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VERIFICATION METHOD FOR PROVING THE AFLATOXIN IN FEED

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Abstract. Aflatoxins: AFB1, AFB2, AFG1, AFG2, produced by moulds, *Aspergillus flavus* and *Aspergillus Parasiticus*, AFB as a substance with blue fluorescence in UV (365nm), and AFG detected by green fluorescence presence in feed. AF found in crops before harvest or during storage mainly in wet soils and soils with decomposing vegetation. The method by Charm II 6600 Luminometer is fluorescent and the Charm II test is fast (15 minutes) for examination. The method was tested and confirmed by its performances: repeatability, which limit the linear calibration range of 104 to 105, higher than the limit detection 5 – 40 ppb, which confirms the accuracy of the method and calculated RSD is 1% and lower concentrations 100 times larger than the limit of detection. Statistical determination of concentration AFB1 in series of 2, 4, 6, 8, 10 $\mu\text{g kg}^{-1}$ mixture, received RSD was 1.26; 0.66; 0.43; 0.304; 0.327 %, respectively. Analogous for AFG1 statistical determine, RSD in series of 1, 3, 5, 7, 9 $\mu\text{g kg}^{-1}$ mixture, was 1.92; 1.39; 1.76; 0.515; 0.64 % adequately. Accuracy and precision of the method are determined by applying the method of standard addition, determining the content of AFB1 and AFG1 in different types of feed. As a standard addition is used a mixture of AFB1 and AFG1 (3, 5, 7 $\mu\text{g kg}^{-1}$ presence in corn), (4, 5, 6 $\mu\text{g kg}^{-1}$ in concentrate and sided). The values for the analytical yield, R, respectively ranged for AFB1 (94-98%) AFG1 (93-96%) in corn, R for AFB1 (96-98%), AFG1 (93-99%) for the concentrate and the R of AFB1 (94 -96%), AFG1 (98-99%), thus confirming that the method is quantitative and accurate. Introduced and developed a precise method for determination of aflatoxins in Charm II 6600 Luminometer for controlling the food and thus the health of animals and people in unbroken food chain.

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