

ABSTRACT

The objective of the present work was to study the effect of storage, temperature and moisture on the growth of aflatoxins in animals feed ingredients. For this purpose, HPLC (high performance liquid chromatography) method was used.

Four different samples, corn, rapeseed meal, canola meal, soyabean meal were collected for this purpose from National Group of Industries. Samples were stored at different temperatures, 25°C, 30°C, 35°C, 40°C and 45 °C, with different moisture levels. 12%, 14%, 16% and 18%. The samples were analyzed after 0, 10, 20,30,40,50 days for the concentration of afltoxins B₁ and G₁ by HPLC method. The HPLC method was found to rapid, precise ($C_v = 0.03\%$), accurate (98.7%) with RSD (0.25%) and suitable for analysis of aflatoxins in animal feed samples.

Graphs were plotted between concentration of aflatoxin and storage period for different moisture level and temperature and it was shown that with the increase in temperature, moisture level, and duration the aflatoxin growth increases. The storage temperature of 25°C and 12% moisture level were found safest conditions for the storage of the feed materials.