

A Managed Reduction of the Badger Population in the Republic of Ireland as a Medium-Term Strategy Toward Eradication of Tuberculosis in Cattle

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Background The results of badger removal trials in Ireland (Griffin *et. al.*) have shown that lowering the density of badger populations in targeted areas leads to lower levels of tuberculosis (Tb) in cattle (figure 1) and badgers. A government Programme for Prosperity and Fairness (PPF) made a commitment to remove all sources of infection in the 20% of the country which yield 50% of Tb reactors. To this end, a policy of focused badger removal around herds with severe Tb breakdowns has been adopted as an interim strategy in anticipation of a future badger vaccination effort. A dedicated Wildlife Unit (WU) with 75 personnel have been assigned to this programme. Badgers are a protected species in Ireland. All removal activities must comply with the 1976 Wildlife Act and conform to the Bern Convention.

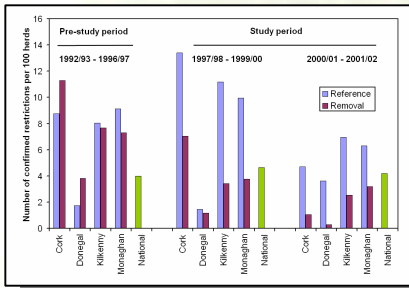


Figure 1.

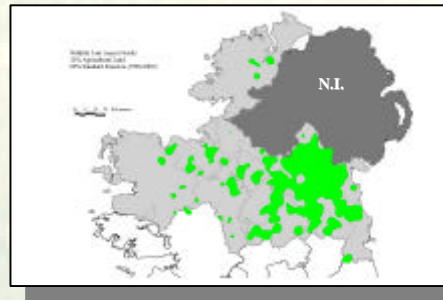


Figure 2.

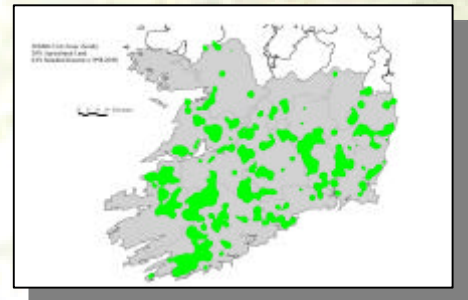


Figure 3.

Methodology Areas having chronic, persistent Tb over multiple years were identified using kernel smoothing. Herds falling within an area above a threshold of 1.75 reactors per square km in the northern counties (figure 2) and 1.5 reactors per square km in the southern counties (figure 3) qualify for priority treatment. Up to 60% of high priority and up to 20% of the low priority land areas are eligible for treatment (figure 4). For a herd to qualify for a localised badger removal, it must have a breakdown of at least 2 standard reactors and 1 lesion. This triggers an epidemiological investigation on the farm. If the investigation concludes that the breakdown was due to a wildlife source, a request is made for focused badger removal. A field survey is conducted within 2km of the breakdown (index) farm’s boundary. All badger setts are identified and recorded within a Geographical Information System. Any main setts within 1.5km or other setts within 2km of the index farm, can be assigned to a capture block. This capture block must then be approved by CVERA² before removal can commence. The setts on the periphery of the capture block are used to generate a capture area. This is then given an external buffer of 300 metres to represent the total area treated for this removal (figure 5). The total areas treated are continuously monitored to ensure they do not exceed the agreed limits (figure 4). All information relating to sett location, characteristics and badger *post-mortems* are held on a central data base. These data will be used to assist in planning and managing a future badger vaccination programme.

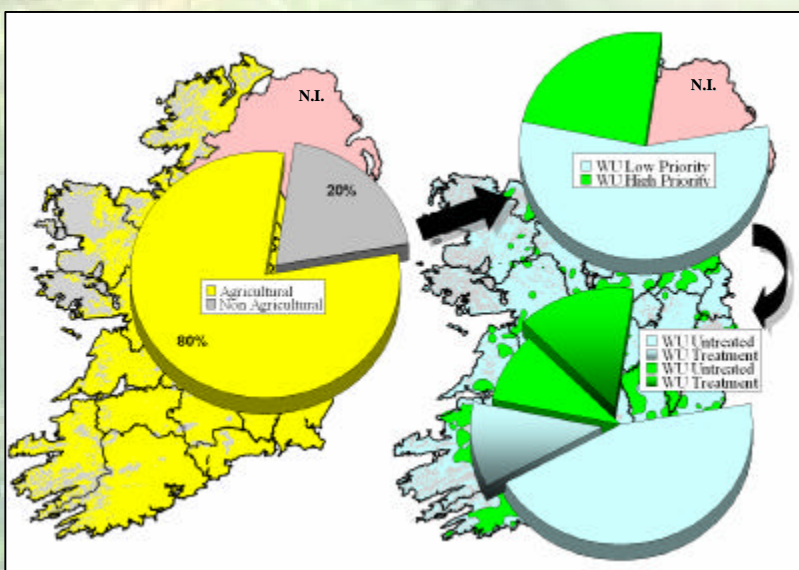


Figure 4.

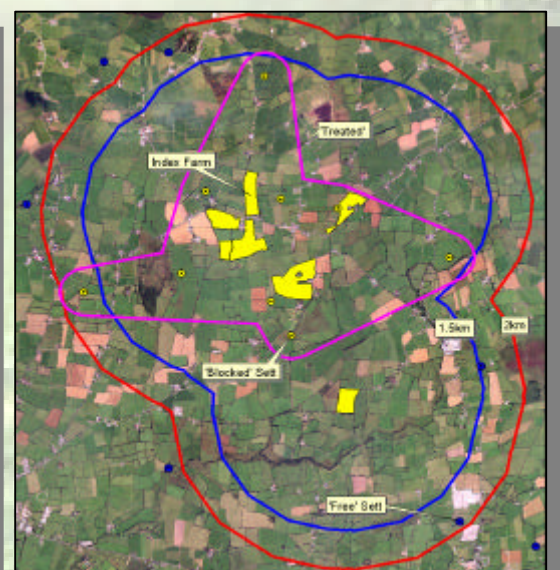


Figure 5.

References Griffin, J. M., Williams, D. H., Kelly, G. E., Clegg, T. A., O’Boyle, I., Collins, J. D. and More, S. J. (2005). *The impact of badger removal on the control of tuberculosis in cattle herds in Ireland.* Preventive Veterinary Medicine **67**: 237-266.