




Y-Mune Immunonutrition

THE FIRST LINE OF DEFENSE

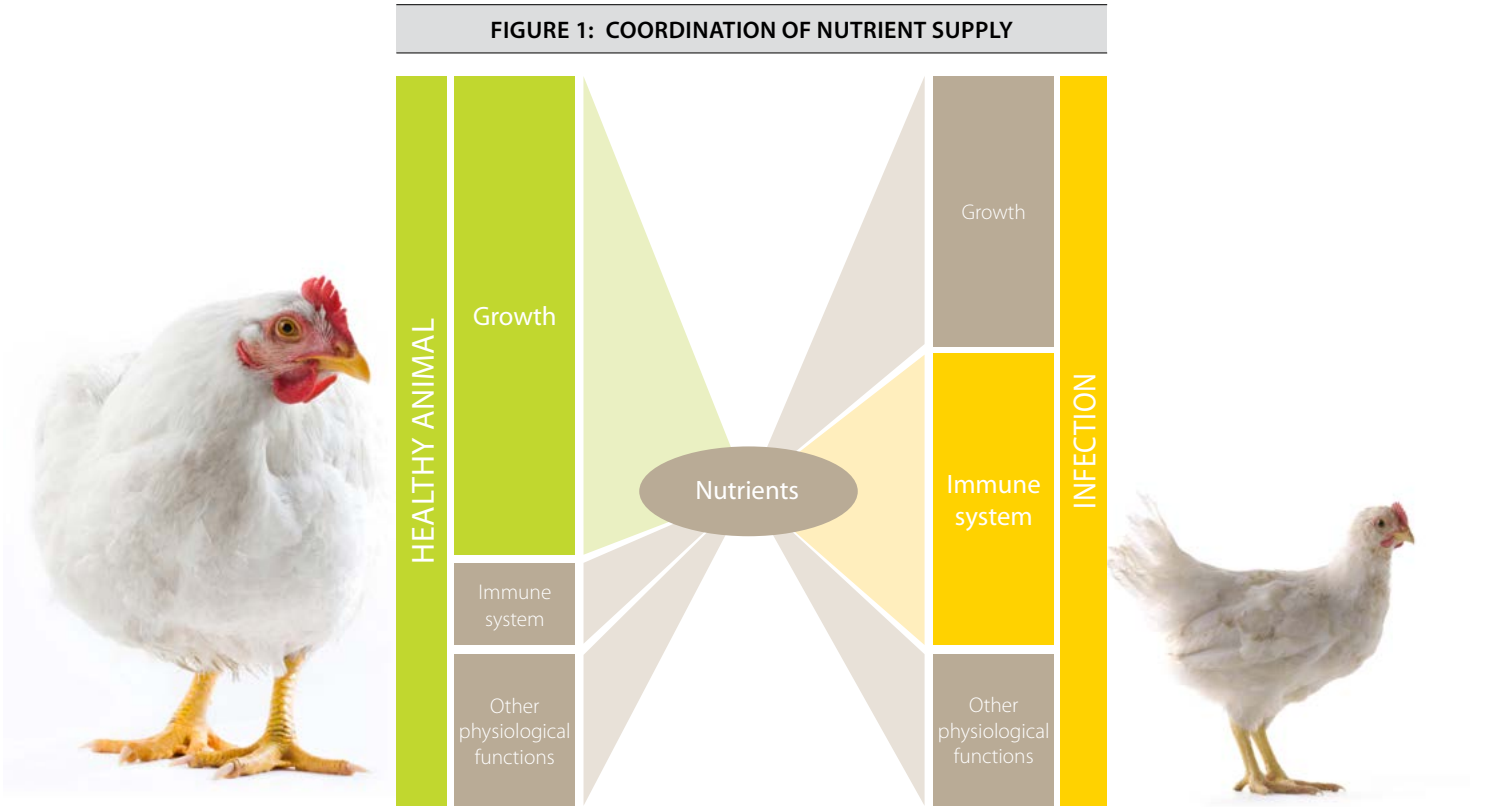
Y-Mune

Y-Mune, a new innovative product for poultry, supports growth and modulates the immune system.

TABLE 1: Y-MUNE		
Description	Use	Dosage
Compound feedingstuff derived from inactivated yeast.		0.2 - 0.3 kg/MT

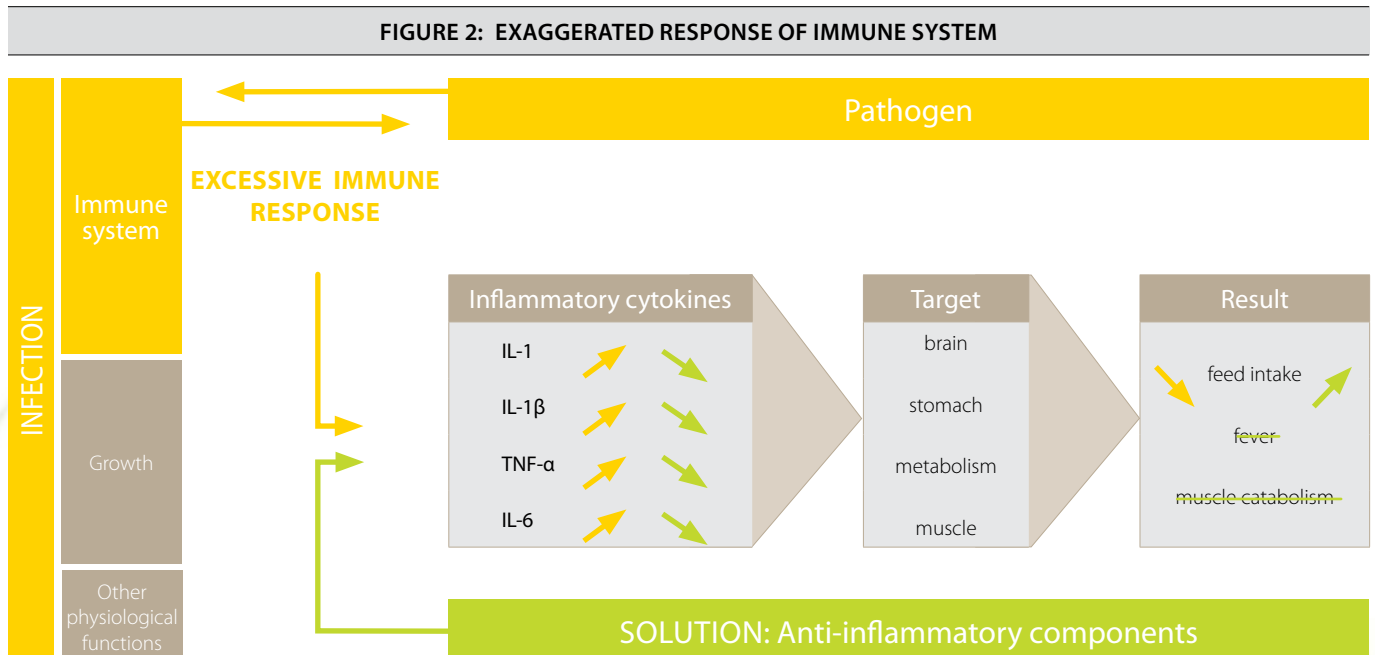
Anti-inflammatory components | direct nutrients towards growth

FIGURE 1: COORDINATION OF NUTRIENT SUPPLY



Under normal physiological conditions most nutrients in feed are directed towards growth. The immune system is only moderately active and therefore requires little energy and nutrients. During infection, the immune system is triggered and consumes more nutrients, which comes at the expense of the zootechnical performance. (figure 1)

FIGURE 2: EXAGGERATED RESPONSE OF IMMUNE SYSTEM



EXAGGERATED RESPONSE OF IMMUNE SYSTEM

Symptoms associated with an infection are not only caused by the pathogen, but usually to a greater extent by the immune system. According to several researchers, the immune response is often more severe than necessary to eliminate the pathogen. It is therefore important to control the immune response.

Oversensitivity of the immune system leads to an inflammatory response which is characterized by an overproduction of

inflammatory cytokines. Those signalling molecules, of which IL-1, IL-1 β , TNF- α and IL-6 are most important, target several tissues in the body which eventually results in a lower feed intake, muscle catabolism and fever.

Anti-inflammatory molecules help overcome this. They act by inhibiting the overproduction of inflammatory cytokines, thereby shifting the major supply of nutrients from the immune system to growth. (figure 2)

Animal trials

POULTRY

The present study was designed to investigate the effect of dietary Y-Mune supplementation on growth, feed utilization and immune status of broiler chickens.

Material and methods

Zootechnical trial

Two hundred one-day-old male broiler chickens were allocated at random in equal numbers to 8 floor pens (25 chickens per pen). After arrival, half of the chickens received a commercial broiler starter diet (unsupplemented control diet) whereas the other half received the same starter diet supplemented with 300 mg Y-mune per kg feed. Starter feed was fed from day 0 to 14. On day 14, non-consumed starter was weighed by pen and discarded. Grower feed was issued and fed until day 28. On day 28, non-consumed grower was weighed by pen and discarded. Finisher feed was issued and fed until day 42. On day 42, non-consumed finisher feed was weighed by pen and discarded. Broiler weights by pen were recorded on days 0, 14, 28 and 42. Before weighing, a blood sample was taken from the chickens. After centrifugation, plasma samples were analysed.

Immunization trial

At 3 weeks of age, blood samples were collected from a wing vein from animals of both treatments. Part of the chickens of each treatment were then injected subcutaneously in the neck with 100 μ g human serum albumin (HSA). Another part of each group was injected subcutaneously with 100 μ l PBS as placebo. During the next 18 days, blood samples were taken regularly. Fourteen days after the first immunization, the chickens received a second immunization. The parameter verified was anti-human serum albumin IgG.

Results and discussion

Thanks to anti-inflammatory properties and improved gut functions, supplementation of Y-Mune improved growth by 6 %, while feed conversion was 11 % better.

Adding Y-Mune to the diet also resulted in 19 % more IgG-antibodies against HSA.

FIGURE 3: ZOOTECHNICAL RESULTS

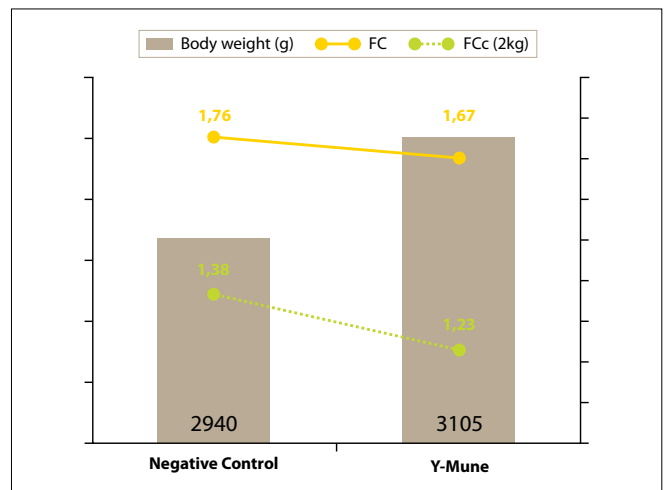


FIGURE 4: ANTI-HSA IgG RESPONSE

