NATIONAL
Fire Ant Eradication
PROGRAM

Fire ant animal health: key facts

Introduction

Insect Growth Regulators (IGRs), such as pyriproxyfen and S-methoprene, have been used globally for decades in veterinary and agricultural applications. These products are widely recognised as safe for animals when used as prescribed. IGRs play a vital role in protecting animal health by controlling a variety of pests and preventing the spread of diseases. They are commonly used to treat and prevent parasites such as fleas and ticks in domestic animals and to control mosquito populations, which helps limit the transmission of mosquito-borne diseases to humans, pets, livestock, and wildlife.

Regulation of IGRs in Australia

In Australia, the use of IGRs is highly regulated by the Australian Pesticides and Veterinary Medicines Authority (APVMA). The APVMA is an independent statutory authority responsible for assessing and registering agricultural and veterinary chemicals before they are approved for supply and use. The authority conducts rigorous evaluations of products to ensure they meet strict safety, efficacy, and trade criteria. Additionally, permits for these products are reassessed regularly to confirm they continue to meet these standards.

The APVMA has assessed and approved the use of Distance Ant Bait and Engage Ant Bait for managing fire ants. These products are considered safe and effective when used in accordance with APVMA-approved instructions. The APVMA has no evidence to suggest that these products pose a significant risk to domestic pets, livestock, or wildlife when applied correctly.

Scientific Evidence

Scientific studies and expert reviews have consistently demonstrated that IGRs are safe for animals and humans when used as directed. These products degrade rapidly in the environment and do not bioaccumulate or biomagnify, further reducing any potential risks.

The National Fire Ant Eradication Program (the program) commissioned post-mortem toxicology assessments for several cases of animal illness and mortality that coincided with broadscale eradication treatments. These assessments involved a guinea fowl, a crow, an echidna, and a horse. The program is also aware of toxicology assessments privately conducted by veterinarians involving a bull, a cow, and an alpaca. The results

of these assessments concluded that fire ant treatments were not the cause of illness or death in these cases.

While the results of 2 additional cases are still pending, similar findings are anticipated. An independent toxicologist has also confirmed that IGRs pose a very low risk to vertebrate animals and are unlikely to cause illness or adverse health effects when used as prescribed.

Impact of IGRs on Specific Animal Groups

The safety of IGRs has been evaluated across a range of animal groups, including livestock, domestic animals, amphibians, and poultry.

Methoprene has been found to be of very low toxicity to humans and other vertebrates. It has been safely used for decades in veterinary contexts, including on pets, livestock, and zoo animals. This includes its use on pregnant and nursing animals for the control of fleas, mites, and other parasites. Pyriproxyfen, another active ingredient in fire ant treatments, has been shown to interfere with the development of certain arthropods and amphibians only at very high concentrations. However, the levels of pyriproxyfen present in the environment after fire ant treatments are far below these harmful thresholds. Additionally, the program ensures that Distance Ant Bait is not applied in areas where it could enter waterbodies, further minimising any potential risks to aquatic life.

For poultry, studies conducted by the US Environmental Protection Agency (USEPA) indicate that the risk of IGR residues entering the food chain through eggs is extremely low. The amount of bait a chicken would need to consume to experience adverse effects is far greater than the amount applied during fire ant treatments. Similarly, the USEPA has found no evidence of health hazards related to the ingestion of methoprene residues, and the risk of either pyriproxyfen or methoprene entering the food chain is minimal.

In terms of performance animals, the active ingredients in fire ant baits are not listed on the FEI Clean Sport Prohibited Substances Database. This means there is no risk of racing or performance animals being exposed to controlled or prohibited substances due to fire ant treatments.

Fire Ant Stings and Their Impact on Animal Health

While fire ant treatments are safe when used as directed, fire ants themselves pose a significant threat to animal health. Fire ant venom contains piperidine alkaloids, which

can damage and kill cells and tissue, reduce cardiac and respiratory function, and, in severe cases, cause seizures or anaphylaxis.

Animals stung by fire ants may experience pain, swelling, inflammation, dermatitis, severe itching, and blistering. In some cases, a sterile pseudo-pustule may develop within 24 hours of a sting. Fire ant stings in the eyes can cause blindness, and mass sting events have been reported to cause serious health issues in animals. For example, horses have experienced laminitis, neonatal foal death, and abortion in pregnant mares due to fire ant stings. Dogs and cats have been affected by a condition known as Florida Spot Keratopathy, which is associated with fire ant envenomation.

Conclusion

The use of IGR-based fire ant treatments, such as Distance Ant Bait and Engage Ant Bait, has been rigorously assessed and approved by the APVMA. These products are safe for use around animals when applied as directed and play a critical role in protecting animal and human health by controlling fire ant populations.

While fire ant treatments pose minimal risk to animals, fire ants themselves are a significant threat, capable of causing severe health issues in animals. The program remains committed to ensuring the safety of its treatments and will continue to monitor and assess their impact on animal health.

For further information or to report fire ant sightings, please contact **132 ANT (13 22 68)** or visit fireants.org.au.

Further Reading

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