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Research Details :

Research Title : في الألبان الجافة المتداولة في المملكة العربية السعودية ودراسة M1 تعيين الأفلاتوكسين تأثيراته على بعض القياسات البيوكيميائية والدراسات النسيجية المرضية في دم الفئران البيضاء في الألبان الجافة المتداولة في المملكة العربية السعودية ودراسة M1 تعيين الأفلاتوكسين تأثيراته على بعض القياسات البيوكيميائية والدراسات النسيجية المرضية في دم الفئران البيضاء

Descriptipn : Aflatoxins are highly toxic compounds produced by certain fungi growing in a wide range of food and feedstuffs. Aflatoxin B1 (AFB1) , the most toxic one , is ingested by animals, it is transformed into its hydroxylated product , aflatoxin M1 , which is then secreted in the milk . The current study was aimed to determine the occurrence and levels of different types of aflatoxins (B1, B2 , G1 , G2, and M1) in a total of 93 cans of powdered milk (17 types of infant dry milk and 14 types of dry milk) of different production factories. They were collected from Jeddah markets in Saudi Arabia. The results revealed that all samples of powdered milk are free from all kinds of fungi and yeasts in addition it is free from all kinds of diseased bacteria (Salmonella, Shigella and Staphylococcus aureus) and coliforms bacteria. The total count of bacteria is ranged from 100- 400 colony/ g of dry milk. These bacteria are identified as Bacillus , Serratia plymuthica , Pantoea sp and Flavimonas oryzihabitans. These results indicate that all kinds of infant milk contaminated with high amounts of AFM1 and 3 types from 14 types of dry milk were contaminated with high level of AFM1. In case of AFB1 it is a significant increase in 9 types from 17 types of infant milk and in 6 types of dry milk. All types of infant and dry milk are free from AFB2 except one type of infant milk with significant decrease ranged 48%. On the other hand the results revealed the absence of AFG1 and AFG2 in all types of milk under investigation. The daily oral administration of the tested albino mice with contaminated milk of AFM1 (0.11ng/0.1ml milk /day) for 6 months caused severe histological damage in the liver and kidney and consequently , caused a significant increase in hepatic enzymes (SGPT , SGOT and ALP) and Bilirubin and in kidney functions enzymes (Creatinine and Urea) and Uric acid . According to these results , incidence and contamination levels of powdered milk with AFM1 seem to be a serious problem for the public health. Since all groups , including infants and children , consume these products worldwide . For this reason , milk and dairy products have to be inspected and controlled continuously for the AFM1 contamination .

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