

# BioX-L

POULTRY

## EFFECTIVE PROTECTION AGAINST NEGATIVE IMPACTS OF MYCOTOXICOSIS

- ✚ Enhances liver function and detoxification process
- ✚ Favors the growth of intestinal lactic acid microflora
- ✚ Reduces the risk of negative gram infection
- ✚ Modulates gut immune response



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### Introduction

Poultry flocks are often exposed to a wide range of toxins e.g. mycotoxins in feed or endotoxins and enterotoxins after microbial pathogens infections. In addition, intensive prolonged treatment with antibiotics can alter the physiological functions of liver and kidneys, impacts gut microbiome ecology and results in retarded growth rate and losing performance.

### Mode of action

**BioX-L** combines yeast extract, betaine anhydrous, organic acids and orthophosphoric acid. It reduces harmful toxin effects and restores metabolic processes by its direct action on vital organs like liver, kidneys and birds' gut.

Betaine anhydrous in **BioX-L** is an effective osmo-protectant, means it improves cells survival in liver and kidneys and prevents cell apoptosis. Furthermore, betaine anhydrous donates methyl groups which is an important factor to proper liver and kidneys functions, cellular replication, and detoxification reactions.

Yeast extract in **BioX-L** is considered to be a great nutritional source for amino acids, sulfur, trace nutrients, vitamin B complex and other important active ingredients for stressed animals. On the other hand, yeast extract can stimulate the unspecific immune system by activating macrophages and increasing the production of cytokines, which are the initiator of immune response.

Orthophosphoric acid reduces the pH below the pKa of the organic acids, thus a maximum anti-bacterial effect can be obtained. All together with yeast extract and organic acids, **BioX-L** can aid the growth of lactic acid flora and inhibits the growth of potentially pathogenic bacteria in birds' gut.

### Effect on poultry performance

**BioX-L** has different beneficial influences on poultry performance:

- + Restores metabolic process in vital organs
- + Inhibits pathogenic gram negative bacteria
- + Improves growth rate and performance

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