

The effect of estrogenic mycotoxins in fertility disorder

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Abstract

Mycotoxins are naturally secondary metabolites of filamentous fungi, more specifically molds, that have adverse effects on biological organisms. A class of mycotoxins with estrogenic activity is Estrogenic mycotoxins (mycoestrogens) that produced by *Fusarium* fungi. The only class of mycoestrogens so far determined is the zearalenones (ZEAs). Zearalenones are non-steroidal compounds belonged to β -resorcylic acid lactones. ZEAs can bind estrogen receptors because they are able to adopt a conformation sufficiently resembling 17 β -estradiol and other natural estrogens. For this reason, ZEAs have shown to cause alterations in the reproductive tract of laboratory and domestic animals, resulting in estrogenic syndrome. ZEAs have been observed to possess tumor-promoting activity in the human similar to that of estrogens and hypothetically can induce proliferation and carcinogenesis in estrogen dependent tissues such as endometrium and cervix. ZEAs were suspected to be the causative agent in some epidemics of precocious pubertal changes such as premature thelarche and gynecomastia in young children in some countries. Contamination of cereals especially corn with *Fusarium* fungi, produces ZEAs. Therefore, routine laboratory determination of mycotoxins especially zearalenones are necessary to evaluate contamination rate of fungi toxins.

Keywords: Mycotoxins, Estrogenic, Zearalenone, Corn, and Infertility

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