



Insect Growth Regulators and Their Use in Animal Husbandry

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Abstract

Insect growth regulators (IGRs) are chemicals that prevent insects from reaching maturity or reproducing, and they have been used in animal husbandry to control pest populations and improve animal health. This article provides an overview of IGRs, their modes of action, and their use in animal husbandry, including their benefits and limitations. The article also discusses the potential risks associated with IGRs, and the importance of using these chemicals in a responsible and sustainable manner.

Introduction

Insects can be a significant problem in animal husbandry, causing damage to facilities, spreading diseases, and affecting animal health and productivity. Traditional methods of insect control, such as insecticides and repellents, can be harmful to the environment and human health, and can also lead to the development of resistance in pest populations. Insect growth regulators (IGRs) offer a safer and more sustainable alternative to traditional insect control methods. IGRs are chemicals that disrupt the normal development and reproduction of insects, preventing them from reaching maturity or reproducing. This article provides an overview of IGRs and their use in animal husbandry.

Modes of Action: IGRs work by interfering with the normal development and reproduction of insects. They can act on different stages of insect development, including egg, larval, and pupal stages. Some IGRs mimic insect growth hormones, preventing insects from developing into adults, while others interfere with the production of chitin, a component of insect exoskeletons, preventing the development of hard outer shells. IGRs can also affect the production of juvenile hormones, which regulate insect growth and development.

Use in Animal Husbandry

IGRs are commonly used in animal husbandry to control pest populations, including flies, mosquitoes, and fleas. IGRs can be used in a variety of settings, including livestock facilities, poultry houses, and kennels. They can be applied as sprays, baits, or dusts, and can be used in combination



with other insect control methods, such as physical barriers and sanitation practices. IGRs have been shown to be effective in reducing pest populations and improving animal health and productivity.

Benefits and Limitations: IGRs offer several benefits over traditional insect control methods. They are generally safer for the environment and human health, and can be used in a targeted manner to control specific pests. IGRs can also reduce the development of insecticide resistance in pest populations. However, IGRs have some limitations. They can be more expensive than traditional insecticides, and may require more frequent application. IGRs also have limited effectiveness against adult insects, which may require additional control methods.

Potential Risks

While IGRs are generally considered safe for use in animal husbandry, there are some potential risks associated with their use. IGRs may be toxic to non-target organisms, such as beneficial insects and other arthropods. Some IGRs may also have long-term effects on the environment and wildlife. It is important to use IGRs in a responsible and sustainable manner, following label instructions and avoiding overuse.

Conclusion

IGRs offer a safer and more sustainable alternative to traditional insect control methods in animal husbandry. By disrupting the normal development and reproduction of insects, IGRs can reduce pest populations and improve animal health and productivity. However, it is important to use these chemicals in a responsible and sustainable manner, and to carefully consider the potential risks associated with their use.

References

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