



**An Roinn Talmhaíochta,
Bia agus Mara**
Department of Agriculture,
Food and the Marine



OLLSCOIL NA GAILLIMHÉ

UNIVERSITY OF GALWAY

Rodenticide resistance and alternative control measures in the EU, UK, and New Zealand: Impact on Ireland and Irish amateur user perceptions towards rodenticide use

Aoife Owens
Assistant Agricultural Inspector
Biocides Efficacy Unit in DAFM
18th November 2025

Masters' student introduction



Aoife Owens
Assistant Agricultural Inspector: Biocides Efficacy.
Department of Agriculture, Food and the Marine.

- Evaluate efficacy data submitted in support of applications for the authorisation of biocidal products (includes rodenticides) for the approval on the Irish and/or European market
- It is coming more apparent that rodenticide resistance in rats and mice has developed and is increasing in Ireland and Europe
- Member of Ireland's Campaign for Responsible Rodenticide Use (CRRU) taskforce
- Decided to complete research masters to investigate rodenticide misuse



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**Master of Science
In AgriBiosciences**

RESEARCH BACKGROUND: RODENTICIDES – WHY THEY'RE REQUIRED



Image: <https://www.ecrater.com/p/36833228/>

- Control of rodent infestations are important for both public health and food security
- Anticoagulant Rodenticides (ARs) most widely used rodenticides and are also referred to as Anti-Vitamin K's (AVKs)
- Deemed most effective means of rodent control
- In Ireland, over 93% of rodenticides authorised for use are anticoagulants (Biocidal Product Register - Authorised Products – DAFM 2024).

PROBLEMS ASSOCIATED WITH THE USE OF ANTICOAGULANT RODENTICIDES



 Bat Rehabilitation Ireland
9 November at 18:28 · 🌐

A very sad update. ❤️ The barn owl that arrived into care almost a week ago showing signs of secondary rodenticide poisoning didn't make it. ❤️

We were so hopeful for the little one and provided everything possible to try and pull him through. It's just heartbreaking. ❤️

1. **Rodenticide resistance**: lead to treatment failures, increased rodent populations, and the potential spread of resistant strains.
2. **Secondary Poisoning**: occurs when animal or bird e.g. owl ingests a rodent that has been poisoned with a rodenticide.
3. **Environmental contamination**: rodenticides have long biological half-lives, contributing to their persistence in the environment.



**TARGETED RAT
OR MOUSE EATS
RODENTICIDE**



**RAT OR MOUSE
BECOMES LETHARGIC
OR DIES, BUT POISON
STAYS IN THE BODY**



**PREDATORS FEED
ON POISONED
RATS OR MICE**



**NON-TARGETED
ANIMALS
BECOME SICK
OR DIE**

Image: <https://www2.gov.bc.ca/gov/content/environment/pesticides-pest-management/legislation-consultation/rodenticide-ban>

RODENTICIDE RESISTANCE IN IRELAND AND THE EUROPEAN UNION



- Rodenticide resistance defined “the loss of efficacy of rodenticides under practical conditions, even though the rodenticides are properly applied”
- Genetic resistance in Norway rats and house mice has been reported since the early 1960s in the EU (Hohenberger et al., 2022).
- In 2022, in five out of eight anticoagulants currently approved as rodenticides in the EU, resistances in target rodents has been found (Hohenberger et al., 2022)



Image: <https://research.reading.ac.uk/resistant-rats/anticoagulant-resistance-project/>

IRELANDS CURRENT RESTRICTIONS ON RODENTICIDE USE



❖ The DAFM must review rodenticides every 5 years with regards to resistance prevalence, secondary poisoning and environmental risks in line with EU requirements.

❖ Three user categories with specific rules applied to their use:

– **General Public (amateur):** no training, sale is unrestricted and can buy copious amounts of 25ppm products.

– **Professional (farmer):** Training and records of use required for the more potent 50ppm products. Restricted uses apply (e.g. permanent baiting prohibited)

– **Trained Professional (pest control expert):** Training and records of use required for the more potent 50ppm products. Surveys and risk assessments are completed to indicate the rodenticide and use required.



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OBJECTIVES OF THE RESEARCH PROJECT



Objective 1: Complete a literature review on prevalence of rodenticide resistance in Ireland compared to other EU Member States (EU MSs), the UK and New Zealand utilising relevant published research data.

Objective 2: Complete a literature review to identify and contrast the mitigation strategies used in Ireland vs. the EU, UK and New Zealand to combat negative impacts associated AR use.

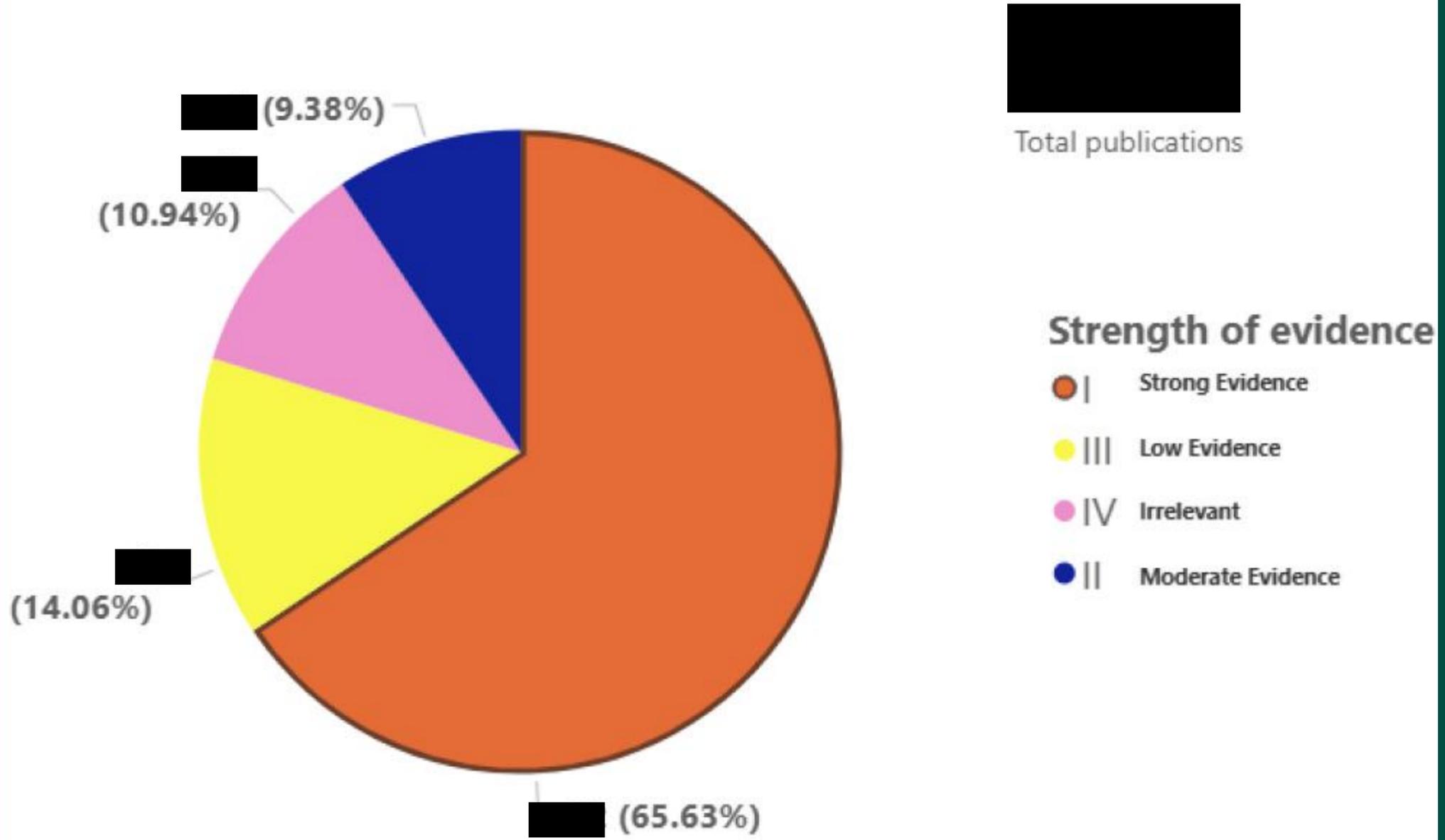
Objective 3: Conduct a survey to evaluate amateur users' comprehension of i) managing rodent infestations; ii) Integrated Pest Management (IPM) programmes; iii) the negative impacts associated with the misuse of ARs and; (iv) what they consider beneficial to improve public knowledge on the safe use of rodenticides.



OBJECTIVE 1: LITERATURE REVIEW RESULTS PREVALENCE OF RODENTICIDE RESISTANCE



Strength of evidence based on all results from literature review sources



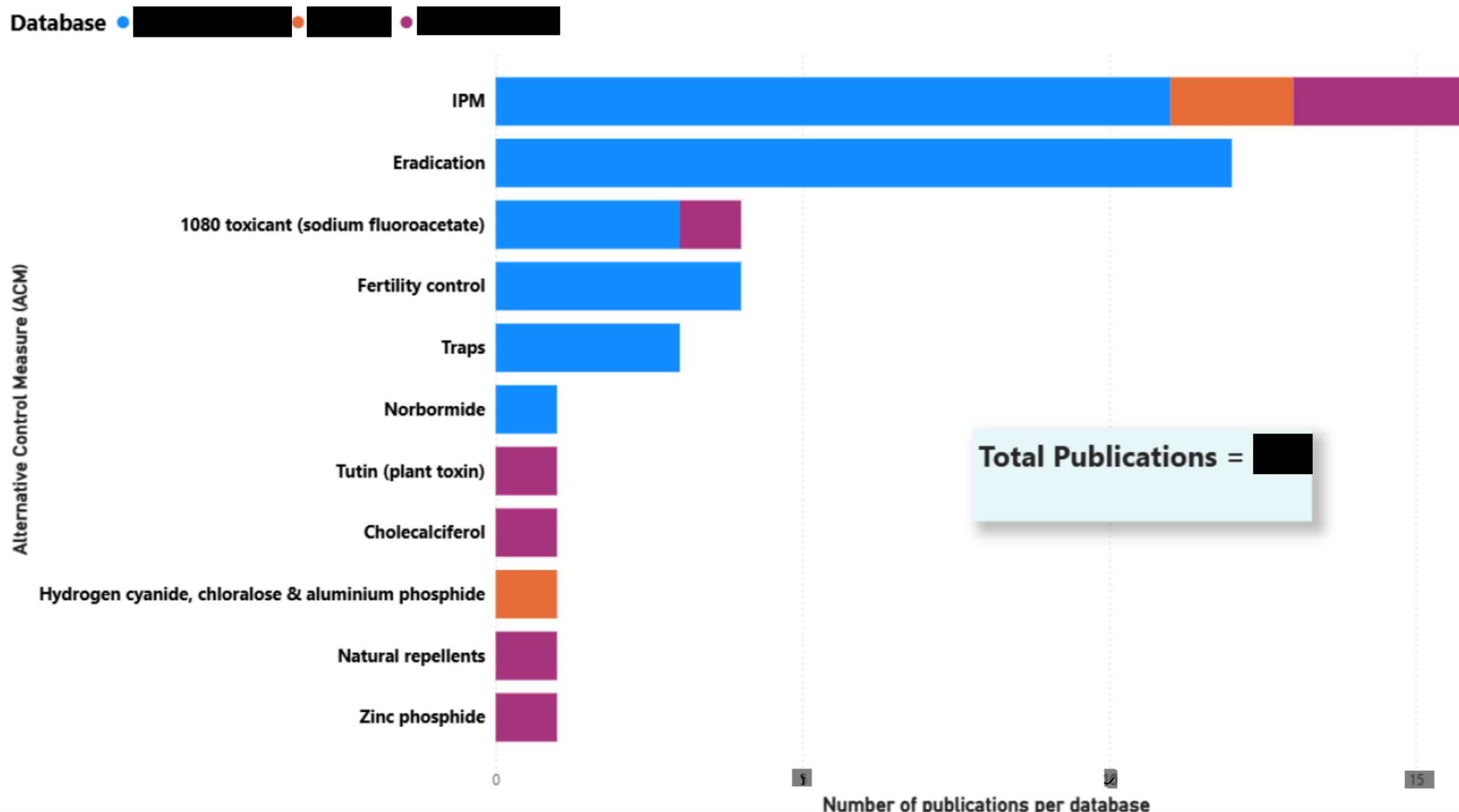
❖ Key message:
Approximately 66% publications provide strong evidence of AR resistance observed in Ireland, the EU, UK, and NZ

OBJECTIVE 2: LITERATURE REVIEW RESULTS

ALTERNATIVE CONTROL MEASURES (ACMs) TO ARs



Publications identified from literature review specific to ACMs

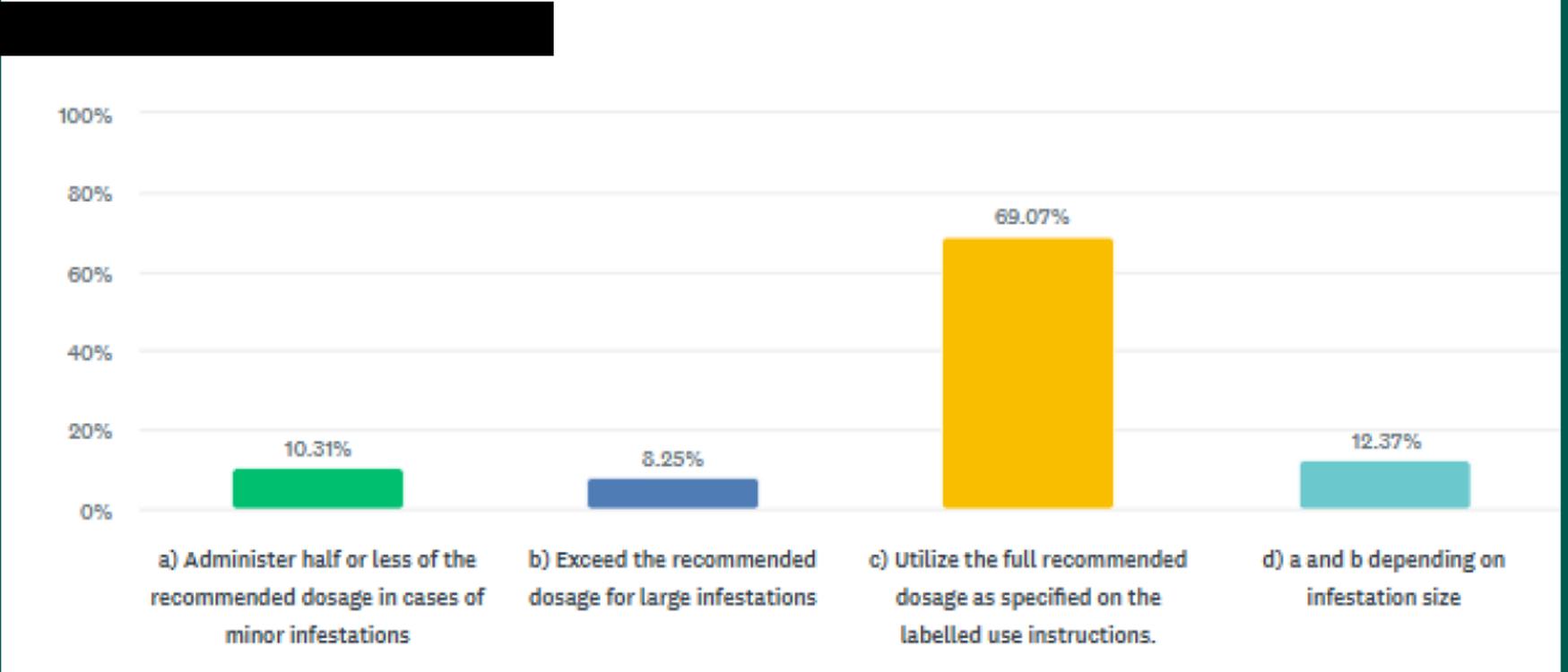


❖ Key message:
The data indicates IPM, eradication, 1080 toxicant, fertility control and traps were the most commonly found publications in relation to possible ACMs to ARs

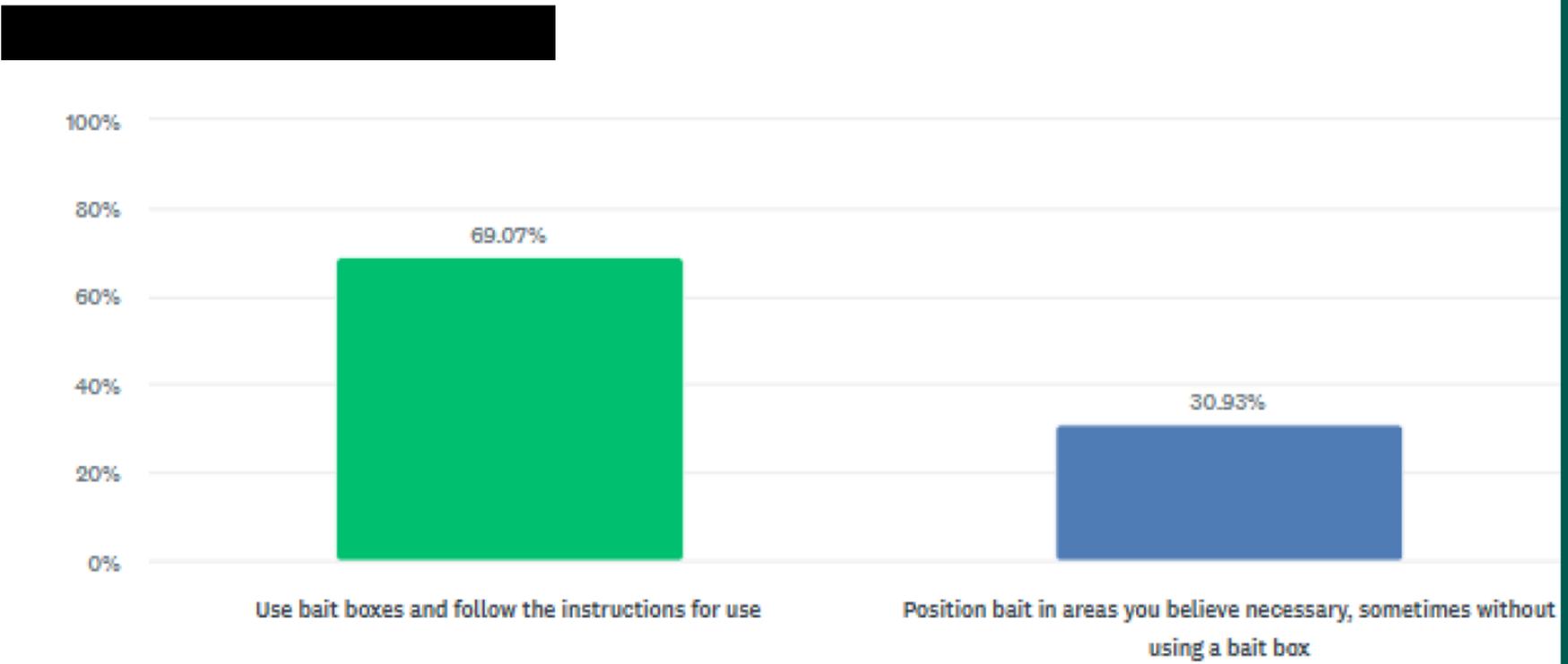
OBJECTIVE 3: SNAPSHOT SURVEY RESULTS



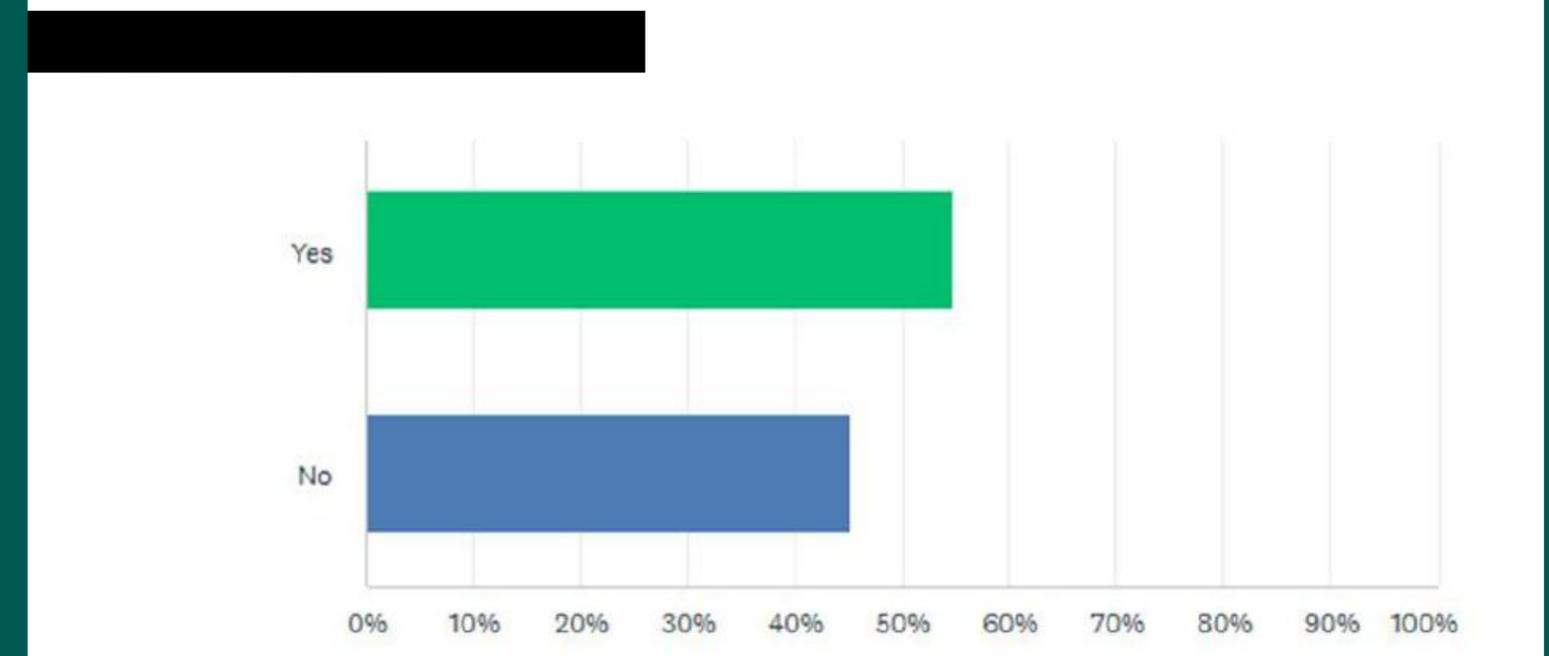
When using rodenticides for the first time (as per label directions), did you:



When applying rodenticides to control rodent infestation/activity, do you:



Did you know that Irish monitoring programs have shown that inappropriate or incorrect use of rodenticides can endanger wildlife (such as secondary poisoning of e.g. barn owl)?



❖ Key message: 30-40% amateur users of ARs are not adhering to product usage instructions with 45% unaware of the dangers to wildlife by secondary poisoning

Rodenticide Use: Dáil Éireann Debate, Monday 9th September 2024

- Debates
 - Find a debate
 - Dáil debates
 - Seanad debates
 - Committee debates
 - Find a vote
 - Dáil votes
 - Seanad votes
 - Committee votes
 - Parliamentary questions
 - Written questions
 - Oral questions
 - Search tips
 - Utterances having an adverse effect

Monday, 9 September 2024

Questions (1259)

Michael Healy-Rae

Question:

1259. Deputy Michael Healy-Rae asked the Minister for Agriculture, Food and the Marine if he recently signed a Ministerial order directing companies involved in pest control to take out the toxic product that kills rodents and replace it with a non-toxic poison (details supplied); and if he will make a statement on the matter. [34962/24]

[View answer](#)

Written answers

Approval and use of rodenticides in Ireland are regulated under the EU Biocidal Products Regulation (BPR - Regulation (EU) No 528/2012) which has been given effect in Irish law by S.I. No. 427/2013. The regulatory process is based on EU-harmonised guidance and decision-making criteria and involves Member State competent authorities and the European Chemicals Agency (ECHA). The active substance(s) contained in products are subject to an EU approval process by ECHA and the Member States. Subsequently, products containing these active substances are authorised or not for specific uses in the Member State. The authorisation may specify strict mitigation measures based on the agreed EU criteria and active substance approval, to protect human health and the environment, to minimise potential impacts on wildlife and prevent the development of resistance to the rodenticide.

In Ireland, pursuant to S.I. No. 427/2013, all rodenticide products are authorised by my Department before they can be made available for sale and use. The conditions of use and the risk mitigation measures based on the agreed EU criteria and decision applied to different products vary and certain products are restricted to use only by professional and/or trained professional users.

There are a number of rodenticide products authorised in Ireland for a range of important purposes, such as public safety and food hygiene. Details of these authorised products can be found on the Department's website (www.pcs.agriculture.gov.ie).

My Department recognises the importance of responsible, sustainable use of rodenticides therefore rodent infestations should be controlled based upon an Integrated Pest Management (IPM) approach which includes using rodenticides in accordance with best practice and in accordance with the product authorisation as outlined in the approved label instructions.

Thank you &
Any
Questions?

