animals were removed often at the next test the herd was "clear". These byres were very well ventilated and there was strict legislation enforced by the DANI veterinary surgeons. The air was clear and manure removed twice daily.
8. When forage changed from hay to silage and cattle manure became quite fluid, not easily collected in wheelbarrows and so the nature of cattle housing changed completely. Dairy cows were packed into cramped conditions with much less space available per cow. Cubicles were installed and cows moved freely around the house and regularly changed cubicles. Double rows of cubicles were built and cows lay down directly head to head. Because of the large volumes of urine and liquid manure the atmosphere was moist and warm and farmers replicated the conditions of the cramped cottages. The atmosphere was so humid and full of urine ammonia that the corrugated iron roofs rusted within a few years and had to be replaced. Coliform mastitis previously unknown – a very acute form of mastitis which often caused death became common because of the conditions. To be fair, newly built cattle sheds now have much better ventilation.
9. Because of climate changes dairy cows are frequently housed for 7 months from October to the beginning of May.
10. Is poor housing the true cause of the increase in TB?
11. At meetings of the Northern Ireland Veterinary Association I have asked this question but it appears no research is being carried out. The emphasis of the spread of TB has now turned to the badger and spread from cow to cow at grass.
12. Unfortunately due to the large numbers of reactors to the best of my knowledge only superficial examinations PM are carried out at the abattoirs. These are examinations sufficient for meat inspections but not detailed enough to investigate the epidemiology of TB.
13. In grazing animals in quite a high percentage of outbreaks the cause cannot be found. "Nosing" between individual animals is often quoted as a cause of spread. There is very little evidence that "nosing" is common and more importantly it is minimal. One thesis quotes the time of "nosing" in seconds and it only occurs when cattle are first acquainted.

14. What of the role of the badger? Clearly cattle and badgers carry the same strains of TB. This is not surprising since they both share common grazing. DARD suggest the cattle should be isolated from badgers. How can this be done when badgers are burrowing animals and travel hundreds of yards from their setts.
15. I have at a NIVA meeting asked is it not possible to differentiate badger infection from cow to cow infection. In theory, and I emphasise in theory, it could be possible to separate the two infections.
16. In cattle to cattle infection, the route of infection is inhalation. Thus the TB lesions should be in the lungs and adjacent lymph nodes. It might be possible to isolate the bacillus from the nasal passages.
17. In badgers to bovine infection, the route of infection is oral. Badgers excrete the TB bacillus in bodily fluids which contaminate the grazing: Thus the distribution of lesions could be different and might be in the intestine and mesenteric lymph nodes. If lesions in both infections could be shown to be different it would strengthen the case for badger culls.
18. Sadly because of the lack of success everybody is tired of TB and the enthusiasm to eradicate this disease has faded. Many other countries have eradicated TB – why can't we?
19. I believe that an independent committee of experienced veterinary research workers should be set up to analyse the data already available. These vets would not necessarily have carried out research into TB but would have the knowledge and experience to examine and objectively study the data, draw conclusions and put forward proposals.
20. Unfortunately little research into the epidemiology of TB is carried out by the state veterinary staff.

