Report on the rodenticide stewardship regime

2021 Review of implementation

November 2026



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Introduction

The requirement for UK rodenticide stewardship regime was launched in July 2015. At that time, HSE, on behalf of government bodies with a role in monitoring the use and impact of rodenticides, published the 'high-level principles' that continue to guide rodenticide stewardship including plans to review the regime after five years of operation.

The CRRU UK (Campaign for Responsible Rodenticide Use) regime was developed to meet the high-level principles and implemented by manufacturers and suppliers of rodenticide products, and its delivery is managed and coordinated by CRRU UK, to secure responsible use of these products, and to reduce exposure to people and non-target wildlife.

Oversight of the CRRU UK regime is provided by the UK Rodenticide Stewardship Government Oversight Group (GOG) chaired by the Health and Safety Executive (HSE) and comprises representatives of other government stakeholders: HSE NI, DEFRA, Public Health England (UK Health Security Agency as of October 2021), Natural England, the Welsh and Scottish Governments and an independent scientific adviser (UKCEH).

This paper sets out the conclusions of the government's five-year review of the regime and responds to the CRRU UK report 'Five years of Rodenticide Stewardship' (2021). This paper avoids duplicating the significant data and other information CRRU UK are required to collect and present to GOG annually; please refer to Annexes 1, 1A and 2 of previous years' reports for these details. Information and data submitted by CRRU UK is made available on the CRRU UK website as the CRRU UK annual report (thinkwildlife.org). For consistency, this paper follows the format of earlier annual assessments of industry's progress towards implementing the high-level principles. Considerations and views contained in previous reports reflect the data and information provided earlier by CRRU UK and remain valid at the time of writing.

The paper also provides an assessment of the extent to which the regime continues to meet the principles set out by GOG.

Background

Rodenticides are biocidal products that contain active substances in scope of the GB Biocidal Products Regulations (GB BPR). The EU BPR (Regulation (EU) No.528/2012) continues to apply in respect of Northern Ireland (NI). GB and EU BPR aim to ensure that biocides can be used without causing unacceptable harm to people, the environment and non-target animals. Both regulations set requirements for the assessment and authorisation of biocides, and HSE acts as the UK Competent Authority (CA) for both GB and EU BPR and leads UK policy on biocides.

All first and second-generation anti-coagulant rodenticides fail the environmental risk assessment for use outdoors, but GOG recognises that their use outdoors is sometimes necessary to control pests and the threat they can present, including to public health.

As part of HSE's authorising the use of anticoagulant rodenticide products, Industry, coordinated by CRRU UK, committed to improving and promoting good practice alongside robust arrangements to control the use of professional rodenticide products, via an industry-led, rodenticide stewardship regime. The regime was accepted by GOG as meeting its high-level principles and the regime came into force in April 2016.

Earlier GOG reports have reviewed the implementation of the CRRU UK regime to assess the extent to which the high-level principles it set out are met. This five-year review builds on the earlier findings and key conclusions reached in earlier reports.

High-level principles for rodenticide stewardship

The approach to the development and operation of rodenticide stewardship is shaped by the following benefits that are expected to arise from a functional stewardship scheme:

- governance of the supply chain, ensuring that professional rodenticide products are only supplied to approved retail outlets and sold to those trained to use them as part of an IPM strategy;
- a competent workforce capable of delivering stewardship standards and of demonstrating an appropriate understanding and attitude toward case-specific control of rodents and use of rodenticides; and
- monitoring compliance with the regime and its environmental impacts and, if possible, an assessment of whether rodenticides and stewardship together are actually tackling the problems.

As the basis for delivering the key benefits a set of high-level principles were agreed and published in 2015. Those principles are:

a. Use of integrated pest management (IPM), including use of rodenticides, involving a hierarchy of risk controls for rodents.

b. Responsible use of rodenticides, when demonstrated they are needed, because of their potential threat to human, animal health and the environment.

c. Applicability to all suppliers, handlers and professional users of rodenticides in scope of stewardship, to address these risks.

d. The need for the regime to be robust, effective, and workable, while remaining as simple as possible.

e. The need for the regime to cover the whole lifecycle of the rodenticide products: manufacture, supply chain, end-use, disposal and environmental fate.

f. The enabling of good practice in the control of rodent populations, as part of an IPM system, while minimising resistance build-up and secondary poisoning in non-target species.

In addition to the principles above, GOG set out requirements for monitoring the regime, and agreed these with the industry, via CRRU UK. These are set out in full in Annex 1 of previous years' reports.

Annual assessment of the CRRU UK rodenticide stewardship regime against the high-level principles

Overview

GOG's annual assessment of the CRRU UK regime comprises three stages:

(i) Evidence that the industry has put in place what it said it would

(ii) Evidence / indicators of industry's response / changes of behaviour

(iii) Evidence / indicators of impact.

At the five-year stage, in relation to (i), overall, GOG considers that the key features of the CRRU UK regime continue to meet the requirements of the high-level principles.

In relation to (ii) GOG welcomed the information provided by CRRU UK, both in terms of the insight provided on the impact of the scheme, and the further evidence that the arrangements CRRU UK has established remain broadly fit for purpose at this time. However, in key areas, based on their analysis of monitoring data over the five-year period, CRRU UK's feedback suggests that changes in key areas may lead to further improvement. This includes work to establish a clearer link between poor performance in delivering point of sale checks, identified via independent audit process, and the resulting actions taken to re-establish supply chain controls.

Similarly, CRRU UK analysis of new KAP (Knowledge, Attitudes, Practice) survey data provides the basis on which to provide further support to professional rodenticide users where evidence suggests that competence is plateauing or progressing slowly.

In relation to (iii), consistent with earlier findings, the independent UKCEH wildlife monitoring study of second-generation anticoagulant rodenticide (SGAR) liver residues in barn owls (Tyto alba) in Great Britain, for the review period (2016-2019) has concluded that there were few differences in liver SGAR accumulation between the baseline years and in 2019. This suggests that implementation of stewardship has yet to result in a statistically significant reduction in exposure among the sentinel species.

As part of implementing the stewardship regime, GOG agreed performance measures for monitoring exposure among sentinel species (barn owls) anticipating that residues would decrease, however this has not been the case. Further work is now needed to understand why a reduction in exposure did not take place. It is anticipated this work will lead to

changes to the scope of the monitoring arrangements currently established and the standards against which their performance is measured.

The detailed information provided by CRRU UK to support GOG's five-year review is set out in the CRRU UK report 'Five years of Rodenticide Stewardship' (2021) (thinkwildlife.org) The GOG response is set out below.

A competent workforce

GOG has previously noted CRRU UK's efforts to raise and embed good practice across the sector. At the five-year review point, CRRU UK continues to provide approved training through over 150 training providers serving four awarding organisations (AOs), namely BASIS (Registration) Ltd., City and Guilds/National Proficiency Tests Council (NPTC), Royal Society for Public Health (RSPH) and Lantra.

In the period August 2019 to July 2020, nine different CRRU UK-approved courses were offered and examined. A total of 3,916 certificates were awarded to training participants during the period, bringing the total number of certificates awarded for CRRU UK-approved courses to 27,454 during the five years of the regime.

GOG acknowledged the additional steps taken by CRRU UK to maintain competence via continuing professional development (CPD) materials made freely available from the CRRU UK website. GOG also noted CRRU UK's plans to explore integrating CPD with the arrangements to demonstrate proof of competence which underpin CRRU UK point-of-sale (POS) controls.

GOG welcomed CRRU UK's analysis of the impact training is having on the adoption of best practice integrated approaches to pest management and whether this is leading to changes in behaviour. Consecutive KAP surveys, conducted on behalf of CRRU UK, indicate there has been marked improvement in the five years covered by the surveys with all rodenticide user groups showing marked improvement in uptake of training, CPD, environmental awareness and product knowledge; suggesting that CRRU UK best practice advice and guidance are being understood and adopted.

However, the KAP surveys also show that there are areas for improvement in each user group. GOG welcomed CRRU UK's plans to engage rodenticide users within those sectors where the KAP surveys suggests there is further work needed to improve understanding and practices.

Supply chain governance

The high-level principles set clear expectations for supply-chain governance. This means authorisation holders ensuring that those who supply and sell their products take steps to ensure that professional rodenticide products are only sold to people competent to use them.

GOG considers that a system of robust competence checks undertaken at the POS is essential to the proper functioning of the stewardship regime. Alongside fulfilling their responsibilities for supply chain governance, POS restrictions also drive demand for the take-up of CRRU UK accredited training and best practice, because only appropriately competent personnel, accredited by the CRRU UK regime can purchase professional rodenticides.

GOG previously noted CRRU UK's implementation of POS controls during 2016 and subsequently, their piloting of an independent audit process to determine product suppliers' performance in adhering to requirements for checking competence during 2017. Following full implementation of the system of auditing in 2018, the percentage of outlets audited considered to have met the CRRU UK standard and therefore certified, were 83% in 2018, 85% in 2019 and 93% in 2020.

CRRU UK members have committed to only supplying their products to outlets that have achieved certification. CRRU UK's independent audit process also grades outlets' performance against the required standard, reporting that, overall, there has been a steady improvement in the number of outlets that have met the required standard without the need for remedial improvement and follow-up.

It remains encouraging that the independent audits continue to provide assurance that the majority of those to whom CRRU UK members supply their products are in broad compliance with CRRU UK standards for mandatory checks. GOG had earlier welcomed the additional steps CRRU UK had undertaken to provide oversight of their members' supply chains. This included encouraging on-line reporting of incidents where it appeared there was a failure to comply with point-of-sale competence checks, or a wider failure to comply with the stewardship regime.

However, GOG has again noted the importance for a transparent approach to demonstrating what action is being taken in cases where suppliers repeatedly fall below the expected standards.

Residues monitoring and evaluation between 2015 – 2019

An overview of the requirements for monitoring and evaluation can be found in Annexes 1 and 1A of previous year's reports.

GOG thanked UKCEH for their 2019 report (pbms.ceh.ac.uk) and update based on supplementary analysis undertaken in 2020. This represents the fifth in an annual series of reports (2015 to 2019) that describe the monitoring of SGAR liver residues in barn owls in Great Britain, noting the following:

- Overall, the studies show that few statistically significant changes in concentrations of SGAR residues in barn owl livers, both 'low' and 'high' residues, have occurred during the period 2015 to 2019 in comparison with the baseline data from 2006 to

2012. This likely indicates that changes brought about by the stewardship regime to user knowledge, attitudes and practice have not yet been sufficient to significantly reduce the levels of exposure of UK barn owls.

- UKCEH reports list the cause of death for each of the birds autopsied as: “found to have died from various causes, but mainly from road traffic collisions or starvation”. For the first time, in the 2019 sample, a bird was found to have died carrying a residue of brodifacoum without other signs of physical trauma. It was determined that, given the necropsy observations and a relatively high SGAR concentration in its liver (494 ng/g wet wt.), it is possible to conclude that SGAR exposure contributed to the death of this bird. However, none of the other 500 birds autopsied during the period 2015 to 2019 showed any similar pathology and therefore none was considered to have died following SGAR poisoning.

- As in the baseline years, the compounds detected most frequently in barn owls that died in 2019 were bromadiolone, difenacoum and brodifacoum. Overall, 87% of the owls had detectable liver residues of one or more SGAR.

- The numbers of barn owls containing detectable residues of flocoumafen and difethialone. There was no significant difference in the proportion of barn owls with detectable liver residues of flocoumafen between the baseline years and 2019. There was a significantly higher proportion of barn owls with detectable liver residues of difethialone in 2019 compared to baseline years (14% vs 0.3%).

- The ratio of birds with “low” (<100 ng/g wet wt.) vs “high” (>100 ng/g wet wt.) concentrations for any single SGAR or for ΣSGARs. There was no significant difference between barn owls from baseline years and from 2019 for any individual compound or for summed SGARs (ΣSGARs).

- Average concentrations of brodifacoum, difenacoum, bromadiolone and ∑SGARs in the cohort of owls with “low” residues (100 ng/g ww). There was no significant difference between barn owls from baseline years and from 2019 in the concentrations of either “low” or “high” residues for all residues summed (∑SGARs), low residues of bromadiolone and difenacoum (data tested statistically only for “low residues”), or “high” brodifacoum residues. The median concentration of “low” brodifacoum residues was higher in birds from 2019 than in baseline years.

GOG accepts the findings of the UKCEH study and its conclusions, which include that “the lack of significant reductions in SGAR residues in barn owls in 2019 suggests that full implementation of stewardship since 2016 has yet to result in a statistically significant reduction in exposure of barn owls to SGARs.”

GOG reflected that it is vital to understand the lack of decline in residues over the five-year review period, acknowledging that this may stem from key decisions which shaped the

overall approach to monitoring or, more straightforwardly, delays in implementing key aspects of the regime.

GOG acknowledges CRRU UK's continued work to provide additional information about barn owl breeding performance in the areas of study (www.researchgate.net), and the important insight provided by the 2019 UKCEH study of anticoagulant rodenticides in red kites (Milvus milvus) in Great Britain.

Conclusion

GOG remains content that the CRRU UK regime continues to meet the high-level principles and requirements. Importantly, it is also clear at the five-year point that further work is needed to adjust the approach to delivering the regime in key areas.

During 2022-23 GOG is committed to working with CRRU UK to take forward the outcome of five-year review, in particular (i) revisiting the data from the current monitoring arrangements, (ii) revisiting the benefits and impact provided by key controls such as the operation of POS controls and (iii) supporting CRRU UK efforts to further embed best practice among key user groups.

Further information

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