

GEAR-Symposium, 27.-31.8.2001, Cairo, Egypt

**“Umweltverschmutzung in Ägypten:
Folgen für Mensch, Tier und Pflanze”**

**Futtermittelpilzung – Ein oft vergessener Faktor bei
Fruchtbarkeitsstörungen des Rindes**

**Khamis, Y. , H. A. Hammad and N. Hemeida
Cairo University**

A hyperoestrogenic syndrome was observed on 7 cows (4 adult buffaloes + 3 heifers) which were stationary held at the Department for training purposes, showing estrous behavior. The syndrome was characterized by continuous estrous, restlessness, increased bellowing, moist and hyperemic vaginal mucosa, mucoid vaginal discharge, edema and swelling of the vulva and udder edema.

Mouldy hay of Barseem (*Trifolium alexandrinum*) constitutes the only source of nutrition during the dry season lasting about 5 months. The hay showed high degree of moldiness as it was stored outside the building in direct sun and rain, by which moisture and temperature were favorable for the fungi growth.

Laboratory investigations of hay proved the presence of different fungi species : *Aspergillus niger*, *A. flavus*, *A. fumigatus*, *Fusarium tricinctum* and *F. roseum*) from which *Fusarium roseum* is known to produce estrogenic-like metabolite (Zearalenone).

3 weeks after withdrawal of the mouldy hay and shifting of the ration to another , the estrogenic signs began to subside gradually and disappeared completely in another 3 weeks .

Trials to induce the syndrome experimentally by intraperitoneal injection of pure culture of the isolated fungi into immature female , failed .

On the other hand induction of the syndrome by injection of the extract of the mouldy hay showed histological changes in the genital tract, similar to those found in 2 sacrificed buffaloes. The changes were: increase in the size of the uteri, edema and hypertrophy of the endo-and myometrium as a bioindication for estrogen.

These results are mostly due to synergetic interaction between the different metabolites produced by the fungi.

This experience denotes clearly: 1. a cause-and-effect relationship between the mycotic pollution of the animal fodder of plant origin and the reproductive disturbances, finding which should be considered by the interpretation of reproductive troubles in cattle...2. The fallacy of the hypothesis, which said that the fungi/ mycotoxins are going to be destructed in the milieu of the rumen.. 3. The necessity of practicing a suitable method for storage of animal feeds.