Nutrition & Health

Selenium is an essential element for most animal species, including humans, and is most abundantly found in egg yolk and soybean oil as a cofactor in protein synthesis and metabolism, stimulating the production of antibodies and aiding in male fertility. However, selenium is toxic in excess concentrations, with a lethal dose of 10 mg/kg body weight in mice. Therefore, it is crucial to maintain proper selenium levels in animal feeds to ensure their health and productivity.

In addition to its nutritional benefits, selenium is also important for its role in the immune system, where it acts as a cytokine to stimulate the production of antibodies. It is also known for its role in protein synthesis and metabolism, as it serves as a cofactor in numerous metabolic processes.

However, selenium is not easily bioavailable, and its bioavailability can be affected by various factors, such as feed type, animal species, and time. Therefore, it is essential to monitor selenium levels in animal feeds to ensure their nutritional adequacy and prevent any possible health issues.

In conclusion, selenium is a crucial nutrient with multiple health benefits, but its bioavailability and regulation are essential factors to consider. Further research is needed to understand the complex relationship between selenium bioavailability and its utilization in various feed types and animal species.

Selenium in Animal Feeds: Bioavailability and Utilization

By DAVID EISENBERG, NIKOLAY BARASHKOV, ZACHARY EISENBERG and THOMAS MAY

Selenium is an essential nutrient for animal health, playing a critical role in various physiological processes. It is found in animal feeds as well, and its bioavailability and utilization are crucial to consider. However, the bioavailability of selenium in animal feeds is complex, and various factors can affect its bioavailability.

Factors Affecting Selenium Bioavailability

Several factors can affect the bioavailability of selenium in animal feeds, including feed type, animal species, and time.

Feed Type

The type of feed can significantly affect the bioavailability of selenium. For example, selenium in egg yolk is more bioavailable than that in soybean oil. Additionally, the type of plant or crop used in feed production can also influence selenium bioavailability.

Animal Species

Animal species also play a role in selenium bioavailability. Different species have different requirements for selenium, and this can affect how selenium is utilized in the body.

Time

The time of feeding can also impact selenium bioavailability. Selenium bioavailability is lower when fed continuously, and the bioavailability of selenium is lower when fed in the morning than in the evening.

Conclusion

Selenium is an essential nutrient for animal health, and its bioavailability and utilization are crucial to consider. Understanding the factors that affect selenium bioavailability is essential to ensure optimal nutrient utilization and health benefits. Further research is needed to better understand the complex relationship between selenium bioavailability and utilization in various feed types and animal species.