
# Food Safety & Animal Welfare Code of Practice for Clay Target Shooting Ranges

**Purpose:** This Code of Practice provides direction on how to manage the risks to food safety and animal welfare from the use of land for clay target shooting.

Clay-target shooting ranges sometimes encompass agricultural land, and activities such as grazing livestock, growing silage and cut and carry operations may occur. However, due to the deposition of spent lead shot on this land, these activities may pose a risk to livestock and food safety – and consequently national and international trade. Under extreme circumstances of lead uptake by animals grazing the land this can lead to poisoning of livestock, or under less extreme circumstances potential contamination or perception of contamination of meat or milk from livestock. These livestock may have either grazed (grass or root crops such as fodder beet) on the land or have been feed on silage or hay grown on the land. The risk is mainly associated with the ingestion of lead shot debris. In addition, a high density of spent lead shot will result in elevated soil lead concentrations and greater uptake of lead by plants – and consequently greater intake by livestock through consumption of soil and plants. This Code of Practice has been developed to mitigate the livestock, food safety and trade risks associated with the use of land for clay target shooting. It does not cover other risks, such as leaching to groundwater, associated with this use.[1]

**Recommended management practices:** is recommended that, on land covered by this Code of Practice, no stocking or cropping occurs – this includes grazing by cattle, sheep, horses or deer, fodder crop or silage production, and cut and carry operations. Grass growth may be controlled by cutting and leaving the clippings in situ, herbicide application, or allowed to grow. It is recommended that, when the land covered by this Code of Practice ceases to be used for clay target shooting, a full investigation and likely remediation of the site occurs.

**Land covered:** The land to which this Code of Practice applies is land on which spent lead shot falls from sustained clay target shooting activities, and may include land owned by gun clubs or leased from farmers, territorial authorities or the Department of Conservation.

For trap or down-the-line shooting, the shotfall area typically extends over 200 m and up to 250 m from the traps,[2,3,4] with the highest concentrations typically found 100–140 m from the trap and up to 100 m either side of a line between the most commonly used traps. The "width" of the area with high concentrations of lead appears to be highly variable, potentially dependent on the frequency and duration over which shooting has occurred. Frequency and duration of use will also influence the extent to which concentrations are elevated. The distribution pattern associated with skeet shooting is suggested to be slightly different, with lead shot being deposited mainly in two areas approximately 80 m beyond the skeet towers in line with the intersecting trajectories of the targets[1]. The total area covered by this Code of Practice for a given gun club is dependent on the layout of the site, although is intended to cover land that extends 250 m from the line of traps, and 100 m from the centreline of the outermost trap or skeet house (see Figure 1).

*When the land covered by this Code of Practice ceases to be used for clay target shooting, a full investigation, and likely remediation of the site, should occur prior to the land being used for grazing or production[5].*

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[1] For further information on managing risks to the environment please contact the Ministry for the Environment and for human health please contact the Ministry for Health.

[2] Rooney CP 2002. The fate of lead in soils contaminated with lead shot. PhD thesis, Lincoln University. Available at: https://researcharchive.lincoln.ac.nz/bitstream/10182/1440/6/rooney_phd.pdf

[3] Craig JR et al. 2002. Lead distribution on a public shotgun range. Environmental Geology 41: 873–882.

[4] Rooney CP et al. 1999. Distribution and phytoavailability of lead in a soil contaminated with lead shot. Water, Air, and Soil Pollution 116: 535–548.

[5] If land previously, but no longer, used for clay target shooting is to be used to produce food appropriate, measures should be taken to manage any risk from the presence of lead, such as, for example, remediation of the land. If the land is changing to a use other than production land, which is reasonably likely to harm human health, the provisions of the *National Environmental Standard for the Assessment and Management of Contaminants in Soil to Protect Human Health* will apply, and a site investigation and/or measures to manage the risks may be required.

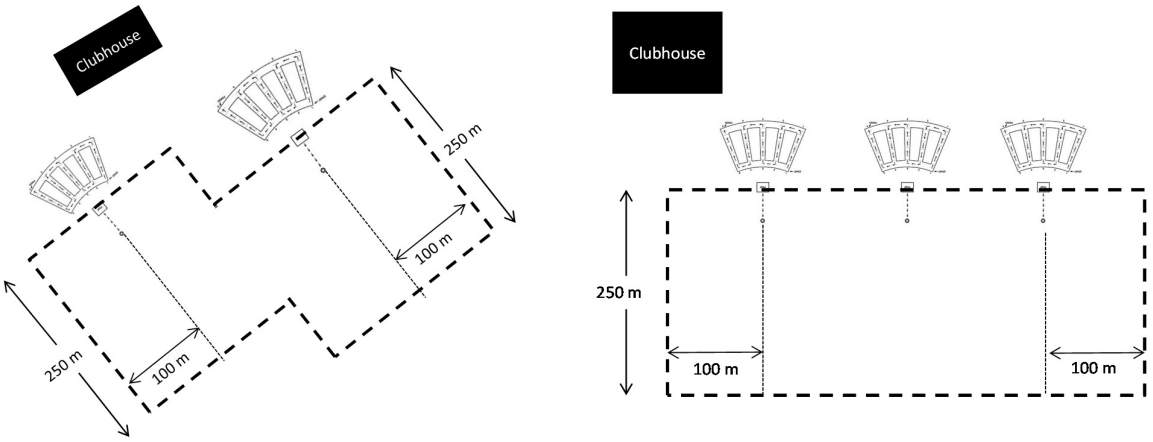


**Figure 1**. Examples of different range layouts, and the area of land covered by this Code of Practice.

**Land not covered:** This Code of Practice does not apply to agricultural land on which sporting shoots occur. Sport shoots are one-off shoots over a large area of varying terrain to simulate real-world shooting of, for example, ducks. Land that has received shotfall from infrequent clay target shooting activities or over short duration (but longer than a single event) and which is no longer being used for gun club activities may also be exempt. For these locations, visual inspection (to determine the density of visible shot residues) and soil testing in the anticipated high concentration area (an 80 x 40 m area starting 100 m from the trap and extending 40 m either side of the line between the two most commonly used traps, or from the centre line for a single trap) is recommended prior to grazing livestock to establish the potential risk associated with any elevated lead concentrations. Expert advice should be sought from the Ministry for Primary Industries for any investigation to ensure food safety and/or animal welfare.

**This Code of Practice will be periodically reviewed to ensure that it remains consistent with prevailing best practice.**

**This Code of Practice is endorsed by:**

**Acknowledgement:** The New Zealand Clay Target Association would like to acknowledge Dr Jo Cavanagh from Landcare Research who they commissioned to develop this Code of Practice.

**More information:**

Davey M 2012. Lead fallout areas. Available at: http://www.shooting-academy.com/media/Lead%20Pollution%20at%20Shooting%20Ranges%20Explained%20July%202012.pdf

Rooney CP 2002. The fate of lead in soils contaminated with lead shot. PhD thesis, Lincoln University. Available at: https://researcharchive.lincoln.ac.nz/bitstream/10182/1440/6/rooney_phd.pdf

Rooney C (undated) Contamination at shooting ranges. Available at: http://www.lead.org.au/fs/shootingranges.pdf

US EPA 2005. Best management practices for lead at outdoor shooting ranges. Available at: http://www.epa.gov/region02/waste/leadshot/epa_bmp.pdf