



Green Spirit™ : the combination that works

Benefits

Green spirit™ stimulates feed intake and results in an improvement of nutrient digestibility, which will lead to a better animal production. Your animals will perform better, having fewer problems with diseases and infections. The active components in **Green Spirit™** will result in a higher efficacy. With **Green Spirit™**, you will experience the synergetic effect of the combination that works.

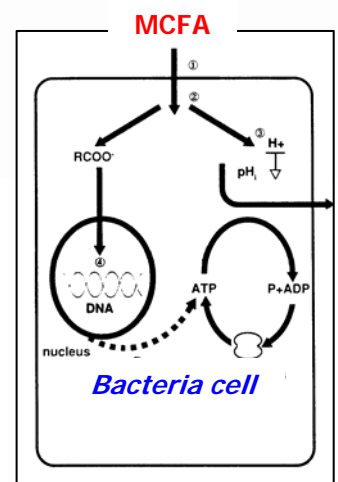
Introduction

The use of antibiotic growth promotors in animal feeds is prohibited within the EU. These antibiotic used as growth promotors are Flavophospholipol, Salinomycine-sodium, Avilamycine and Monensin-sodium. Each of these additives has its own mode of action and price.

In anticipation of the ban on antibiotic growth promotors, LNB™ has extensively tested a large number of alternative active substances (e.g. organic acids, Medium Chain Fatty Acids (MCFA), essential oils) with comparable anti-microbial properties. Some of these alternatives have shown their positive effects in both research and practical circumstances. Based on these experiences, LNB™ has created its own premium combination of active components with proven efficacy.

MCFA

Medium Chain Fatty Acids like Caprylic acid (C8) and Caprinic acid (C10) have a proven high anti-microbial effect at a low inclusion level. The anti-microbial effect of MCFA's is five times higher than acidifiers. Because of their specific molecular structure, MCFA's are capable of entering the bacterial cell. This process will damage the cell wall and therefore facilitates the penetration of the MCFA's into the bacteria cell. After entering the cell, the MCFA will split into RCOO⁻ and H⁺ resulting in a reduction of the pH in the cell. The drop in pH inactivates and kills the bacteria cell.



Essential Oils

For many years herbs like garlic, cinnamon, oregano have been used for their flavoring and antimicrobial properties. These properties are mainly attributed to their active components like cinnamaldehyde, carvacrol, thymol, etc., which are called essential oils. Essential oils have the following properties:

- Stimulation of the production and excretion of endogenous enzymes
- Regulation of the intestinal micro-flora
- Improvement of nutrient digestibility
- Improvement of feed intake

It has been clearly shown that a balanced mix of essential oils has a higher efficacy compared to the use of only one specific essential oil.



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Green Spirit™: the combination that works

Research has shown that a balanced combination of active components results in synergistic effects. This means that the combination results in a higher efficacy than when the active components are used separately. Green Spirit™ will bring you these synergistic effects.

Green Spirit™: recommended dosages for broilers

	Economy (Flavomycine equivalent)	Excellent (Avilamycine equivalent)
Starter	2.5 kg/MT Green Spirit™ Economy	2.5 kg/MT Green Spirit™ Excellent
Grower	1.5 kg/MT Green Spirit™ Economy	1.5 kg/MT Green Spirit™ Excellent
Finisher	1.5 kg/MT Green Spirit™ Economy	1.5 kg/MT Green Spirit™ Excellent



Green Spirit™ Program: recommended dosages for pigs

	Economy (Flavomycine equivalent)	Excellent (Avilamycine equivalent)	Premium (Green Spirit Excellent & LonAcid)
PIGS			
Piglets; weaner	3.0 kg/MT Green Spirit™ Economy	3.0 kg/MT Green Spirit™ Excellent	3.0 kg/MT Green Spirit + 6.0 kg/MT LonAcid Pigs ^{*)}
Piglets; until 30 kg	2.0 kg/MT Green Spirit™ Economy	2.0 kg/MT Green Spirit™ Excellent	2.5 kg/MT Green Spirit + 6.0 kg/MT LonAcid Pigs ^{*)}
Starter	2.0 kg/MT Green Spirit™ Economy	2.0 kg/MT Green Spirit™ Excellent	2.0 kg/MT Green Spirit + 4.0 kg/MT LonAcid Pigs ^{*)}
Grower/ Finisher	1.0 kg/MT Green Spirit™ Economy	1.0 kg/MT Green Spirit™ Excellent	1.0 kg/MT Green Spirit + 3.0 kg/MT LonAcid Pigs ^{*)}

^{*)} LonAcid Pigs: code 0052