

EFFECT OF QUILLAJA SAPONINS ON HARMFUL GASES EMISSION FROM PIG FARMS

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Abstract

The aim of the study was to evaluate the effect of saponins from *Quillaja saponaria* in pig diet on CO₂, NH₃, N₂O and CH₄ emissions. Ten pigs of the Přeštice black-pied breed with an average weight at the beginning of the experiment of 16.89 ± 2.51 kg were included in the study. The experiment was finished at an average live weight of 32.65 ± 4.28 kg. The experimental diet was enriched with a preparation containing saponins from *Quillaja saponaria*. The dosage of the preparation was 0.5 kg/t of feed mixture. Saponins have a significant ability to inhibit the activity of the enzyme urease, which acts as a catalyst in the decomposition of nitrogenous substances into ammonia and other components. Inhibition of urease inhibits the production of ammonia in the intestines of non-ruminant animals, thereby significantly reducing the production of stable gases. The production of the gasses was calculated per kg of live weight of pigs. It was found that the inclusion of Quillaja saponins in pig feed reduces the emission of harmful gases in the stable.

Key Words: Pig; gas emissions; Quillaja saponaria; saponins