Lead Ammunition Group

Primary Evidence and Risk Assessment Subgroup

A list of publications and reports being considered as primary evidence.

(1) Risks to wildlife from ingested lead from ammunition

1 (a) Risks to non-wildfowl species

Reviews and collected volumes


Quy, R. 2010. Review of evidence concerning the contamination of wildlife and the environment arising from the use of lead ammunition. FERA report to Defra. (3, UK)


Papers

Butler, DA (2005) Incidence of lead shot ingestion in red-legged partridges (Alectoris rufa) in Great Britain. *Veterinary Record* 157: 661-662 (1, UK)


1 (b) Risks to wildfowl

We have not included the extensive literature covering the long-established risks to wildfowl from ingesting spent lead gunshot and in the UK (and many other countries) legislation has been introduced restricting the use of lead gunshot over wetlands and/or for shooting wildfowl in all UK countries (in 1999 in England). A recent review for Europe is provided in Mateo (2009), cited above.

Assessments of compliance with the regulations in England have been undertaken including a recent assessment commissioned by Defra. The report is available on the Defra website and will need to be included in the evaluation of ongoing risks to wildfowl:


(2) Risks to human health from ingesting lead from ammunition

Reviews


Papers relating to lead ammunition


Dobrowolska A, Melosik M (2008) Bullet-derived lead in tissues of the wild boar (Sus scrofa) and red deer (Cervus elaphus). Eur J Wildl Res 54: 231-235. (1, EU)


Green P (2010). "Heavy metal" - recent (veterinary) review of implications for human health from lead bullets in shot deer. (Deer magazine (BDS house mag) (4, UK)


Gustavsson P and Gerhardsson L (2005). Intoxication from an accidentally ingested lead shot retained in the gastrointestinal tract. Environmental Health Perspectives, 113, no. 4, 491-493. (1, INT)


Jaffer, A. 2009. A scientific review of the risk to the consumer from lead shot in game meat. A report commissioned by the Food Standards Agency Game Group. March 2009 GG/12/03/4. Abrar Jaffer, Veterinary Public Health Team, Hygiene and Microbiology Division

Johansen, P; Pedersen, HS; Asmund, G; Riget, F (2004). Lead shot from hunting as a source of lead in human blood. Environmental Pollution 142:93-97 (1, INT)


Knott, J., Gilbert, J., Hoccom, D.G. & Green, R.E. (in press) Implications for wildlife and humans of dietary exposure to lead from fragments of lead rifle bullets in deer shot in the UK. Science of the Total Environment (1, UK)


Monkiewicz J; Jaczewski S. 1990. Distribution of lead in the wild boars' carcasses is dependent upon the distance from a rifle-shot wound Medycyna Weterynaryjna 46:187-188. (1, EU)


Veterinary Medicines Directorate, Veterinary Residues Committee Annual Reports & Full Statutory & Non-Statutory Results [http://www.vmd.gov.uk/Publications/AnnReps/AnnReps.htm](http://www.vmd.gov.uk/Publications/AnnReps/AnnReps.htm) (3, UK)

**Papers setting the context for the effects of low level lead exposure on human health** (1, UK, EU, INT)


(3) Risks to human health through livestock feeding in areas of lead gunshot deposition

Clements R (1997). The effect of clay pigeon shooting and pellet deposition on lead levels in soil, vegetation and milk. BSc (Hons) Thesis, Plymouth University. (2, UK)


http://www.defra.gov.uk/vla/reports/rep_food.htm


Sneddon, J., Rafael Clemente, Philip Riby and Nicholas W. Lepp 2009. Source-pathway-receptor investigation of the fate of trace elements derived from shotgun pellets discharged in terrestrial ecosystems managed for game shooting. Environmental Pollution 157: 2663-2669 (1, UK, EU, INT)
