

PRODUCT DESCRIPTION

VOLAMEL EXTRA is a **WATER-SOLUBLE NUTRITIONAL EMULSIFIER** that acts in synergy with the natural bile salts in the animal's gut. It enhances the absorption of fat, fat-soluble vitamins, and other nutrients. Volamel Extra is thus an excellent tool for improving performance and reducing the energy cost of the diet.

MODE OF ACTION

The most hydrophilic emulsifier on the market!

Fat digestion occurs in the watery environment of the gut and involves 4 steps:

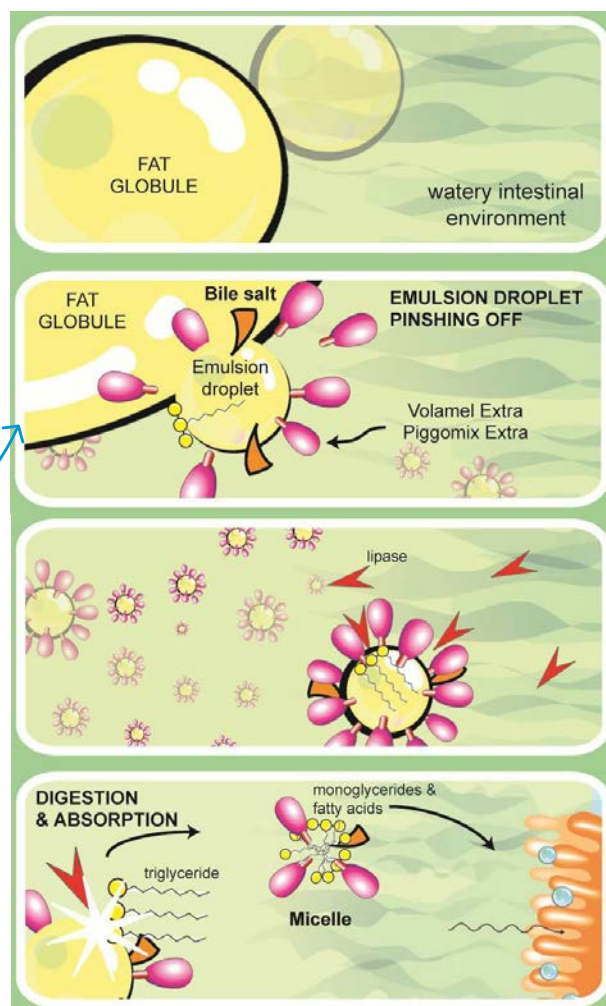
1. Fat emulsification
2. Fat hydrolysis
3. Micelle formation
4. Absorption

Volamel Extra works in synergy with natural bile salts to facilitate fat digestion:

- **Emulsification:**
more efficient lipase activity on smaller fat droplets
- **Micelle formation:**
more and smaller micelles increase fat absorption

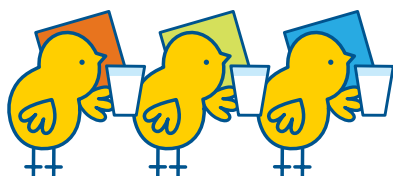
STORAGE

- ✓ Avoid storing this product in warm conditions.
Always keep the product out of direct exposure to sunlight.
- ✓ Never store in moist places or near any sources of water.
- ✓ Secure stockroom against all possible breeding ground of insects.
Ensure storage area is clean at all times.



COMPOSITION

- » PEGR (polyethylene glycol ricinoleate; E484)
- » Soya concentrate
- » Whey powder



KEY FEATURES

The most hydrophilic emulsifier on the market!

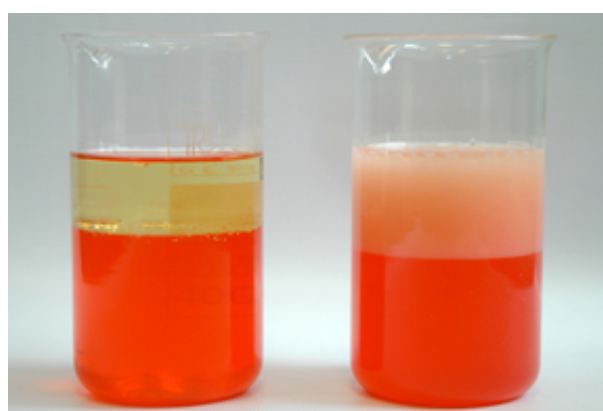
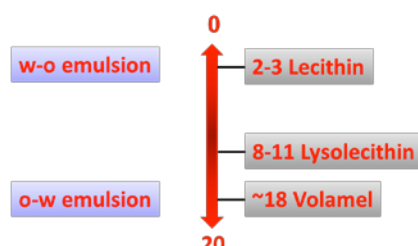
- Hydrophilic-to-lipophilic balance (HLB) ≈ 18
- Completely soluble in the watery environment of the gut - creating a stable oil-in-water emulsion (o-w emulsion)
- Enhances the absorption of fats and fat-soluble vitamins, increasing fat digestibility and, indirectly, total feed digestibility

Stable, non-ionic emulsifier!

- Not influenced by heat treatment, changes in pH-value or high salt/mineral concentrations typically present in intestinal environment

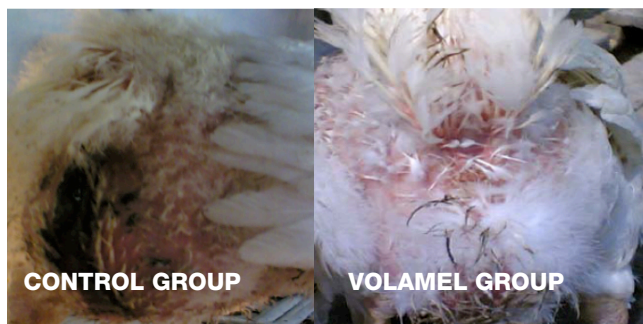
More homogeneous, healthy flock!

- Less fat/protein in feces
- Reduction of wet litter problems
- Less problems with foot pad lesions
- Lower microbial/disease pressure



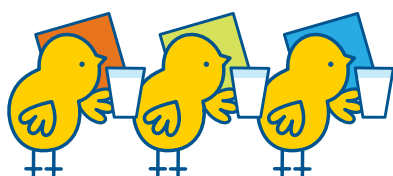
Left: Mixture of oil and water (with coloring agent)

Right: Mixture of oil and water (with coloring agent) after the emulsifier stabilizes the o-w emulsion.



Pasty Vent	Control group	Volamel group
< 10 days	40 %	15 %
10-20 days	18 %	0 %

The effect of Volamel Extra on wet litter problems in broilers. University of Kolkata, India (2008) - Corn & soya-based diet with 2.8%-3.5% fat.



USE AND APPLICATION

1-2% added fat: 250 g/MT feed

>2% added fat: 500 g/MT feed

The lower the digestibility/availability of the fat sources in the diet, the higher the positive effect of the nutritional emulsifier

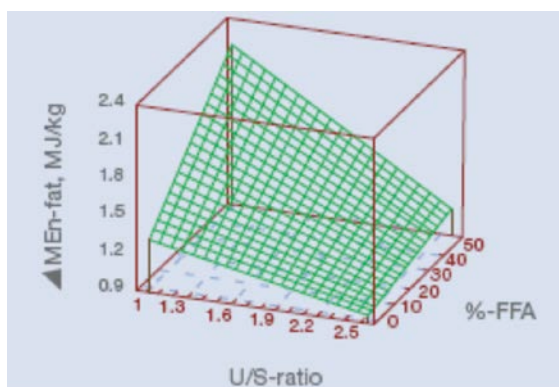
- Higher free fatty acid (FFA) level
- Lower ratio of unsaturated to saturated fats (U/S-ratio)

On top of the feed

Improves body weight, FCR and carcass yield

Reduction in AME of the feed

Volamel Extra (500 g/MT) compensates on average for 3% reduction in metabolic energy (~90 kcal/kg)



The effect of U/S & FFA on the in-vivo-efficacy of Volamel Extra (VE) in terms of σ MEEn-content of the added lipid. Broiler trial, Ghent University, Belgium (2003) – Wheat & soya-based diet with 7.5% fat – VE inclusion on top of this (500 g/MT).

PACKAGING

VOLAMEL EXTRA is packed in 25 kg bags.



ANALYSIS OF CONSTITUENTS

Protein	%	29.5
Ash	%	5.0
Fiber	%	2.2
ME broilers*	kcal/kg	220000
Humidity	%	6.0
pH-value		5.7 - 6.0
Lysine	%	2.00
Met + Cys	%	0.90
Threonine	%	1.20
Tryptophan	%	0.40
Ca	%	0.15
P	%	0.35
Na	%	0.05
K	%	1.2
Cl	%	0.1

*The ME is, determined after analysing the results of years of extended research in universities worldwide. An inclusion of 500 g/MT of Volamel Extra can compensate for 3 % of the energy of the feed. This can be translated into an energy content of 220000 kcal/kg product.

FEED SAFETY FOR ANIMAL HEALTH

Clean feed reduces gastrointestinal problems

- | | |
|-------------------------|-----------------|
| • Total bacterial count | max. 100000 /g |
| • Entero-bacteria | max. 300 /g |
| • E. coli | absent in 0.1 g |
| • Salmonella | absent in 25 g |
| • S. aureus | absent in 1 g |
| • Yeasts and moulds | max. 1000 /g |

