



DutchFarm

INTERNATIONAL

Backed by more than 60 years of experience in development and production and 30 years in global registration and marketing, Dutch Farm International BV is your reliable partner in high-quality products for the animal production industry.

Dutch Farm International's products are available in more than 50 countries worldwide, under four brandnames: DutchFarm (veterinary pharmaceuticals and nutraceuticals), DufaMix (premixes, concentrates and additives), DufaSept (detergents and disinfectants) and DufaFeed (prestarter, compound and complimentary feed).

Dutch Farm International stands for premium quality products, for effective pharmaceuticals, essential nutrients, farm hygiene and food safety, because we want your animals to be healthy, strong and productive. We do it all, every day...

DutchFarm: All for Animals!

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Dufa-Digest



Dufa-Digest

Dufa-Digest is a new and unique combination of three essential oil compounds (Thymol, Eugenol, Piperine) and Medium Chain Fatty Acids (MCFA's), aiming to support and improve digestion in all poultry species.

Active in three ways:

- Stimulation of secretion of key digestive enzymes including lipase, amylase and trypsin.
- Attack the cell wall of bacteria, making their cell wall more permeable, disrupting cell function and depleting cell energy reserves.
- Antibacterial effect and energy for the enterocytes of intestinal cells.

A capsulation technology ensures a controlled release of the essential oils in the gastrointestinal tract, to maximize the potency of these essential oil compounds on gut microbiota and enzyme secretions.

- Improved digestion
- Balanced intestinal microbiota
- Moderating growth of potentially pathogenic gram-positive bacteria
- Improved feed intake and feed efficiency
- Higher slaughter weight
- Increased profitability!

Many trials have been conducted, showing an improvement in broiler performance!



Essential oils

Dufa-Digest contains three different essential oil compounds: Thymol (Thyme), Eugenol (Clove) and Piperine (Black Pepper). These three essential oils have a complementary effect on the digestion of all poultry species.

Stimulation of endogenous enzymes



Piperine interacts with cell membrane receptors of intestinal mucosa and pancreas and stimulates increased secretions of key digestive enzymes

including lipase, amylase and trypsin.

Piperine increases the endogenous production of digestive enzymes to enhance nutrient absorption and retention of nutrients in the intestinal tract.

Microbiota modulation



Thymol and Eugenol attack the cell walls of specific classes of bacteria, making their cell wall more permeable, disrupting cell function and depleting cell energy reserves.

Thymol and Eugenol positively modulate gut microbiota, moderating the growth of potentially pathogenic gram-positive bacteria such as *Clostridium perfringens* (causative agent of necrotic enteritis).

Eugenol has antioxidative properties by protecting body tissues, at least at intestinal level.

Intestinal controlled release

The microencapsulation technology of Dufa-Digest ensures a controlled released of these three essential oils along the gastrointestinal tract for a better digestion and optimal results.

Medium Chain Fatty Acids

Broilers are developed to grow extremely fast and efficient. To lower the risk of a disturbed (gut) health status, it is very important to create a solid antibacterial barrier.

Gut health is influenced by three major factors being continuously in interaction with each other: the mucosa, the diet and the microflora. To keep this interaction in balance, Dutch Farm International has developed a carefully balanced mixture of Medium Chain Fatty Acids (MCFA's) for poultry reared under high infection pressures.

MCFA's make it possible to reduce the use of antibiotics without compromising performance and food safety. In addition to the antimicrobial effect, MCFA's also have a positive effect on the immunity level of poultry.

Synergism

Dufa-Digest combines the three essential oil compounds with MCFA's. Research shows that there's a synergetic effect when combining these essential oils with MCFA's.

- Essential oils make the bacterial cell wall accessible to anions.
- MCFA's have an antibacterial effect, disrupting cell function and depleting cell energy reserves.
- Result is a moderating growth of potentially pathogenic gram-positive bacteria and release of energy for the enterocytes of intestinal cells.



Dosage

Dufa-Digest is formulated to be cost effective at standard dosage and allows flexibility at challenging conditions, in dosage and mixture with other additives.

Recommended dosage		
	Normal conditions	Challenging conditions
Broilers	2 kg per MT	2-3 kg per MT
Layers		

- Excellent handling properties
- High stability and uniformity in premix and feed, due to an unique capsulation technology

Trial

Results day 0-35, at a broiler farm in The Netherlands, under optimal hygienic conditions

	Controle	Dufa-Digest
Weight day 35 (g)	2371	2404
Growth (g/d)	66.0	67.0
Feed intake (g/d)	96.7	98.0
FCR	1.47	1.46
FCR1500	1.12	1.10
Mortality (%)	3.80	2.60

Conclusion:

Dufa-Digest significantly improves feed efficiency in broilers compared to a control diet.

- Improved digestion
- Balanced intestinal microbiota
- Improved feed intake and feed efficiency
- Higher slaughter weight
- Increased profitability!