

- Use colour or density to sort grain in order to remove contaminated grains from a grain lot, before they are used for feed processing or feeding cows. As a rule of thumb what is not good for humans is not good for cows.
- Empty the feeding troughs daily to avoid the accumulation of stale feeds.
- Source animal feeds from reliable suppliers.
- Use aflatoxin-deactivating agents and mycotoxin binders during the formulation of animal feeds e.g. some strains of lactic acid bacteria.
- Use of mycotoxin- binders during the formulation of cattle feed, either home-made rations or commercial feeds.
- Keep proper records for all feeds, feeding practices, milk contamination and animal health and performance for all cases of aflatoxin contamination in milk.



**Compiled by:** Ndirangu P.N.

Design and Layout by: Odipo S.

**For further information contact:**

Veterinary Research Institute, Muguga,

P.O. Box 32-00902 Kikuyu

Email: Director.vsri@kalro.org

Phone:020-2020512

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## HOW TO PREVENT AFLATOXIN IN MILK AT FARM LEVEL



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### Aflatoxin M1 in farm animal milk

Aflatoxin M1 (AFM1) is a form of fungal toxin occurring in milk and is a metabolite of aflatoxin B1, which is the form found in mouldy animal feeds. It is classified by International Agency for Research on Cancer (IARC) as a human carcinogen and has a high carry-over rate from animal feeds to animal products such as milk and eggs. The toxin appears to be associated with the protein fraction of milk and hence the aflatoxin is present not only in fluid milk but also in products made from contaminated milk. Its presence in milk and dairy products is a major risk to humans. These products are mainly consumed by children, who are considered to be much more sensitive to the adverse effects of the toxin. In addition, the presence of aflatoxin in milk is used as a non-tariff barrier in trading with milk and milk products.

#### 1. Sources of aflatoxins in animal milk

The main sources of this toxin largely, is in feeds and feed supplements. Some of these are:

- Feed supplements (e.g. rotten maize grain unfit for human consumption, cotton seed and their products).
- Spoiled fodder and mouldy hay.
- Silage made and stored under poor conditions.
- Rotten kitchen and urban centre wastes.
- Dairy cows affected by fungal mastitis.



*Mouldy hay that is not fit for animals*



*Kitchen waste-with a potential risk of aflatoxin and chemical contamination*

#### 2. Symptoms to look for in animals with aflatoxin poisoning

Being on the lookout for aflatoxin poisoning is a daily activity farmers should be keen on. It is important to look out for:

- Weakness and inactive.
- Loss of appetite.
- Decreased milk production.
- Sub-normal body temperature.
- Dry and peeling skin on the muzzle.
- Protrusion of the rectum (rectal prolapse).
- Liver damage is seen as yellowing of mucous membranes (icterus/jaundice) and disturbances of gastrointestinal tract (GIT) where cows are not able to properly digest feed.
- Watery swelling in the abdominal cavity (edema)

#### 3. Control of aflatoxin-M1 contamination in milk

It is important check on feeds and feed supplements at the point of feeding to avoid poisoning. Once identified the spoilt feed should be destroyed. Generally, farmers should take the following precautions:

- Do not feed spoiled grains to animals.
- Store animal feeds in a well-sealed storage bag and under dry conditions.
- Prevent pre-harvest fungal contamination of crops by planting at the right time so as to avoid stressing crops while in the field.
- Use of aflasafe® (fungus binding agent) in crop fields.
- Apply ash to maize and maize- products intended for feeding cattle to reduce aflatoxin.