

ASSESSMENT OF FEED QUALITY AND CONTAMINATION OF FEEDSTUFFS WITH TOTAL AFLATOXIN AND ZEARELENONE IN A DAIRY COW FARM IN BISTRIȚA-NĂȘĂUD COUNTY

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Abstract

This study was conducted in a dairy cattle farm in Bistrița-Năsăud County. Assessments were made over the fodder used to feed dairy cows and mycotoxic load. Feed samples were collected two times, first in the fall of 2019 and again in the fall of 2020 from different places from the same batch and they were conditioned shortly after harvest by drying and grinding. A total of 8 samples were collected from the farm and they represent the total of all feed used in the livestock feed in that farm. All of the forages were organoleptically analyzed, we determined the chemical composition; dry matter, crude protein composition, ether extract, crude cellulose, crude ash and nitrogen free extract. Zearalenone and Total Aflatoxins were also determined from each of the samples using RIDASCREEN® test, which are an competitive enzyme-linked immunosorbent assays. Zearalenone was detected in all the samples analyzed with values between 43.83 and 1054.03 µg/kg in 2019 and in 2020 with values between 103.45 and 1818.23 µg/kg. 75% of the samples analyzed in 2019, 50% of the samples analyzed in 2020 exceeding the maximum permissible limit in the European Union (EU). Total Aflatoxins were detected in all the samples analyzed, with values between 0.361 and 2.35 µg/kg, without exceeding the maximum permissible limit in EU.

Key words: bovine, gross chemical composition, zearalenone, aflatoxins
