C. Over the 2-year period of the longevity study, all of the transponder failures occurred within 145 days of injection, which indicates a possible link with the injection technique, rather than with the cow or its environment.
D. All of the transponders that continued to function were later found in their original injection locations. As the researchers had anticipated, a transponder injected above the dew claw in the rear leg of a bovine animal does not migrate.

### References

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# Abstract

## Repeated oestrus synchrony and fixed-time artificial insemination in beef cows

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The feasibility of breeding spring-calving, single-suckled beef cows without the use of natural service was investigated over two breeding seasons by using repeated oestrus synchrony and fixed-time artificial insemination (AI). Initially, cows were oestrus-synchronised with subcutaneous norgestomet implants inserted for 10 days, with an injection of prostaglandin before the implants were removed. The cows were inseminated once 56 hours after the implants were removed, and 12 days later they were re-treated with norgestomet implants to allow a second synchronised service. Twenty-one days after the first synchronised AI, milk samples were taken for progesterone assay and the norgestomet implants were removed. The cows received a second service 56 hours later if the 21-day milk progesterone assay suggested that they were not pregnant. All the cows receiving a second service were retreated with norgestomet implants to allow a third synchronised service as necessary. Pregnancy was later confirmed by rectal palpation. In the first year, 48 cows entered the programme and the pregnancy rates to the first, second and third synchronised services were 56, 69 and 40 per cent, respectively, with 17 per cent of cows barren at the end of the breeding period. In the second year, 69 cows entered the programme and the pregnancy rates were 58, 48 and 33 per cent to the successive services with 20 per cent of cows barren at the end of the breeding period. The accuracy of milk progesterone assay for pregnancy diagnosis was 84 per cent and 87 per cent in the first and second years, respectively.