

Mycosorb® modulated improvement in milk yield and reduction in milk residue of aflatoxin M₁ in dairy cows

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Mycotoxin contamination of the farm animal diet affects the productivity, immunity and performance of the animals and also poses residue-related problems in the products. Aflatoxin B₁ contaminated feedstuffs can result in milk and milk products contaminated with aflatoxin M₁. EU regulation allows a maximum level of 0.05 µg of aflatoxin M₁/kg milk. Mycosorb® (Alltech Inc.), a patented glucomannan-containing yeast product derived from yeast cell wall, has been known to adsorb different mycotoxins and reduce their adverse effects in farm animals. A biological trial was conducted in a commercial dairy farm to evaluate the effects on supplementing the farm-made diets with Mycosorb® on milk quantity and aflatoxin M₁ residues. Twenty cross-bred Holstein-Friesian cows in the first month of 2nd lactation with similar condition scores and average daily production of 17.6 L per animal per day were selected and fed two types of diets: (1) Diet without Mycosorb® (control), and (2) Diet with Mycosorb® at 10 g/cow/d. The cows were fed 6 kg of farm-made concentrate mix daily (corn, peanut cake and rapeseed cake as major ingredients), and *ad libitum* roughage (corn fodder and millet straw). Analysis of the concentrate mix for multiple mycotoxins revealed high levels of aflatoxin B₁ (110 ppb), ochratoxin A (80 ppb), and T-2 toxin (45 ppb). Milk samples were collected on every 15th day of the trial period. Analysis of milk samples for aflatoxin M₁ revealed a significant reduction to the extent of 80% in the Mycosorb® group as compared to the control group as shown in the table below (P<0.05). The average daily milk production was also significantly (P<0.05) higher in the Mycosorb® group, by 0.45 L of milk per cow per day. The results of the current study clearly demonstrate that Mycosorb® is effective in alleviating the adverse effects of dietary multiple mycotoxins in dairy cows.

Response of Mycosorb on milk yield and aflatoxin M₁ residue.

	Milk yield (L /cow/d)	Aflatoxin M₁ (µg/kg of milk)
Control	17.60a	0.25b
Mycosorb	18.05b	0.03a

abMeans differ, P<0.