

## DOMCA

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# GARLICON Laying Hens



## garlicon

### Profitable solution to ensure animal's health and performance

Seasoning/flavouring premix rich in organosulfur compounds intended for animal feed that improves production rates and general health status of livestock farms.

### Benefits

- Improves egg productivity: increases egg laying, average egg weight, reduction of broken and dirty eggs, etc.
- Higher nutrient digestibility
- Modulatory effect on the gut microbiota
- Respect the beneficial gut flora (bifidobacteria, lactobacilli, etc)
- Stimulates the immune system preventing the occurrence of infectious processes
- Lower mortality rates

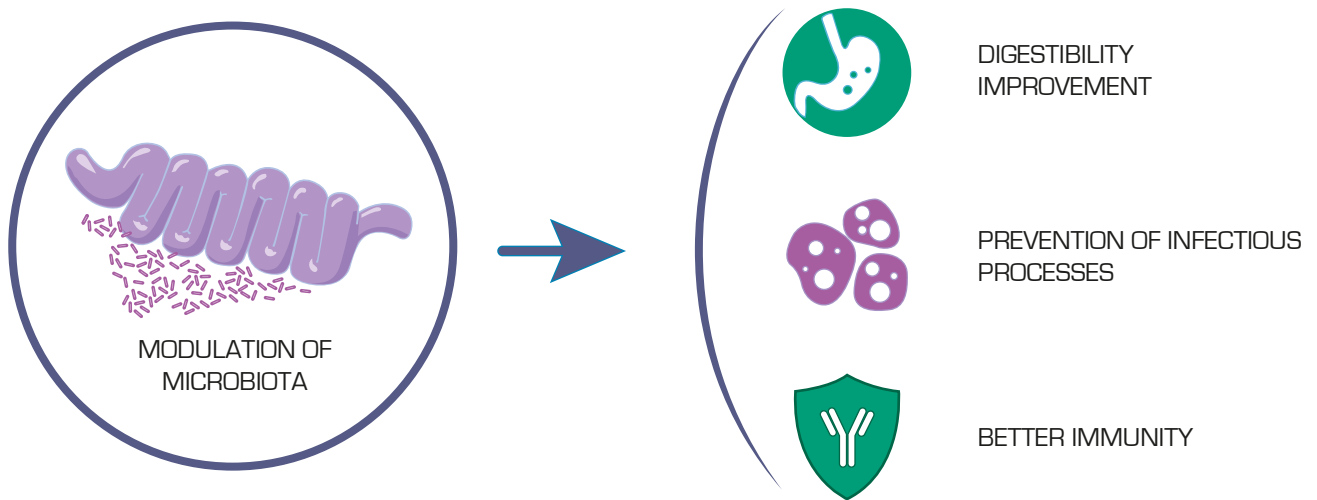
### Characteristics

- Available in liquid and powder form and in various concentrations
- Standardized in organosulfur active principles
- High heat resistance
- Long shelf life (great stability)
- Scientifically proven effectiveness
- Produced under FAMI QS certification
- Does not affect egg flavour



## Functions of Garlicon

Garlicon modulates gut microbiota, allowing beneficial intestinal flora development (bifidobacteria, lactobacilli, etc) and consequently reducing the undesirable effects from poor gut health.



Modulates microbial profile of gut flora

Improves general animal's health

Enhances immune system

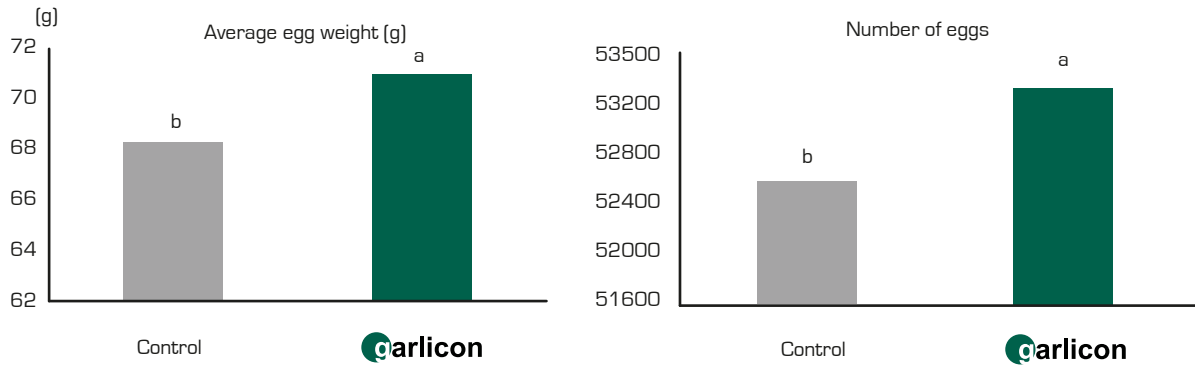
Lower occurrence of diseases

Better status of intestinal mucosa

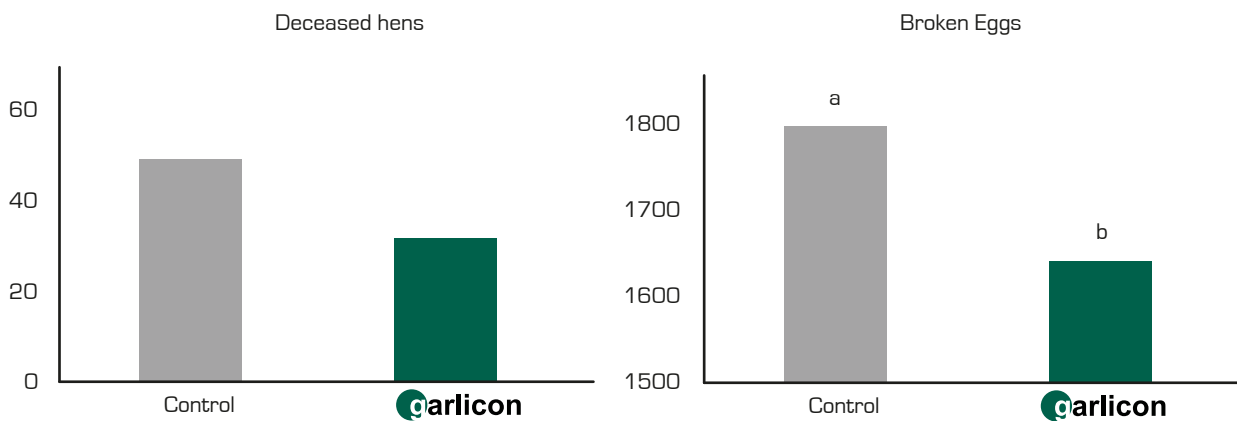
Better use of energy and nutrients



### Productivity improvement: number of eggs and average egg weight.



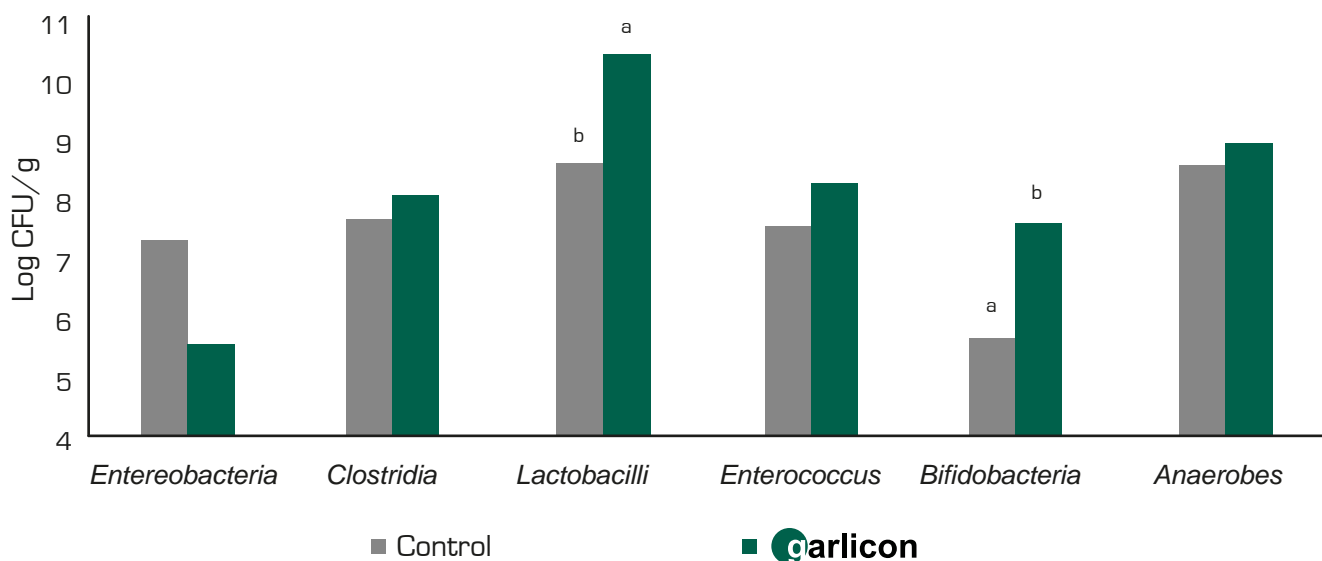
### Reduction in number of deceased hens and broken eggs



Study carried out in 3000 laying hens administered a treatment with Garlicon in drinking water during a period of 15 days.

Due to the effects on gut health and nutrient absorption improvement, the organosulfur compounds naturally present in garlic and onion considerably improve productivity rates increasing average egg weight, number of eggs and reducing the number of broken eggs.

## Modulation of gut microbiota



Main bacterial group counts through microbiological analysis of stool samples taken after 15 days of assay. Results are expressed as CFU/g stools. Improving gut health directly **reduces the number of dirty eggs**.\*

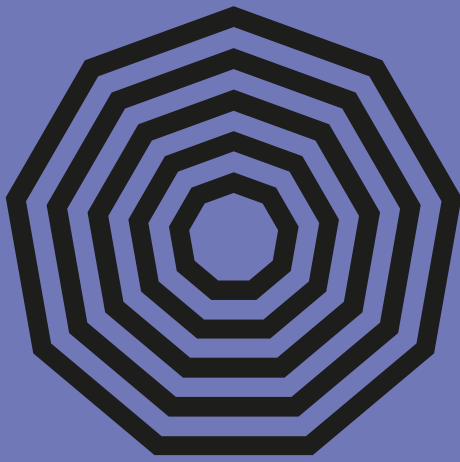
\*Different letters indicate significant differences between control group and group treated with Garlicon.

**Alliaceae** extracts modulate gut microbiota, stimulating the immune system and the optimization of nutrient assimilation. This means general animal health improvement and increase in production.



- Improves productive parameters: number and average egg weight.
- Reduction of broken and dirty eggs.
- Persistency of laying peak.
- Modulation of microbiota.

- The results presented in this brochure have been obtained under controlled conditions by independent research centres. The repeatability of the results could be affected under different managing conditions. These studies can be requested to DOMCA's Technical Service Department.
- Please, read carefully the technical data and the safety data sheets before using the product.
- Do not use as a therapeutic substitute of antibiotics.
- A different use of the recommended dosages indicated in technical data sheet may cause undesired effects.
- No incompatibilities with other products have been reported. Pre-testing is strongly recommended in case of mixtures with other ingredients or additives.
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## GARLICON Broilers



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### Profitable solution to ensure animal's health and performance

Seasoning/flavouring premix rich in organosulfur compounds intended for animal feed that improves production rates and general health status of livestock farms.

### Benefits of organosulfur compounds from Alliaceae in broilers:

- Improves productive parameters: feed conversion ratio and average and final weight gain.
- Higher nutrient digestibility
- Modulatory effect on the gut microbiota
- Stimulates the immune system preventing the occurrence of infectious processes
- Higher resistance against coccidiosis (Eimeria)
- Get chicks off to a better start
- Lower mortality rates

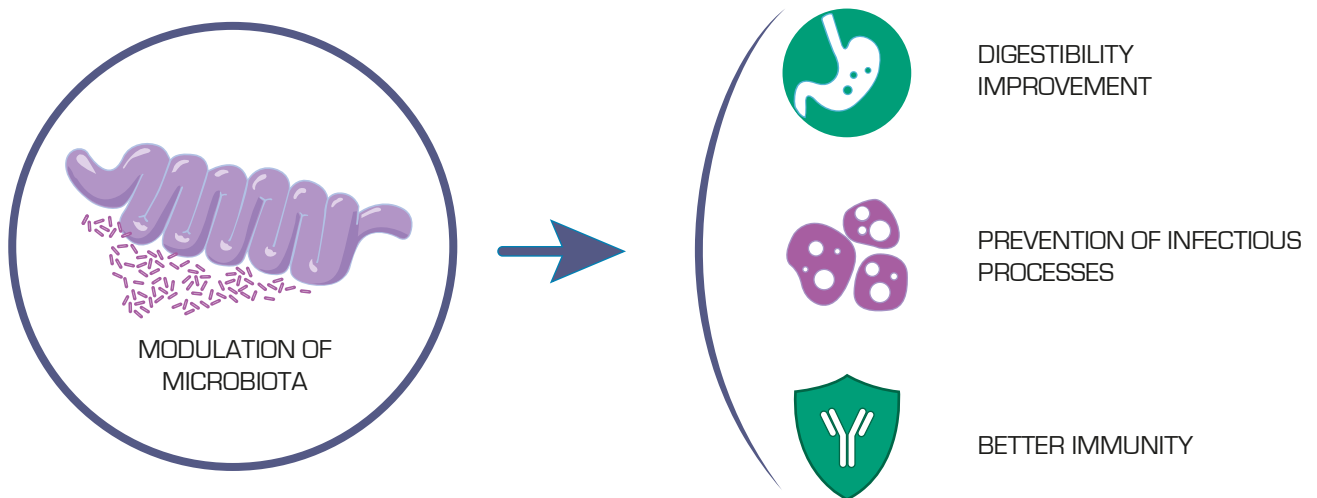
### Characteristics

- Standardized in organosulfur active principles
- High heat resistance
- Long shelf life (great stability)
- Scientifically proven effectiveness
- Available in liquid and powder form and in various concentrations
- Produced under FAMI QS certification
- Does not require withdrawal period



## Functions of Garlicon

Garlicon modulates gut microbiota, allowing beneficial intestinal flora development (bifidobacteria, lactobacilli, etc) and consequently reducing the undesirable effects from poor gut health.



Modulates microbial profile of gut flora

Improves general animal's health

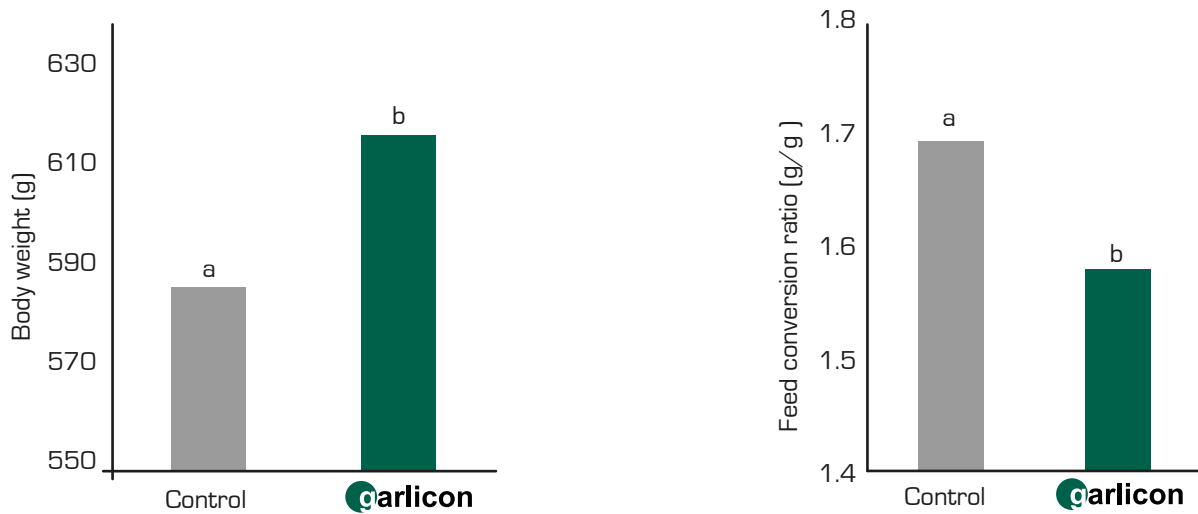
Enhance immune system

Lower occurrence of diseases

Better status of intestinal mucosa

Better use of energy and nutrients

## Optimizes productive parameters from the start



Effects of dietary inclusion of Garlicon on final body weight and feed conversion ratio in 21 day chickens. No significant differences in feed intake were found for both groups. \*

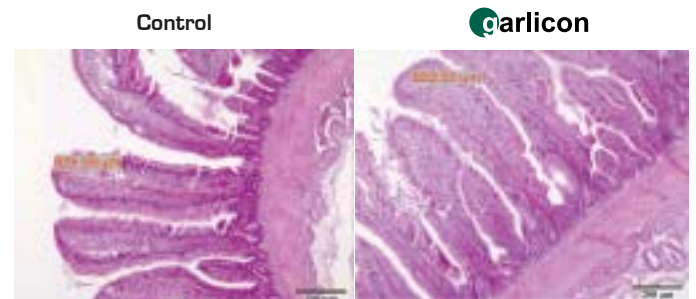
## Increases nutrient digestibility

	Control	Garlicon
Metabolizable energy (cal/g)	3321 <sup>a</sup>	3448 <sup>b</sup>
Ileal		
N	0.83	0.82
Fecal		
Energy	0.84 <sup>a</sup>	0.88 <sup>b</sup>
N	0.76 <sup>a</sup>	0.80 <sup>b</sup>
Fat	0.94 <sup>a</sup>	0.96 <sup>b</sup>
Neutral detergent fibre	0.66 <sup>a</sup>	0.73 <sup>b</sup>
Acid detergent fibre	0.39 <sup>a</sup>	0.53 <sup>b</sup>
Non-starch polysaccharides	0.59 <sup>a</sup>	0.72 <sup>b</sup>

An improvement of nutrient digestibility of those animals fed diet supplemented with Garlicon was found. \*



## Increases intestinal absorption surface

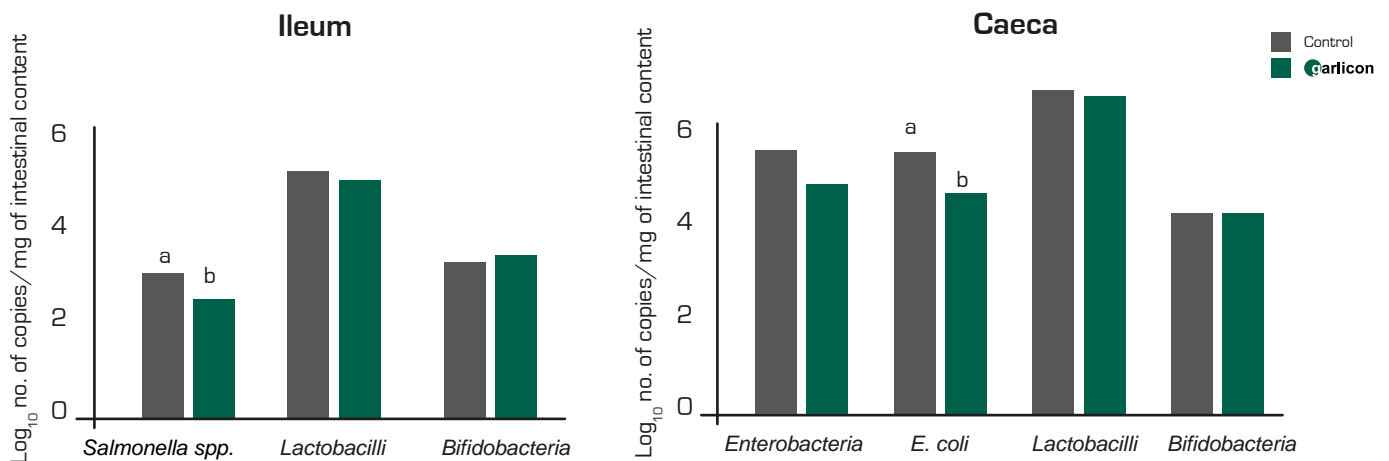


Photograph taken with light microscope showing the histological structure of ileal sections of broiler chickens fed control diet or diet supplemented with Garlicon. Villi in birds fed diet supplemented with Garlicon are taller and wider than those of control. \*

	Control	Garlicon
Villus height, $\mu\text{m}$	785 <sup>a</sup>	937 <sup>b</sup>
Villus width, $\mu\text{m}$	131 <sup>a</sup>	276 <sup>b</sup>
Villus surface area, $\mu\text{m}^2$	326 <sup>a</sup>	808 <sup>b</sup>
Mucosal thickness, $\mu\text{m}$	47 <sup>a</sup>	66 <sup>b</sup>
Muscular layer thickness, $\mu\text{m}$	172 <sup>a</sup>	204 <sup>b</sup>

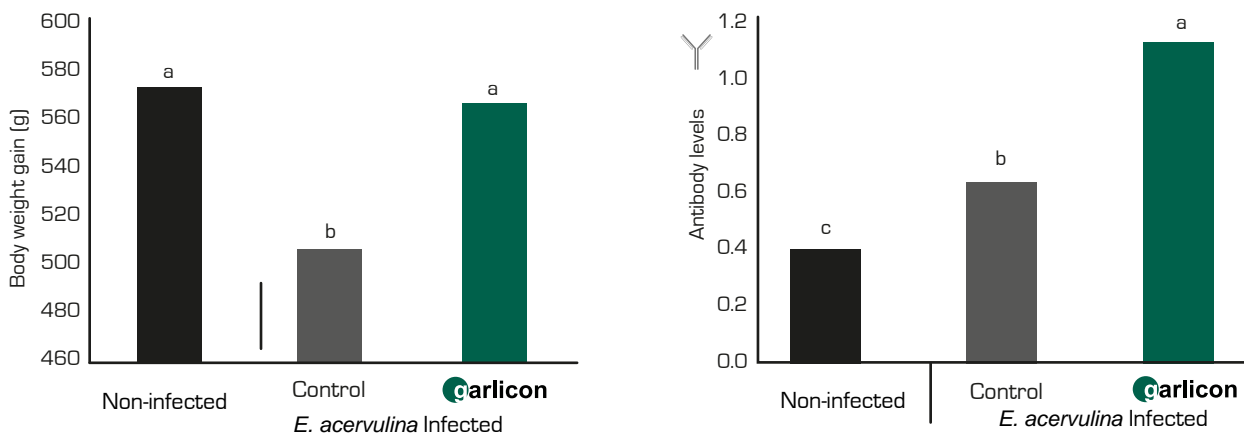
\* Different letters indicate significant differences between control group and group treated with Garlicon.

## Gut flora improvement



Due to the modulatory action of the microbiota, Garlicon modifies the microbial profile of the intestinal flora improving the general animal's health status. This means a higher resistance to infections and an optimization in the use of nutrients. \*

## Help in coccidiosis processes



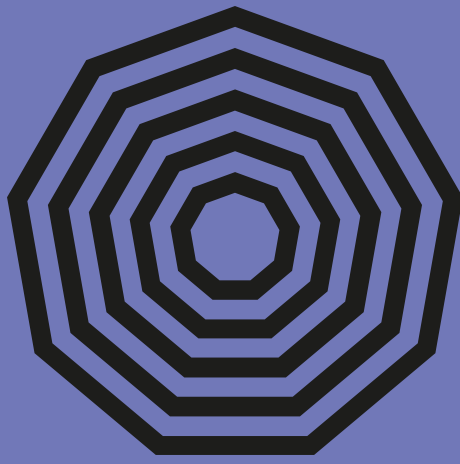
Broilers infected with *E. acervulina* which are fed Garlicon gain as much weight as those not infected. It is also noted that after coccidiosis infection, Garlicon stimulates specific antibody production against *Eimeria spp.*, maximising the effect of the vaccines. \*

\* Different letters indicate significant differences between control group and group treated with Garlicon.



- Improves productive parameters: feed conversion ratio and average and final weight gain.
- Modulates gut microbiota
- Improves nutrient digestibility
- Reduces negative effects from coccidiosis

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## GARLICON Swine



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### Profitable solution to ensure animal's health and performance

Seasoning/flavouring premix rich in organosulfur compounds intended for animal feed that improves production rates and general health status of livestock farms.

#### Benefits

- Improves productive parameters during the post-weaning and growth phase
- Decreases feed conversion ratio and increases body weight
- Modulatory effect on the gut microbiota
- Respect the beneficial gut flora (bifidobacteria, lactobacilli, etc)
- Stimulates the immune system preventing the occurrence of infectious processes
- Reduces the incidence of diarrhoea in weaned piglets
- Does not require withdrawal period

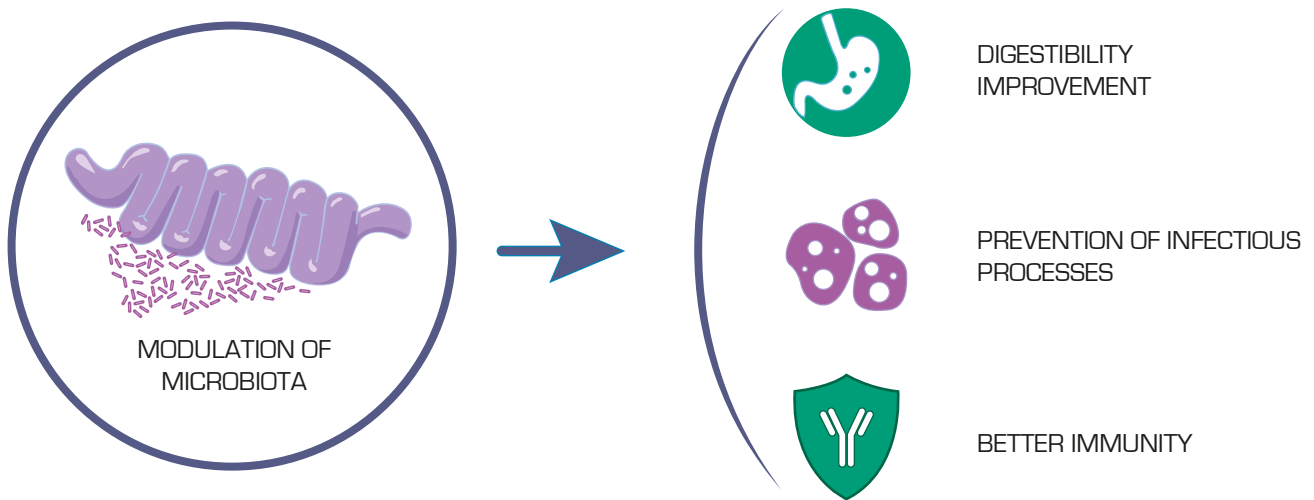
#### Characteristics

- Available in liquid and powder form and in various concentrations
- Standardized in organosulfur active principles
- High heat resistance
- Long shelf life (great stability)
- Scientifically proven effectiveness
- Produced under FAMI QS certification



## Functions of Garlicon

Garlicon modulates gut microbiota, allowing beneficial intestinal flora development (bifidobacteria, lactobacilli, etc) and consequently reducing the undesirable effects from poor gut health.



Modulates microbial profile of gut flora

Improves general animal's health

Enhances immune system

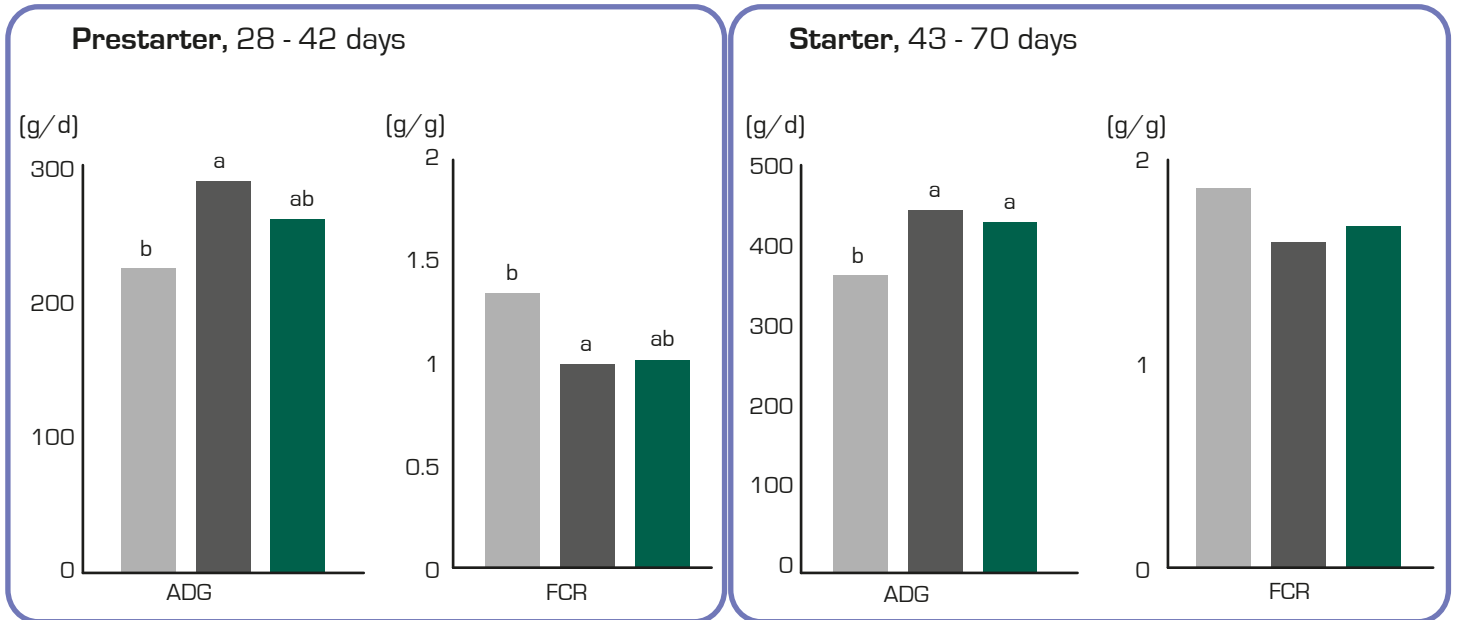
Lower occurrence of diseases

Better status of intestinal mucosa

Better use of energy and nutrients

## Improvement of productive parameters

■ Basal diet    ■ Basal diet + Antibiotic    ■ Basal diet + Garlicon



During the prestarter phase, piglets fed supplemented feed with Garlicon showed a moderate improvement of productive parameters among those fed basal diet and supplemented with antibiotic diet.\*

Average daily gain (ADG) of piglets fed supplemented feed with Garlicon was similar to those offered a diet with antibiotic and higher than those fed the basal diet.\*

### Global period, 28-70 days

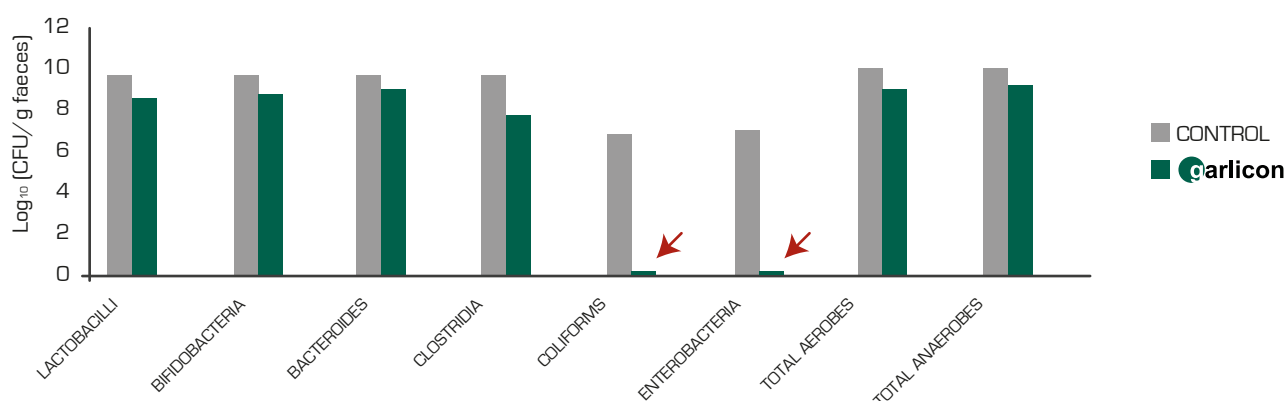
Treatment	ADG, g/d	ADI, g/d	FCR, g/g
Basal diet	325.2 <sup>b</sup>	562.4	1.73 <sup>b</sup>
Basal diet + Antibiotic	392.0 <sup>a</sup>	584.4	1.50 <sup>a</sup>
Basal diet + Garlicon	367.5 <sup>a</sup>	566.0	1.55 <sup>a</sup>

During the post-weaning phase, piglets that were offered both supplemented with Garlicon diet and medicated diet, grow up more and showed a better feed conversion than those animals fed standard diet. No significant differences between treatments in feed intake were found, which indicates that the use of Garlicon does not affect palatability of feed. According to these results, Garlicon may be considered an alternative to the use of antibiotics as growth promoters.\*

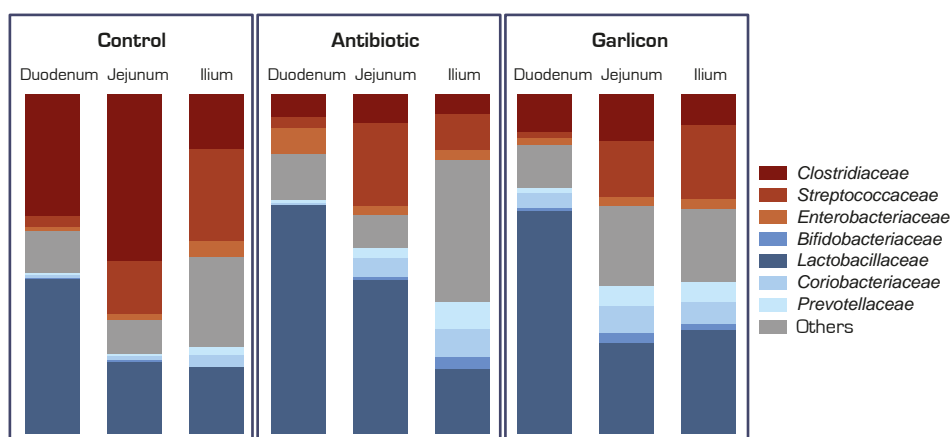
**ADG:** Average daily gain  
**ADI:** Average daily intake  
**FCR:** Feed conversion ratio

\* Different letters indicate significant differences between control group and group treated with Garlicon.

## Modulation of gut microbiota



Due to the modulatory action of the microbiota, Garlicon modifies the microbial profile of the intestinal flora improving the general animal's health status. This means a higher resistance to infections and an optimization in the use of nutrients.



Modulatory influence of Garlicon is not only observed in faecal analysis, but also in different gut sections, improving epithelial microflora, which helps to boost the immune system and improves nutrient assimilation.



### PRESTARTER

Improves productive parameters: feed conversion ratio and average weight gain.

Modulates gut microbiota and improves gut health.

Enhances the immune response.

Higher resistance to infection processes and stress conditions.

Decreases diarrhoea in weaned piglets.

Reduces mortality rates.

### STARTER

### FATTENING

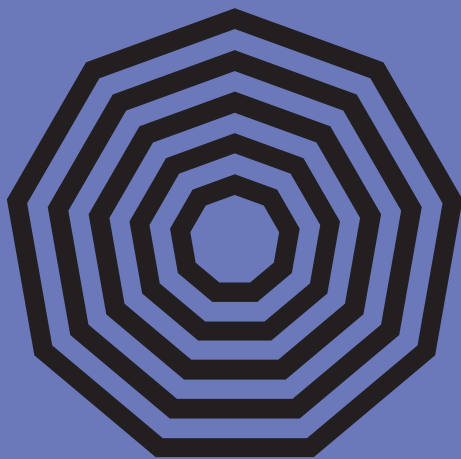
Improves productive parameters: feed conversion ratio and average and final weight.

Modulates gut microbiota and improves gut health

Boosts immune system

Higher resistance to infections

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# GARLICON Ruminants



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## Profitable solution to ensure animal's health and performance

Seasoning/flavouring additive rich in organosulfur compounds intended for animal feed that improves production rates and general health status of livestock farms.

### Benefits of organosulfur compounds from Alliaceae in ruminants:

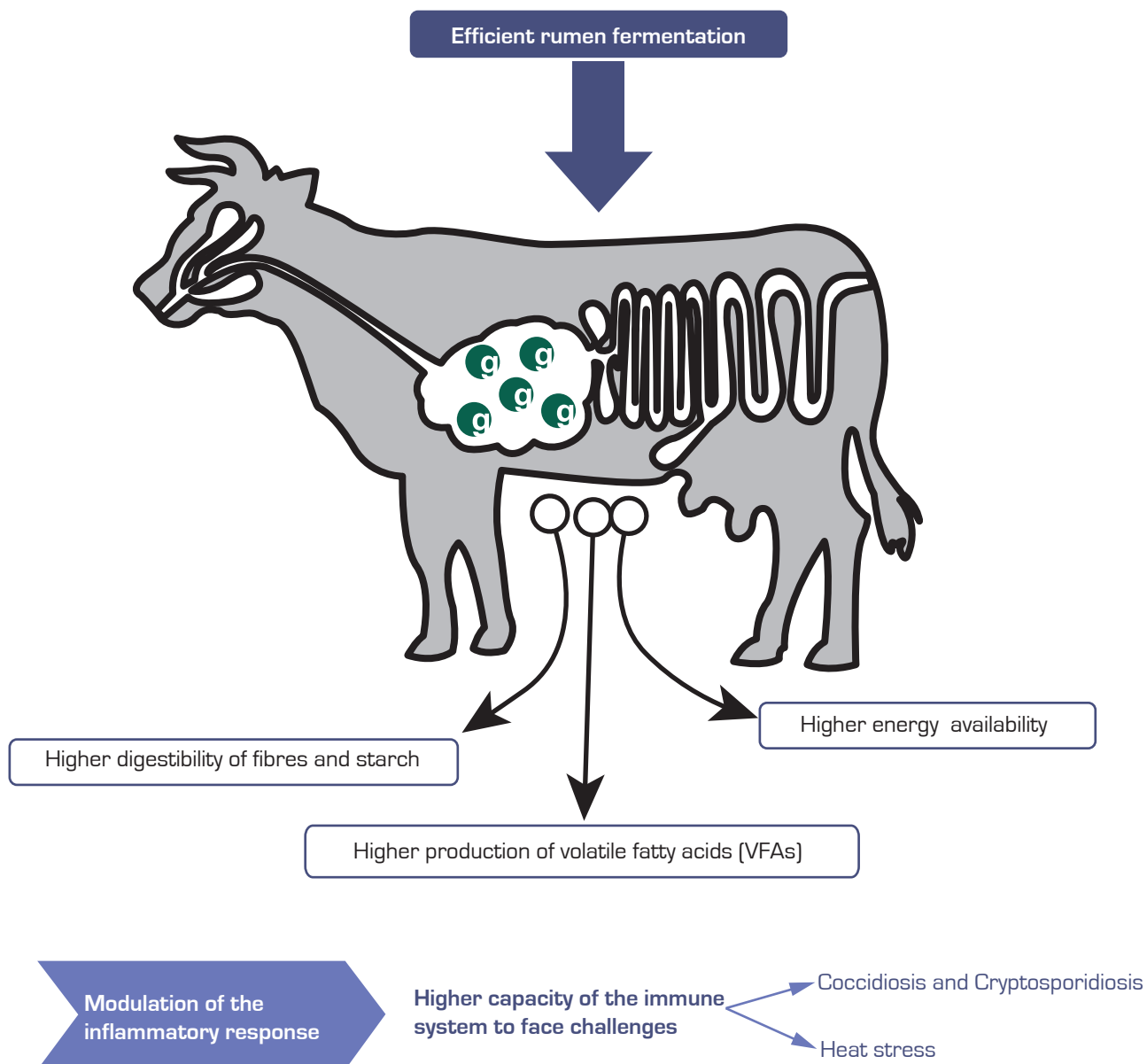
- Improves growth performance of veal calves and lambs
- Better rumen development
- Modulation of ruminal microbiota
- Antioxidant effect
- Stimulates the immune system preventing the occurrence of infectious processes
- Improves animal's general health status, reducing the incidence of diarrhoea
- Does not require withdrawal period

### Characteristics

- Standardized in organosulfur compounds
- High heat resistance
- Long shelf life (great stability)
- Scientifically proven effectiveness
- Available in liquid and powder form and in various concentrations
- Produced under FAMI QS certification



## Modulation of ruminal microbiota



### Veal ruminants

**garlicon**

To be used as premix in feed

### Lactating ruminants

**garlicon**  
LACT 50

To be added to replacement milk

- Please, read carefully the technical data and the safety data sheets before using the product.
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