

A HACCP model for By-products feed production

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Abstract

By-products has been considered lately in Total Mixed Ration (TMR) as an alternative to livestock feed around the world. This is due to the high cost of using forage as feed, less expense in exploring by-products of agriculture origin and environmental concerns with their disposal. However, by-products usually contain contaminants and the production process requires fermentation using a storage and fermentation tank. Animal feed is the start point of the food safety chain in the 'farm-to-fork' model. This necessitated a study to model a protocol that will culminate to safe feed production. Hazard analysis and critical control points (HACCP), a systematic preventive approach to food safety from biological, chemical and physical hazards in production processes that can cause the finished product to be unsafe was explored. Implementation of this model provides a mechanism that ensures product safety is continuously achieved. The entire production process of By-products feed production was evaluated using HACCP wizard software. This includes the plant layout, technical standards, storage and fermentation tank cleansing method, staff assignment, safety control method, and distribution. The potential biological, chemical, and physical hazards that may exist in every step of the production process were identified, and then critical control points (CCPs) were selected. This will ensure the safety of products made from livestock that consumes by-product feed. These includes cheese, milk, beef, etc.

Keywords

By-products, HACCP, Hazards, Livestock Products, TMR

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