

Report on the Rodenticides Stewardship Regime

Assessment of Implementation – January 2018

Rodenticides Stewardship Government Oversight Group

Contents

Introduction	Page 2
Background	Page 2
Principles of the Rodenticides Stewardship Regime	Page 3
Assessment of the Rodenticides Stewardship Regime	Page 4
Annex 1 – Performance monitoring and assurance requirements for the Rodenticides Stewardship Regime	Page 7
Annex 2 – Overview of CRRU evaluation data	Page 12



Introduction

1. This paper provides an overview of the delivery and on-going development of the UK Rodenticides Stewardship Regime, sets out the Government's view of its progress and future plans, and provides a broad assessment of the extent to which the regime continues to meet the principles set out by Government. This paper responds to the CRRU UK Annual Report 2017¹ and does not seek to duplicate earlier considerations and views which remain valid at the time of publication.
2. The regime has been developed by suppliers and representatives of rodenticide users, and its delivery is managed and coordinated by the Campaign for Responsible Rodenticide Use (CRRU) UK, to secure responsible use of these products, and to reduce exposure to non-target wildlife.
3. The Rodenticides Stewardship Government Oversight Group is chaired by the Health and Safety Executive (HSE) and represents other government stakeholders: HSE NI, DEFRA, Public Health England, Natural England, the Welsh and Scottish Governments and an independent scientific adviser. For the purposes of this report, this group will be referred to as 'Government'.

Background

4. Rodenticides are biocidal products that contain active substances supported under the EU Biocidal Products Regulation (EU) 528/2012 (BPR). BPR aims to ensure that biocides can be used without causing significant harm to people, the environment and non-target animals. It sets the process for the assessment and authorisation of biocides, and HSE is the UK Competent Authority (CA) for BPR and leads UK policy on biocides.
5. All first and second generation anti-coagulant rodenticides fail the environmental risk assessment for use outdoors², but Government recognises that this use is sometimes necessary to control pests and the threat they can present, including to public health. In order for HSE to authorise the use of anti-coagulant rodenticide products, it asked the industry, co-ordinated by CRRU, to explore ways to improve and spread good practice and self-policing of professional use of these products, via an industry-led, voluntary stewardship regime.
6. CRRU brought together manufacturers and distributors, professional pest controllers, game-keeping, and farming sectors to develop the regime. The Government Oversight Group was set up and developed principles for the regime, (paragraph 8 refers). Proposals were developed by CRRU and were accepted by Government, as meeting its principles, and the regime was put in place in April 2016.
7. The Government Oversight Group's 2017 report reviewed the implementation of the regime, to date, to assess the extent to which the principles it set out, are met. This report, builds on the earlier findings and key conclusions.

¹ Campaign for Responsible Rodenticide Use (CRRU) (2018) The UK Rodenticide Stewardship Regime 2017 Annual Report. UK.

² This covers use "in and around buildings", "open areas" and "waste dumps", see Larson (2003) Emission Scenario document for biocides used as rodenticides. CA-Jun03-Doc.8.2-PT14.

Principles and monitoring requirements

Principles:

8. Government set the following principles for the UK's anticoagulant Rodenticides Stewardship Regime.
 - a. Use of Integrated Pest Management, 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 approved under 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 life-cycle 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 Integrated Pest Management system, while minimising resistance build-up and secondary poisoning in non-target species.
 - g. Delivery of key benefits, such as:
 - **governance of the supply chain**, which gives governance over, and provides the driver for, later stages;
 - **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 of the level of conflict reduction – i.e. an assessment of whether rodenticides and stewardship together are actually tackling the problems

Monitoring:

9. In addition to the principles above, Government set out requirements for monitoring the regime, and agreed these with the industry, via CRRU. These are set out in full at **Annex 1**.

Assessment of the Rodenticides Stewardship Regime against the principles

10. Evaluation of the Rodenticides Stewardship Regime comprises 3 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
11. In relation to (i), Government is content with the way key features of the regime have been implemented and satisfied that where work remains, CRRU is clear about what is required and has put in place robust plans in order to secure the right outcomes. The Government recognises the challenges and the significant efforts and achievements of CRRU and its stakeholders.
12. The extent to which the regime is working as expected will be based on outputs from oversight and evaluation activities over the coming years. Government scrutiny will focus on the extent of any behavioural change among those operating in the sector and the measurable effect this has on residue levels in non-target animals. Government will fully evaluate the regime after 5 years of operation at the latest.
13. In relation to (ii) and (iii), Government welcomes the meaningful information provided by CRRU, both in terms of the insight it provides on the impact the regime, and the further evidence that the arrangements CRRU has established are fit for purpose.
14. This paper responds to the CRRU Report 2017, which sets out how the regime meets the agreed requirements, available from the CRRU website - <http://www.thinkwildlife.org/>.
15. The Government response is set out below.

Embedding stewardship standards into farm assurance schemes

16. The Government notes the following positive achievements:
 - The significant work undertaken with the agricultural sector to provide alternative routes for farmers to demonstrate competence by embedding standards into Farm Assurance Schemes.
 - Plans to end interim arrangements for accepting existing farm assurance scheme standards, at the point of sale, as proof of competence on 31/12/2017.
 - Plans to ensure that from 01/01/2018 proof of competence will be accepted at the point of sale for those schemes listed as having adopted the new standards.
 - Plans to remove other schemes that fail to publish compliant standards by 31/03/2018.
 - Support and guidance offered to schemes to ensure that auditors are aware of the new requirements and understand how to assess compliance.
17. Government greatly welcomes the focus on continuous professional development (CPD) and CRRU's plans to support individuals to maintain their knowledge by producing additional resources by 31/07/2018.

Proof of competence at point of sale (supply chain governance)

18. Government recognises the following positive achievements:
 - The development of 'Guidance for Internet Sales of Rodenticides' which provides important information on CRRU expectations of standards for such sales.
 - Online reporting of non-compliance with the CRRU code of practice and other guidance. This is an important step; particularly welcome are CRRU's efforts to ensure that those

using this service are fully aware of their ability to access statutory arrangements, enabling them to complain or report concerns directly to HSE.

- Plans to undertake an independent audit during 2018 to assess compliance with the proof of competency compliance checks at the point of sale. Particularly welcome is the support CRRU is providing to assist its members to register outlets supplying rodenticides with the auditing organisation by 31/12/2017.

19. In brief – the Government considers it important that the point of sale competency checks are working as intended, providing assurance that only those competent to do so are able to use professional rodenticides. This is because the management of environmental risks relies on high levels of knowledge among those who use rodenticides outdoors, in order to limit the potential for secondary poisoning of non-target species and other unintended exposure.

Knowledge, Attitudes and Practices Survey

20. The government welcomed the commissioning of an extensive survey to measure the knowledge, attitudes and practices among the three key target sectors (Farmers, Gamekeepers, and Pest Control Operators).

21. Overall, Government considers this survey to be important and informative research, and helpful in identifying 'weaknesses' in the stewardship process, enabling CRRU to take further action where required. Sharing the results in the most appropriate way would assist other stakeholders to target their improvement efforts at the right areas.

22. Particularly welcome is the improvement in the proportion of respondents undertaking formal rodent control/SGAR use training course (23% for farmers; 48% for GKs; 98% for PCOs). As rodenticide users undergo stewardship training, Government will expect to see this reflected in future survey results.

Communication and engagement

23. Government notes that engagement across the industry and targeted communication through the sectors' media has been strong and the significant outputs listed in Table 4 of the CRRU 2017 Report.

Monitoring and evaluation

24. Prior to implementation of the regime, Government set out its requirements for monitoring and evaluation, and agreed with CRRU, the key evaluation objectives, indicators, expectations and data sources. This is provided at **Annex 1**. An overview of the monitoring data to be provided by CRRU (linked to the high level principles set out at paragraph 8) is provided at **Annex 2**.

25. Government thanks the Centre for Ecology and Hydrology for their 2017 report³ into the SGAR Residues in Barn Owl Livers and notes the following.

- There was no significant difference in the proportion of barn owls with detectable liver residue levels of flocoumafen and difethialone between the baseline years and 2016.
- There was no significant difference between the ratio of birds with high to low hepatic residue levels of brodifacoum, bromadiolone and difenacoum between the baseline years and from 2016 for any individual SGAR or for the summed SGARs.
- There was no significant difference between barn owls from the base line years and from 2016 in the concentrations of either low or high residues for bromadiolone and brodifacoum or for all residues summed.

³ Shore, R. et al. (2017) Second Generation Anticoagulant Rodenticide Residues in Barn Owls 2016. Centre for Ecology & Hydrology, Lancaster, UK.

- The median low difenacoum concentration in birds that died in 2016 was significantly lower than in barn owls from baseline years.
- There were too few 2016 barn owls with high difenacoum residues for statistical comparison to the baseline years.

26. Overall, Government felt the dataset continues to provide a good indicator for barn owls exposed to rodenticides via non-target species and was well presented. The Government accepts the conclusions of the CEH study, including its assessment that the lack of difference in SGAR accumulation by barn owls in 2016, compared with baseline years, suggests that full implementation of stewardship in 2016 has yet to be reflected by a reduction in exposure in barn owls. In line with Government's earlier views, these data suggest that further years' monitoring data will be necessary to determine the impact of stewardship on anticoagulant rodenticide exposure and accumulation in barn owls.

27. While noting its limitations regarding information on exposure of barn owls to SGARs, the Government welcomed CRRU's continued work to provide information about barn owl breeding performance in the areas of study⁴, alongside evidence of presence of the SGAR residues detected by the CEH investigation.

28. Government notes that work is ongoing separately monitoring a second bird species (red kite). Regarding the Wildlife Incident Investigation Scheme (WIIS), further work is also ongoing over how best to analyse these data.

Conclusion

29. In conclusion, Government is content that the Rodenticides Stewardship Regime is fit for purpose and continues to meet the principles and requirements set out at paragraph 8, with the caveats provided regarding the further work planned.

⁴ Prescott, C. et al (2017) Breeding performance of barn owls in five regions of the United Kingdom. Reading, UK.

Annex 1 – Performance Monitoring and Assurance Requirements: Rodenticide Stewardship Regime

Introduction

1. The high-level principles that underpin the Rodenticides Stewardship Regime place a responsibility on the Government Oversight Group to monitor performance in delivering the agreed outcomes for regimes established under the industry led Rodenticide Stewardship regime.
2. This paper describes the monitoring arrangements necessary for the Government to deliver its role in determining whether the regimes established under stewardship are delivering the expected outcomes. Performance (including environmental) monitoring and reporting will provide the necessary assurance that professional quantities of anti-coagulant rodenticides are being used in a safe and sustainable way and that the risks to human health and the environment are being properly managed. Monitoring will focus on the following areas (links to high level principles in brackets):
 - Environmental Impacts (Monitoring Compliance)
 - Whether the rodenticides are effective (Competent Workforce)
 - Awareness using the Knowledge, Attitude and Practice (KAP) survey (Competent Workforce/Monitoring Compliance)
 - Point of sale information (Supply Chain Governance)
 - Training (Competent Workforce)

Monitoring arrangements

3. The monitoring framework defined in the high level principles would include an assessment of the following:
 - a. **Governance of the supply chain**, which gives control over supply and provides the driver for later stages. The possible performance indicators are:
 - Information from the relevant Rodenticides Stewardship Regime working group.
 - The KAP survey.
 - Enforcement data from regulators.
 - Stewardship Regime figures on the take up of training.
 - b. **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. Demonstrating the work force is competent will be an area where results may take time to feed through, but possible performance indicators are as follows:
 - The KAP survey - This may be the first indication of positive effects of stewardship.
 - Competence could be indicated by a decline in environmental impacts through reduced secondary contamination.
 - The take up of training by sector.
 - Reported attempts to purchase rodenticides covered by the regime without producing appropriate documentation to evidence compliance with the regime.
 - c. **Monitoring compliance** with the regime and its environmental impacts, and if possible the level of conflict reduction – i.e. an assessment of whether rodenticides and stewardship together are actually tackling the problem. A detailed paper has been

drafted on monitoring the environmental aspects of secondary poisoning (see Annex 1A). Indicators in this area could include the following:

- Using point of sales information.
- The predatory bird monitoring scheme and other similar data will allow for some assessment, as will monitoring of compliance.
- Enforcement information.

How the data will be managed.

4. Government will have the ultimate say over the interpretation of the data, assessing the significance of any data gaps and determining if the outcomes detailed in the high level principles have been delivered.
5. The Government Oversight Group will hold annual meetings to assess how the regime is operating. Smaller interim working groups may meet to assess separate issues. It will be open to the Government Oversight Group to meet at any time should it deem necessary. The Government Oversight Group will undertake a more formal evaluation of stewardship with a target of doing so (at the latest) five years from the start of the regime. This will allow time for resilient quantitative data to be collected and assessed.

Data required of Campaign for Responsible Rodenticide Use (CRRU)

6. CRRU is the only current operator of a Rodenticides Stewardship Regime. Government Oversight Group will expect from them an annual report with an assessment on progress against principles. The elements of this report may change over time. It would also be open to CRRU to submit additional data should they consider it will assist Government Oversight Group to assess how the regime is operating. General headings under which CRRU will submit data are as follows:
 - Knowledge, Attitude and Practice (KAP) survey
 - Data on secondary contamination
 - Data from CRRU Point of Sales Monitoring
 - Training
7. Government will draw on other sources of data such as:
 - any relevant evidence from enforcement activity
 - product authorisations

Next steps

8. Approach CRRU for discussion on these arrangements as a framework. Further detail will need to be added in the course of discussions and afterwards.

Annex 1A - Monitoring the potential impact on wildlife

Background

1. All First Generation Anticoagulant Rodenticides (FGAR) and Second Generation Anticoagulant Rodenticides (SGAR) fail the environmental risk assessment as required under the Biocides Product Regulation (BPR, Regulation (EU) 528/2012). Due to the essential need to control problem rodents, it has been agreed to permit use, providing that users comply with a regime compliant with the High Level Principles for Rodenticides Stewardship Regimes. This paper aims to outline the success criteria with which the regime will need to comply in respect of secondary poisoning.
2. The regime must include monitoring in order to determine whether Stewardship is achieving its aim of reducing the risk of primary and secondary poisoning to non-target predatory and scavenging birds and mammals to a minimum.
3. Monitoring will take several forms, including an assessment of the awareness of the regime by end-users, uptake of training and competence of users. Monitoring related to these activities will include a knowledge, attitudes and practices survey (KAP). There will also be an assessment of whether the exposure and/or impact to predatory and scavenging birds are improving. This brief paper outlines the performance measures for the latter only. The outcome of this and other performance measures along with any other relevant information will be considered by those operating the Rodenticide Stewardship Regime and presented to the Government as evidence the regime is operating as envisaged.
4. The outputs from the monitoring will not be used as 'hard' triggers for specific actions, but the performance measures discussed below will be used, along with information from other elements of the monitoring programme (e.g. the KAP survey), to form a judgement as to how a Rodenticide Stewardship Regime is progressing and whether any changes are required. Depending on the outcome of the above, changes could range from minor modifications to the Rodenticide Stewardship Regime (e.g. improved training or awareness), changes to the approved uses (e.g. amendment of the approval of specific products) or revocation of uses/products.

Performance measures

Predatory birds

5. In order to determine if the exposure and hence potential impact on predatory bird species has changed due to the implementation of the Rodenticide Stewardship Regime, use will be made of the analysis and resulting outputs from Shore *et al* (2014)⁵ which provides the pre-stewardship level, baseline for comparison. Outlined below is the performance measure that will be used for predatory birds:
 - *There should be a significant⁶ decrease in the exposure of the sentinel species⁷ – Barn Owl – in terms of sum residues of SGARs detected in livers of barn owl carcasses collected over the first four years.*

⁵ Shore R F, Henrys P A and Walker L A (2014) Power analysis of liver second generation anticoagulant rodenticide (SGAR) residue data in barn owls from Britain: A Predatory Bird Monitoring Scheme (PBMS) report. Contract Report to the Health and Safety Executive <https://wiki.ceh.ac.uk/download/attachments/134414860/HSE%20Power%20analysis%20report%202014-final%20version.pdf?version=1&modificationDate=1410527042000&api=v2>

⁶ Changes will be compared to Table 6 of Shore *et al* (2014). It should be noted that statistically significant changes are only likely to be detected within the timeframe indicated in the table. Therefore, in the first instance, statistically significant changes will be considered but there will also be an assessment of whether there are non-statistically significant changes in the pattern or trend of residues that potentially indicate concern.

⁷ Whilst the Barn Owl is used as a sentinel species, it does also have conservation value as well.

- *Within the expected long-term downward trend, any significant increase observed in the exposure to the sum and any individual SGAR active substances on a yearly basis will be considered.*
 - *Monitoring will continue through the life time of the Rodenticide Stewardship Regime to ensure that the regime is meeting its objectives.*
 - *Changes to the Rodenticides Stewardship Regime may result if the above are not met.*
 - *The following criteria will be used to determine exposure:*
 - *Mean low hepatic residue level – i.e. $\leq 0.1 \mu\text{g/g}$ wet weight or*
 - *Mean high hepatic residue level – i.e. $> 0.1 \mu\text{g/g}$ wet weight or*
 - *Ratio of Barn Owls with high to low hepatic residues levels*
6. In determining progress there should be a detailed assessment⁸ by those operating a Rodenticide Stewardship Regime of the changes in levels of hepatic residues relative to pre-stewardship levels (both low and high concentrations) of individual active substances as well as the ratio of high to low concentrations. The assessment report to the Government will be undertaken on an annual basis with a full review of the cumulative data in 2020 to help inform an overall assessment of the regime.

Scavenging birds and other species

7. As the above performance measure only covers a single predatory bird species, albeit as a sentinel species, Government consider it important to assess a further species that will be exposed via the consumption of dead and dying rodents (scavenging birds). Unlike the Barn Owl, Red Kite is primarily a scavenger and feeds regularly on the primary target of rodenticides. Government propose that the Red Kite should be the focus of this performance measure as it is of particular importance as a sentinel species as well as species of conservation importance.
8. In light of the above, the Government thought it would be useful to get data on Red Kites in order to gauge the effects of stewardship on scavenging birds. These data could be available from a variety of sources⁹. The Government needs to explore how best to acquire such data.
9. Any available data should be used as quantitatively as possible, noting any limitations of the underlying data. It should further be noted that as these monitoring schemes and/or associated work are not being funded by those involved in operating the Rodenticide Stewardship Regime, such data may not be always be available throughout the lifetime of the regime.
10. In addition, data on other species, e.g. predatory birds and mammals, scavenging birds and mammals should be considered when they are available.

⁸ This assessment could consider such issues as changes in the availability of the various products/uses, changes due to other elements of the regulatory process, knowledge of the occurrence of rodenticide resistance and occurrence of changes in residues.

⁹ Publically available Wildlife Incident Investigation Scheme (WIIS) data and the Predatory Bird Monitoring Scheme (PBMS) red kite data are key sources identified. The Government is exploring how best to use available data.

Wildlife Incident Investigation Scheme (WIIS)

11. Freely available data from WIIS should be considered by those operating a Rodenticide Stewardship Regime¹⁰. This assessment should be as quantitative as possible whilst acknowledging any limitation in the underlying data.

Timetable

12. An assessment of performance against the above criteria will be made on a yearly basis and will be made once the PBMS data are available. This will be approximately in the middle of the following year, i.e. the performance and impact in 2016 will be considered in approximately June 2017. The base line for this assessment will be the years (2007-12) covered by Shore *et al* (2014). If however more recent pre-stewardship data become available, then the appropriateness of combining these data in to Shore *et al* should be considered by those operating the Rodenticide Stewardship Regime.
13. Prior to 2019, Government will consider the results of other monitoring information (assessment of the awareness of the regime by end-users, take up of training and competence of users, knowledge, attitudes and practices surveys (KAP) etc. to assess the progress and implementation of the stewardship arrangements committed to by the regime owners.

¹⁰ Government is currently examining the feasibility of using data on several species from a variety of sources (PBMS and WIIS) as a further qualitative, or possibly quantitative, assessment of changes in the environmental impact of anticoagulant rodenticides.

Annex 2 – Overview of CRRU Evaluation Data

Required data		Data to be provided
1	Environmental Impacts (Monitoring Compliance)	1. CEH annual survey of residues in livers of 100 barn owls
		2. Annual survey of barn owl breeding performance
		3. Annual review of WIIS incidents ¹¹
2	Whether the rodenticides are effective (Competent Workforce)	1. Annual report of training uptake and award of certification/ qualification by CRRU-approved awarding bodies
		2. Annual report of number of members of CRRU-approved farm assurance schemes
		3. Provision of up to date, relevant best practice guidance documents
		4. Promotion of regime objectives and raising awareness by stakeholder organisations
3	Resistance monitoring (Competent Workforce)	1. Annual report of status of resistance monitoring in UK and elsewhere in EU
4	Awareness using the Knowledge, Attitude and Practice (KAP) survey (Competent Workforce/Monitoring Compliance)	1. KAP survey baseline study (published)
		2. Repeated KAP surveys in 2017 and 2019
5	Point of sale information (Supply Chain Governance)	1. Output from the Point of Sale Audit. Interim results provided by June 2018.
6	Training (Competent Workforce)	(see point 2 above)

¹¹ Government is currently examining the feasibility of using data on several species from a variety of sources (PBMS and WIIS) as a further qualitative, or possibly quantitative, assessment of changes in the environmental impact of anticoagulant rodenticides.