



KANZY MEDIPHARM

# BETAMUNE

## THE BEST IMMUNE STIMULANT



## SPECIFIC AND NON SPECIFIC IMMUNE STIMULANT

Animals in farms are subjected to high stress due to the living conditions, such as high density, the presence of mycotoxins in the feed, and the propagation of diseases such as CAV, IBD, FowlPox, Mycoplasma, Marek's disease, Newcastle, Bursitis, etc. They are all aggressive factors which can suppress totally or partially the immune response of birds, making them insufficiently competent to overcome these aggressions, and lead to:

- **Incomplete protection by the vaccines.**
- **The need to use antibiotic treatments.**

From the aforementioned, we developed a new product that is capable of boosting the bird's immune system in such a way as to compensate or to prevent the immunosuppressive effects. We call it **Betamune®**.

## MECHANISM OF ACTION

Once the ingredients of **Betamune®** are ingested by the animal, the immune system is immediately activated.

The detection of the Beta D-Glucans activates the macrophage.

The detection of the Propionibacterium by the monocytes and macrophages produces the activation of these cells. This originates a series of cascade reactions that induce the secretion of cytokines, invigorating the defensive functions of phagocytes and lymphocytes.

### **Nonspecific immune response:**

*The activation of macrophages/monocytes.*

They are the first barrier of the immune system.

The cells that are responsible for nonspecific immunity transmit the information to the whole immune system, guaranteeing an effective immune response. The activation of B-lymphocytes and T- lymphocytes, dependant on the macrophages action, promotes a series of antigen-specific or nonspecific responses, which involve locally produced immunoglobulin and cytokines.

### **Specific immune response**

When the nonspecific response, is not sufficient to control the infection, the specific defense is relayed by



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### Betamune®

the lymphocytes cells, with the help of the macrophage.

The increase in the expression of the interleukin 2 (IL-2) receptor in the lymphocytes surface occurs. This receptor permits the union with interleukin 2, which is an essential component of the immune response, because it induces the proliferation of activated B- and T-lymphocytes.

#### INGREDIENTS:

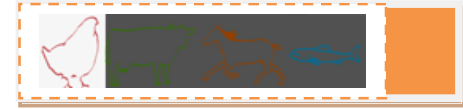
Soluble Beta 1,3 – Glucans, Propionibacterium granulosum cell.

#### **Betamune contains:**

##### **1- Beta 1,3 D-Glucan Kanzy Medipharm specialty:**

- Which improves and activates the animal's immune system (Lymphocytes macrophage activator) by its high concentrate of many parts of saccharides : 27 parts or more.
- Beta Glucan is extract from internal roots of three kind of yeast under high level of purity which increases body defense against diseases (Broad spectrum)
- Beta glucan is also provided into small parts of micronized to increase the immune system response.

2- **Propionibacterium granulosum cell** which is used as a unique immune system activator: Stimulates the reticuloendothelial system and increases immune cells and maximizes the immune titter of antibody.



#### BENEFITS:

- 1- To Increase the efficiency and the response of broilers, layers and breeders during the vaccination.
- 2- To decrease the mortality rate and improve the general animal health status.
- 3- Large use to help eliminating all kinds of pathogenic bacteria.
- 4- Easy to dilute and compatible with other feed additives and ingredients.

#### COMPOSITION: ( PER 500 ML)

Soluble Beta 1,3 D-Glucans: 15 g

Propionibacterium granulosum: 85 mg

Polyethylene glycol: 5 g/l

Distilled water: up to 500 ml

#### FEEDING GUIDELINES

- After or before vaccination to increase the immune efficiency and to avoid post-vaccinations reactions.
- In hard reproduction conditions (Layers) to increase and elongate the peak-of-lay period.
- With the antibiotics to decrease the treatment period.



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### DIRECTION OF USE:

0.25 – 0.5ml in 1 liter of drinking water.

### Use Rate:

| ANIMAL          | TIME                    | PROPHYLACTIC USE                       |
|-----------------|-------------------------|--|
| <b>Broilers</b> | During the first 5 days | 500 ml in 2.000 l water                |
|                 | 3rd week                | 500 ml / 2500 l water ( during 2 days) |
| <b>Breeders</b> | During first 5 days     | 500 ml in 2.000 l water                |
|                 | 3rd week                | 500 ml / 2000 l water ( during 2 days) |
|                 | 10th to 12th week       | 500 ml / 1000 l water ( during 2 days) |
|                 | 18th to 23rd Week       | 500 ml / 1000 l water ( during 2 days) |
| <b>Layers</b>   | During first 5 days     | 500 ml in 2.000 l water                |
|                 | 3rd week                | 500 ml / 2000 l water ( during 2 days) |
|                 | 10th to 12th week       | 500 ml / 1500 l water ( during 2 days) |
|                 | 18th to 23rd Week       | 500 ml / 1500 l water ( during 2 days) |



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### DOSE OF BETAMUNE IN BODYWEIGHT BASIS FOR POULTRY

|                    | Age  | Dose             |
|--------------------|--|------------------|
| <b>Broilers</b>    | During the first 5 days,<br>(days 3, 4 and 5)  | 1.0 ml / 10 kgbw |
|                    | 3rd week of life<br>and above                  | 0.5 ml / 10 kgbw |
| <b>Breeders</b>    | During the first 5 days,<br>or days 3, 4 and 5 | 1.0 ml / 10 kgbw |
|                    | 3rd week of life                               | 1.0 ml / 10 kgbw |
|                    | Week 4 and above                               | 0.5 ml / 10 kgbw |
| <b>Laying Hens</b> | During the first 5 days,<br>or days 3, 4 and 5 | 1.0 ml / 10 kgbw |
|                    | 3rd week of life                               | 1.0 ml / 10 kgbw |
|                    | Week 4 and above                               | 0.5 ml / 10 kgbw |

#### PHYSICAL AND CHEMICAL CHARACTERISTIC:

Dark brown liquid.

#### PACKAGING

**Betamune**<sup>®</sup> is packaged in 500 ml and 250 ml plastic bottles and delivered ready to use.

#### STORAGE

**Betamune**<sup>®</sup> requires no refrigeration and has a shelf life of up to 24 months in its original package.



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