Trial report summary 33 | Fysal® liquid

Effectiveness of Fysal® liquid in meat meal

Conclusion

The results show that Fysal liquid:

- Effectively reduces *Enterobacteriaceae* counts in meat meal

Fysal® liquid is a synergistic blend of organic acids with their salts. It effectively reduces *Enterobacteriaceae* like *Salmonella* in both raw materials and compound feeds with a long-lasting effect. The result is safer animal feed materials alongside *Salmonella* control in the total feed to food chain.

Objective

The objective was to analyse what the most effective inclusion level of Fysal liquid is in meat meal.

Experimental design

This trial was conducted in the Selko Service laboratory. Several samples from the meat meal were artificially contaminated with *Enterobacteriaceae* at a level of 20,000 cfu/g. After contamination 200 grams of the meat meal where treated with Fysal liquid in three different dosages (Table 1). The meat meal was stored at 30°C up to 192 hours in the original package material. After 0, 12, 24, 48, 72, 96 and 192 hours the meat meal was tested for *Enterobacteriaceae* in duplicate by plating the meat meal on a VRBG agar.

Results

The results show an average of the *Enterobacteriaceae* count of the duplicates. The untreated control meat meal shows a clear contamination of *Enterobacteriaceae*. However, the low moisture content of meat meal makes it challenging for Fysal® liquid the bacteria to grow. A dosage of 5 kg/t reduces *Enterobacteriaceae* level within 48 hours to a not measurable amount. The inclusion of 8 kg/t reduces the bacterial load even faster, within a day the levels are below detection limits.

Discussion

Because of the low Aw value and moisture content of meat meal the germ count decreases reasonably fast in the untreated samples also. Use of Fysal liquid gives full decontamination within 24 hours.

It is important to realise that in situations of locally increased Aw values, the differences between treated and untreated animal meal become significantly larger.

Table 1: Treatments

Treatment group	Fysal liquid dosage (kg/t)
Control	0
0.5%	5
0.8%	8

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Table 2: *Enterobacteriaceae* counts over time after Fysal application.

	Enterobacteriaceae (cfu/g)						
	0 h	**12 h**	**24 h**	**48 h**	**72 h**	**96 h**	**192 h**
Control	20,000	8,000	1,000	600	300	120	<10
0.5%	20,000	400	50	<10	<10	<10	<10
0.8%	20,000	100	<10	<10	<10	<10	<10

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Trial summary

Product: Fysal® liquid
Country: The Netherlands
Type of feed: Meat meal

Application point: Laboratory test
Fysal inclusion rate: 5kg/t; 8kg/t
Objective: Dosing advice