

The Effects of Production, Transportation and Storage Conditions on Mold Growth in Compound Feeds

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Abstract : The objective of the present study is to determine the critical control points during the production, transportation and storage conditions of compound feeds to be used in the Hazard Analysis Critical Control Point (HACCP) feed safety management system. A total of 40 feed samples were taken after 20 and 40 days of storage periods from the 10 dairy and 10 beef cattle farms following the transportation of the compound feeds from the factory. In addition, before transporting the feeds from factory immediately after production of dairy and beef cattle compound feeds, 10 from each total 20 samples were taken as 0 day. In all feed samples, chemical composition and total aflatoxin levels were determined. The aflatoxin levels in all feed samples with the exception of 2 dairy cattle feeds were below the maximum acceptable level. With the increase in storage period in dairy feeds, the aflatoxin levels were increased to 4.96 ppb only in a BS8 dairy farm. This value is below the maximum permissible level (10 ppb) in beef cattle feed. The aflatoxin levels of dairy feed samples taken after production varied between 0.44 and 2.01 ppb. Aflatoxin levels were found to be between 0.89 and 3.01 ppb in dairy cattle feeds taken on the 20th day of storage at 10 dairy cattle farm. On the 40th day, feed aflatoxin levels in the same dairy cattle farm were found between 1.12 and 7.83 ppb. The aflatoxin levels were increased to 7.83 and 6.31 ppb in 2 dairy farms, after a storage period of 40 days. These obtained aflatoxin values are above the maximum permissible level in dairy cattle feeds. The 40 days storage in pellet form in the HACCP feed safety management system can be considered as a critical control point.

Keywords : aflatoxin, beef cattle feed, compound feed, dairy cattle feed, HACCP

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