

# Aflatoxin in milk

by Carol Rees

Aflatoxin is a highly poisonous chemical which is produced by the fungus *Aspergillus flavus*. While it is chiefly found on maize and cottonseed, the fungus can also grow on rice and other cereals. In growing crops, *Aspergillus* thrives in drought conditions. If these crops are harvested during unseasonal rain, inadequately dried, and then stored in humid conditions, the fungus multiplies rapidly and very high levels of aflatoxin build up. These are precisely the climatic conditions that we have experienced in the past few months, so the current outbreak of aflatoxicosis could have been predicted.

Acute aflatoxin poisoning can cause death from liver failure in man and animals - dogs being particularly susceptible. Chronic exposure causes stunting of growth in the young of all species, infertility in adults, and importantly can eventually lead to cancer of the liver.

The danger of eating maize contaminated with aflatoxin has recently been highlighted in the press, and much of the suspect maize, particularly from the Eastern and north Eastern Provinces, has been withdrawn. Unfortunately it appears that some of the affected maize has found its way into the livestock feeds. Dogs have been dying, a clear indication that all is not

well.

It is perhaps not generally known that milk from cows fed on contaminated feed can contain high levels of aflatoxin, and this occurs long before the cows show any signs of poisoning. A recent survey of milk from both urban and rural areas, and also milk of all types bought from supermarkets, confirmed the presence of aflatoxin in 72% of samples, of which 20% had amounts well in excess of the WHO permissible level. The aflatoxin has come full circle and the population is still at risk of chronic poisoning.

So how can we protect ourselves? There are a number of measures that can be taken immediately. Remember that farmer awareness can go a long way towards combatting unscrupulous practices.

1. Correct storage of feedstuffs is of vital importance. *Aspergillus* multiplies rapidly in damp conditions. Beware of leaking roofs and damp concrete floors. Ideally if feed is to be stored for any length of time it should be on slatted wooden shelves where air can circulate freely. Check the storage conditions at your retailers. Has their feed been in stock for a long time?

2. Many brands of stock feed are labelled "aflatoxin tested". This could mean that it is tested regularly, or that it has been

tested on just one occasion! Check with the millers - how often do they screen their feeds for aflatoxin? Has this latest batch been tested? Ask to see the figures.

3. There are a number of products that can be added to livestock feeds which will absorb the toxins, of which *Mycosorb* is readily available locally. The more responsible millers include this product in their feeds regularly, others occasionally, others not at all (the suppliers of *Mycosorb* can confirm). If in doubt, and particularly at times of high risk, it is worth purchasing your own *Mycosorb* and adding it to your livestock feeds at the manufacturer's recommended rate.

4. And finally - prevention is better than cure! Scientists have isolated a strain of *Aspergillus flavus* that does not produce toxins. When applied to maize 2 - 3 weeks before flowering, this fungus will outcompete and greatly reduce the population of the poison-producing strain, thus controlling the contamination with aflatoxin. We now look forward to this safe, natural product becoming commercially available.