Using efficiency of acidifying agent biotronic and enzymes in mixed feed with high pea content for broilers

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Introduction

The acid binding capacity (ABC) magnitude of mixed fodder components is neglected in Russia by the ration development. However such kind of mixed fodder has several advantages, especially for young animals or in stress conditions, when diarrhea is prevented because of a low ABC capacity.

In international practice different acidifiers are widely used, as starter feeds contain high level of protein and for their production are used components, which are characterized by increased ABC.

Materials and methods

A quantity of 0.1 molar hydrochloric acid, that is necessary for titration of suspension which is received from 10 grammes of feed in 90 milliliters distilled water to pH 5, usually takes as a unit of ABC. The added during the process amount of hydrochloric acid represents buffer capacity. It is used different combinations of acids and salts, which effect specifically on gram-negative bacteria (including colibacillus and salmonella). Such chemicals reduce pH value as well. Among these chemicals there is Biotronic SE Forte producing by a company Biomin. This chemical is a well balanced combination of formic and propionic acids and corresponding salts on carrier vermiculite.

Trial was conducted on cross Cobb broilers during 36 days. The broilers were divided into four groups:
1\textsuperscript{st} control group of broilers didn’t receive peas, Biotronic and enzymes in mixed fodder.
2\textsuperscript{nd} experimental group received mixture of 20% pea + 100 g/t Natugrain (multi enzyme – product of BASF) + 100 g/t Natuphos (enzyme phytase – product of BASF).
3\textsuperscript{rd} experimental group received mixture of 20% peas + 100 g/t Natugrain + 100 g/t Natuphos of the 2\textsuperscript{nd} group + 2 kg/t Biotronic.
4\textsuperscript{th} experimental group received mixture of 20% peas + 100 g/t Natugrain + 100 g/t Natuphos of the 2\textsuperscript{nd} group + 3 kg/t Biotronic.

Results and discussion

Inclusion of peas in diet led to increasing of ABC in 2\textsuperscript{nd} group diet on 37,5%. Biotronic addition in doses 2 and 3 kg/t decreased it almost to control diet level. Due to peas and enzymes the price of feed was cheaper in 18,2-14,6% than control one. The growth rate of test groups broilers was the same as in control or even higher: 2046 g, 2027 g, 2107g and 2241 g respectively for control and 2\textsuperscript{nd}, 3\textsuperscript{rd} and 4\textsuperscript{th} test groups. Death rate of chickens was lower in 2,85%.

Biotronic in a dose 2 and 3 kg/t of feed, which contains 20% of peas, normalizes feed ABC and increases enzymes effect for broilers growth rate on 2,98-9,5%.