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## Antitoxic effect of a *Saccharomyces cerevisiae* glucomannan in dairy cows naturally exposed to aflatoxin

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Aflatoxins (AFs) are secondary metabolites of the *Aspergillus spp.* fungi and they are found in grains and other foods and feeds as a natural contaminant. AFs are the most potent of the naturally occurring mycotoxins. Sequestering agents bind dietary AF and reduce their absorption from gastrointestinal tract. As a result, they protect an animal from the AF toxic effects and reduce transfer of the metabolite, aflatoxin M1, into milk. A study, using first gestation cows fed AF-naturally contaminated feed ( $9.3 \pm 5.2 \mu\text{g}/\text{kg}$ ), were conducted to evaluate the glucomannan derived from *Saccharomyces cerevisiae* (GMSc) for their abilities as potential sequestering agent to prevent or reduce the effects of subacute intoxication with AF. Eighty Holstein heifers, were selected into two dietary treatments: 1) Control group without treatment (Dairy farm A); 2) Purified GMSc added to diet (1.0 kg per ton) during 12 months (Dairy farm B). Blood samples were obtained every month and reproductive events were recorded. Animal treated with GMSc showed to be partially protected against AF deleterious effects ( $p < 0.05$ ) on: plasma total protein concentration, albumin, alkaline phosphatase, prothrombin time, plasma alanine aminotransferase, aspartate aminotransferase, gamma-glutamyltransferase and reduced glutathione concentration (28.4, 38.4, 134, 20.0, 20.0, 35.2, 46.5 and 32.9%). In addition, they showed less reproductive failure (8/40 vs. 0/40) and number of artificial insemination services per effective pregnancy (2.5 vs. 2.0). The results suggest that GMSc depicted protective action against untoward effects on performance and on biochemical alterations induced by aflatoxin ingestion and could be used as feed additives in dairy cows feedstuffs.

### Biography

Arturo G Valdivia has completed his PhD at the age of 49 years in Veterinary Medicine Faculty of the Colima University, Mexico. He was the thesis director of 13 postgraduate students. He has published more than 17 papers in indexed international journals and served as an editorial board member in reputed journals.

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