



Dufa-MultiZyme



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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Unique enzyme mixture

Dufa-MultiZyme combines a wide range of different non-starch polysaccharide enzymes with a newly developed enzyme: Muramidase!

NSP enzymes

Enzymes which animals cannot produce by themselves but which are needed to access and utilize starch in cereals by breaking down the cells walls. Wheat contains mainly arabinoxylans requiring a xylanase enzyme to degrade the cell walls, whereas barley contains high levels of beta-glucans which cause high intestinal viscosity. Given the complexity of carbohydrates in feeds, often multiple carbohydrates will be required to improve the release of entrapped nutrients and to reduce intestinal viscosity. The NSP enzymes in the Dufa-MultiZyme will cut the cell walls so starch is released and can be degraded by amylase, to improve energy utilization from cereals.

Muramidase

This revolutionary new enzyme takes care of breaking off peptidoglycans from bacterial cell debris in the intestinal tract. When peptidoglycans are no longer intact because of the use of Dufa-MultiZyme the chance on inflammation is lower. It also contributes to strengthen the intestinal barrier of poultry.

Effects on broiler performance

Dufa-MultiZyme will deliver the following advantages:

- High intestinal viscosity reduction
- Better digestibility
- High metabolizable energy release
- Better feed conversion
- Increased growth



NSP enzymes

Dufa-MultiZyme contains guaranteed levels of three key enzyme activities:

- Endo-1,4-beta-xylanase
- Endo-1,4-beta-glucanase
- Endo-1,3(4)-beta-glucanase

plus a wide range of beneficial side activities:

- Other xylanases (alpha-arabinofuranosidase, xylosidase, feruloyl esterase)
- Other glucanases (cellobiohydrolase, beta-glucosidase, beta-1,3-glucanase)
- Pectinases (pectinase, polygalacturonase, pectin esterase, rhamnogalacturonase)
- Mannanases (endo-1,4-beta-mannanase, beta-mannosidase)

This unique combination makes it highly effective for all cereal diets and it offers the flexibility to safely formulate when using highly variable raw materials.

Heat stability

Dufa-MultiZyme benefits from the application of an innovative, thermostable, multicomponent carbohydrase with multiple enzyme activities which will remain stable under pelleting conditions up to 90°C. This makes it one of the most stable combinations of xylanase and beta-glucanases.

Other benefits are its dust-free nature and excellent flowability. Both of these advantages contribute to the good mixability in both premixes and feeds.

This versatile mixture of NSP enzymes will deliver:

- Improved energy utilization
- Higher performance
- Reduced feed costs

Muramidase

This specially developed enzyme helps optimize nutritional absorption, digestibility, gastrointestinal functionality and improve animal performance; all to ensure that broilers get more from their feed.

This enzyme has shown to consistently improve feed conversion ratio by 3-6 points (3%) in trials, a big accomplishment for one single enzyme!

Mode of action

Its breakthrough technology hydrolyzes peptidoglycans from bacterial cell debris in the intestinal tract. It degrades peptidoglycans only from bacterial cell wall fragments without disturbing the microbiota, optimizing gastrointestinal functionality. By hydrolyzing peptidoglycans, Dufa-MultiZyme improves gut functionality by removing cell wall fragments and enhancing nutrient digestibility and absorption. Recent research demonstrates clearly that peptidoglycans have a pro-inflammatory effect.

Release a hidden potential for more efficient growth:

- Improved feed utilization and feed efficiency
- Increased production performance and profitability

Muramidase is stable in normal gastric conditions, and active in the pH range of the whole gastrointestinal tract, having a greater effect in the jejunum, where high absorption of nutrients take place.



Trial

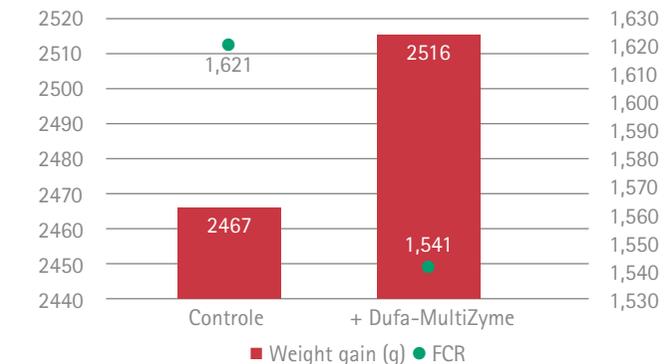
Results day 0-35, at a broiler farm in The Netherlands, under optimal hygienic conditions

	Controle	+ Muramidase
Weight day 35 (g)	2098	2168
Growth (g/d)	58.7	60.7
Feed intake (g/d)	87.8	89.0
FCR	1.50	1.47

Synergy

Dufa-MultiZyme combines this wide range of NSP enzymes with Muramidase. This unique combination has a synergetic effect. Many trials have shown that Muramidase works complementary alongside NSP enzymes, resulting in improved poultry performance.

Results day 0-36, at a broiler farm in France



Sustainable poultry production

Dufa-MultiZyme helps broilers to get more from their feed. Less feed will be needed to grow the same quantity of meat: a significant feed cost saving. Support sustainable poultry production: use Dufa-MultiZyme!