



Association of On-farm Animal Feeds Handling Practices with Growth of Mycotoxin Producing Molds in Feeds on Smallholder Dairy Farms in Nakuru, Kenya



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INTRODUCTION

Practices used by smallholder dairy farmers for handling of animal feeds at the farm pose a risk of mycotoxins to dairy animals and dairy products, hence a public health concern.

Mycotoxins are metabolic products produced by saprophytic fungi that grow on substrates kept under conditions that favour the toxins production. These conditions are both intrinsic and extrinsic of the substrate

OBJECTIVE

To document the on-farm practices of handling animal feeds used by these farmers and how they influence the growth of mycotoxin producing fungi together with prevailing extrinsic conditions.

METHODOLOGY

- ♦ Study involved the use of structured questionnaire for interview of smallholder dairy farmers (n=120) for on-farm feed handling practices.
- ♦ collection of feed samples (n=97)
- ♦ microbial analysis of the mycotoxin producing molds.
- ♦ The mold counts were interrelated with the feed handling practice and therefore a measure of its impact.

RESULTS

1. Type of feed

Rural dairy system was characterized by practice of free range grazing unlike peri-urban system practice that had semi-intensive stall feeding. As a result rural system farmers predominantly fed their cows on pasture and crop residues

2. Storage Facilities



12 % of farmers kept feed in store but placed on the floor exposed to humid conditions

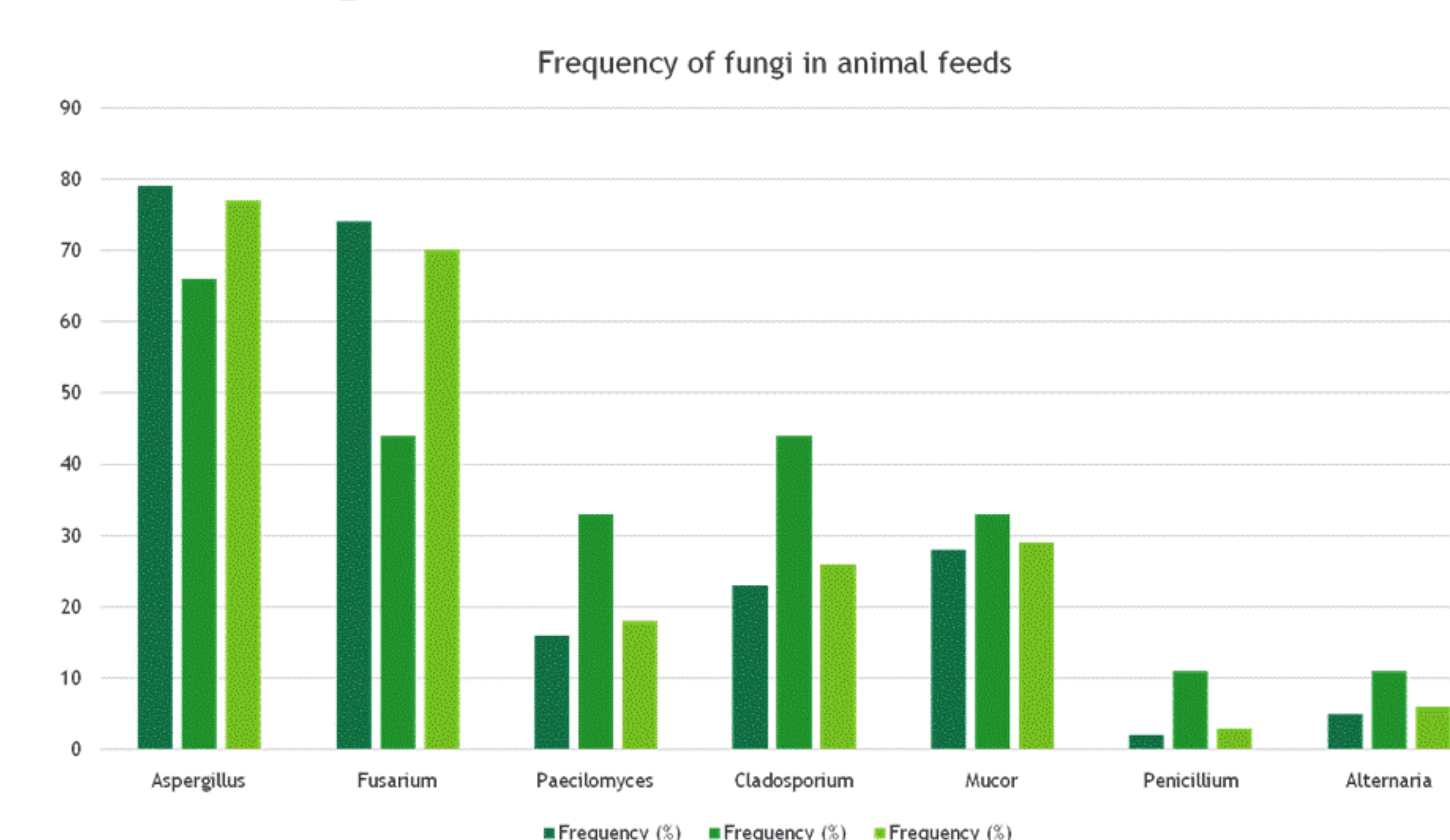


18 % of farmers stored feed on open raised rack exposed to environmental conditions

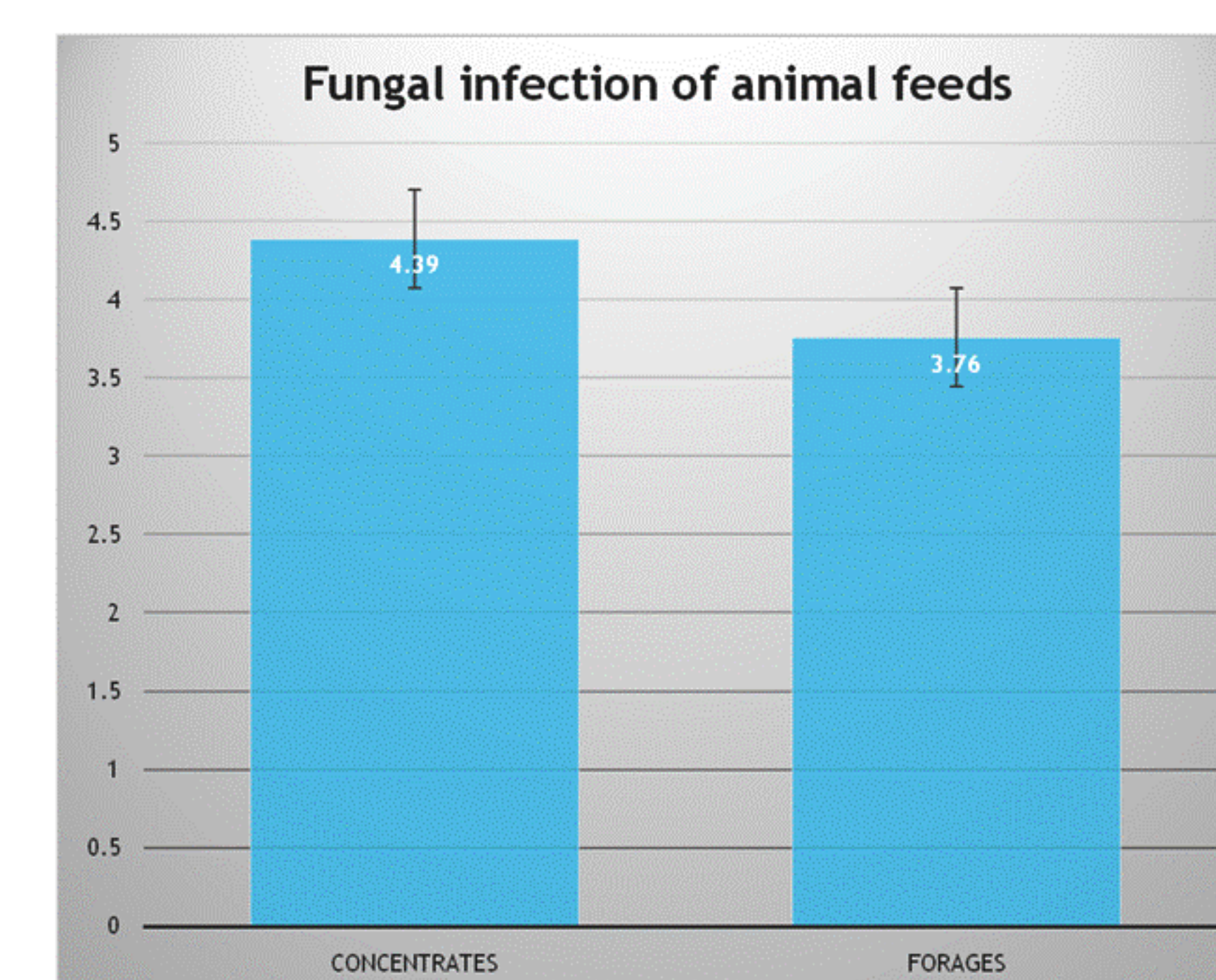


Animal feed stored in an enclosed store on the floor exposed to humid conditions.

3. Fungal infestation of animal feeds



In general samples showed that *Aspergillus* spp. (77%; 51/66), and *fusarium* spp. (70%; 46/66), the main prevalent mycotoxigenic fungi genera respectively.



Total fungal count is key for evaluation of hygiene quality of animal feeds and used for orientation in lower or higher probability of animal feeds containing mycotoxins

CONCLUSION

Feed contamination on farm at rural and peri-urban sub-value chains with mycotoxic fungi is primarily due to poor storage facilities exposing feed to environmental conditions that favour growth of mold.

REFERENCE

Makau CM, Matofari JW, Muliro PS and Bebe BO. Association of on-farm feed handling practices with fungal growth and mycotoxin production in feed in small holder dairy farms, Nakuru Kenya. African Journal of Agricultural Research. In press 2016