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Chemistry

Thesis

Abstract

I collected beef cattle feed samples from various storage locations on my family's farm. I analyzed those samples using HPLC-MS/MS for mycotoxins, which are toxic secondary metabolites produced by fungi, and isolated and identified fungal species from crop samples. Correlations between mycotoxins identified, fungal species present, storage conditions, and agronomic qualities were made to identify better feed management practices for farmers to implement in a cost-effective manner to improve farm profitability and livestock health.

How enjoyable was using an integrated approach?

I loved incorporating technical aspects of chemistry and biology from my undergraduate courses and applying them to my family's farm to improve our agronomic practices. A project like this would not have been possible without using an integrated approach.

Were there any difficulties integrating sciences?

It was a really big learning curve to learn specific information about mycology, which wasn't touched upon in undergraduate courses.

Any advice for future students?

Pick something you're passionate about! It makes it so much more fun!

