# Performance enhancement by using acidifiers in poultry diets

***Renata Urbaityte, Nataliya Roth, Yunior Acosta Aragón***
*BIOMIN GmbH, Industriestrasse 21, 3130 Herzogenburg, Austria*
*E-Mail: renata.urbaityte@biomin.net*

## *1. Introduction*

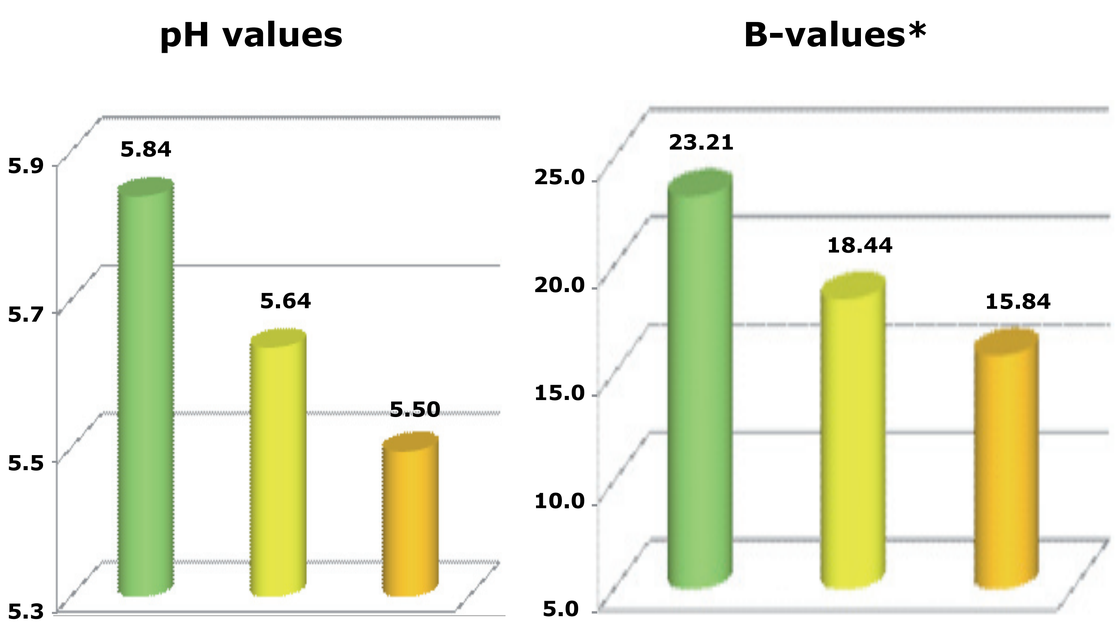
Performance improvement through supplementation of diets with organic acids, as well as their benefits in assisting in disease prevention have been observed. The extent to which organic acids effect growth performance of animal depends on the type and inclusion level of acids used, as well as diet, animal and environmental factors. In several studies the reduction of pH and buffer capacity in feed, and antimicrobial efficacy of formic (FO), propionic (PR) acids blend in a ration 1:1 or FO, PR and lactic (LAC) acids blend in a ratio 1:1:0.3 were tested. The enhancement of animal growth performance is achieved by inhibition of microbial growth and acidification of the feed following by acidification of the stomach and the upper intestinal tract.

## *2. Aim of the study*

To evaluate the effect of organic acids blends on:

- reduction of pH and buffer capacity in feed
- reduction of pathogens in gastro-intestinal tract

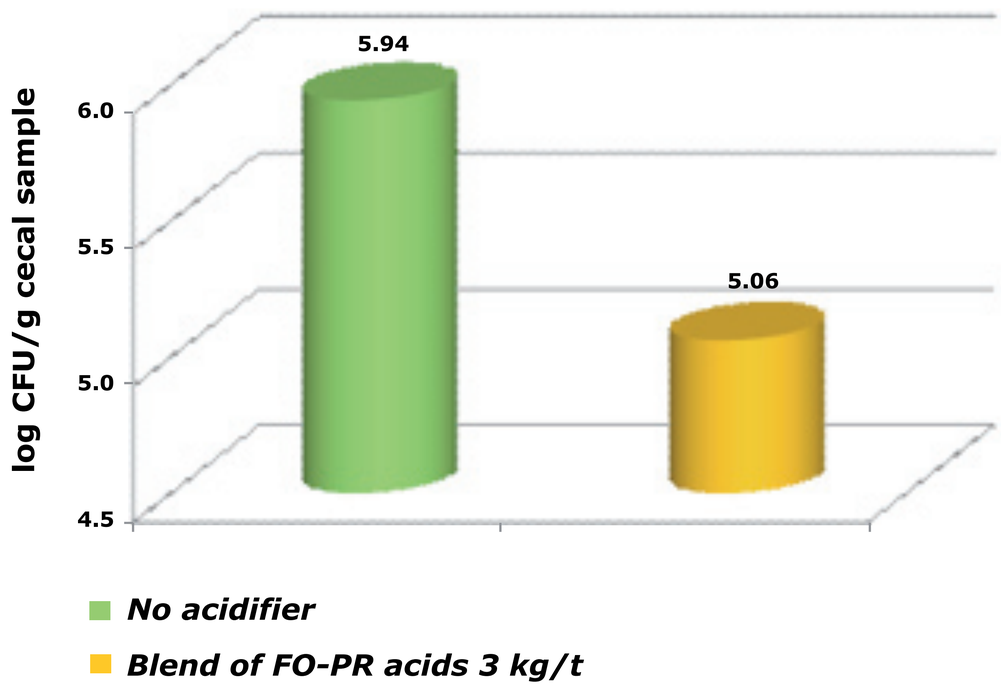
## *3. Efficacy of a bled of FO-PR-LAC on pH and B-value reduction in feed*




** Buffer capacity is defined as an amount of 0.1 M HCl acid (ml) needed to lower pH value to 5*

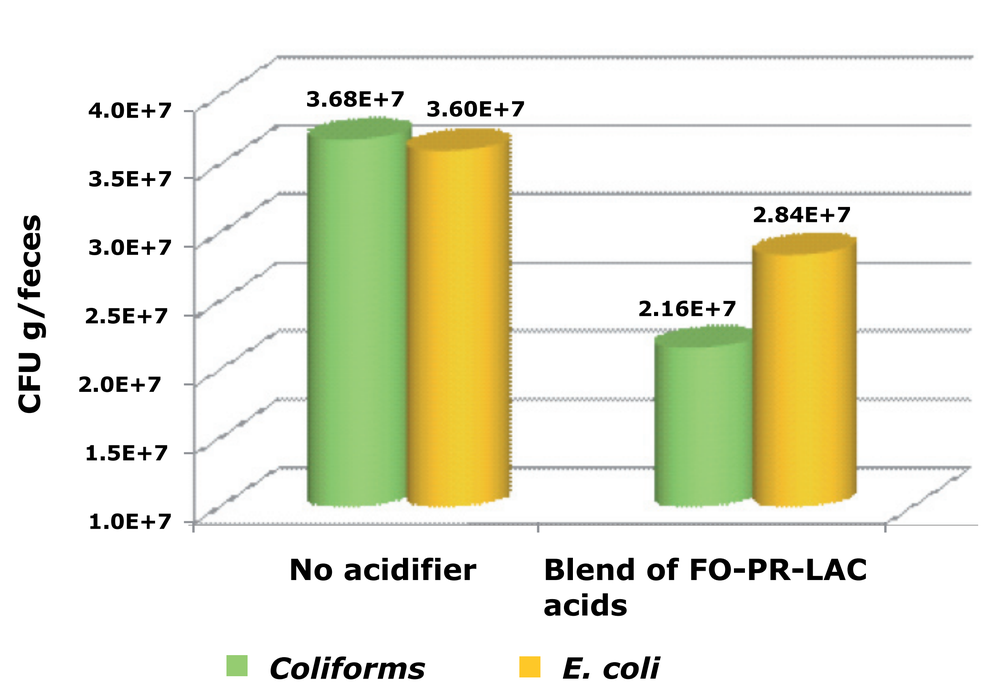
The dietary supplementation with the blend of FO-PR -LAC acids reduced pH and buffer capacity in feed up to 0.34 and 7.37 units, respectively, compared to these in the group with no acidifier.

## *4. Efficacy of a blend of FO-PR acids on E. coli counts in cecal samples*




The dietary supplementation with the blend of FO-PR acids at inclusion level of 3 kg/t feed reduced the counts of *E. coli* in the cecal samples up to 15% compared to these in the group with no acidifier.

## *5. Efficacy of a blend of FO-PR-LAC acids on microbial counts in feces*




The blend of FO-PR-LAC acids at inclusion level 0.2% in drinking water reduced the counts of coliforms and *E. coli* by 41 and 21% in broiler feces, respectively, compared to these in the group with no acidifier.

## *6. Conclusions*

The supplementation with the blends of FO-PR or FO-PR-LAC acids reduces pH and buffer capacity in feed, and pathogens loads in feed and gastro-intestinal tract, thus leads to enhancement in animal growth performance.