Quantitative and Qualitative Analysis of Saponins in Different Varieties of Alfalfa and their Relationships with Weevil Resistance

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Abstract

The objectives of this study were to determine the quantitative and qualitative analysis of saponins in different varieties of alfalfa and to evaluate their relationship with weevil resistance. The study was conducted by extracting and analyzing saponins from alfalfa varieties using TLC (Thin-Layer Chromatography). The results showed that the quantitative analysis of saponins varied significantly among the different varieties, with the highest content being detected in variety 1. Qualitatively, all varieties contained a mixture of saponins, but the composition differed. The analysis of weevil resistance indicated a positive correlation between the saponin content and the resistance level. The study concluded that saponins play a crucial role in the resistance of alfalfa to weevils, and further research is needed to understand the underlying mechanisms.