

Synergistic effects of citrus extract on the performance of young animals

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Aim of the study

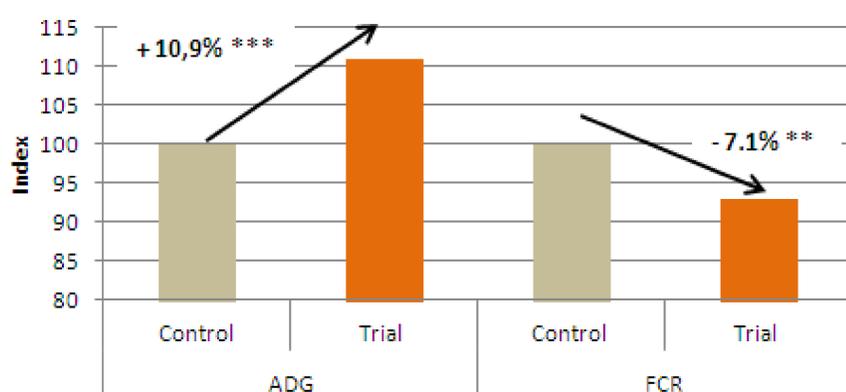
Evaluation of Nor-Spice AB (premixture of feed additive formulated from lemon extract) on Average Daily Gains (ADG) and Feed Conversion Rates (FCR) during specific periods such as weaning or starter periods.

Nor-Spice AB effects on growth performances of piglets

Material and methods: Ten trials were conducted on more than 2000 post-weaning piglets in Denmark, the United Kingdom, Canada and Switzerland.

The piglets were homogenously divided into a control group and a trial group according to their live weight and their gender. Piglets were fed *ad libitum* with a commercial feed formulated according to good manufacturing practice and had free access to fresh water. Nor-Spice AB Powder (Nor-Feed Sud, France) was added to trial groups during a given period following the product direction of use, typically 250 grams per ton of complete feed. Average daily gain (ADG) and feed conversion rates (FCR) were compared by two-way unbalanced variance analysis (ANOVA), using firstly a Fisher test in order to demonstrate the global effect of treatment factor, and secondly a Student test.

Results :



*** p<0,001

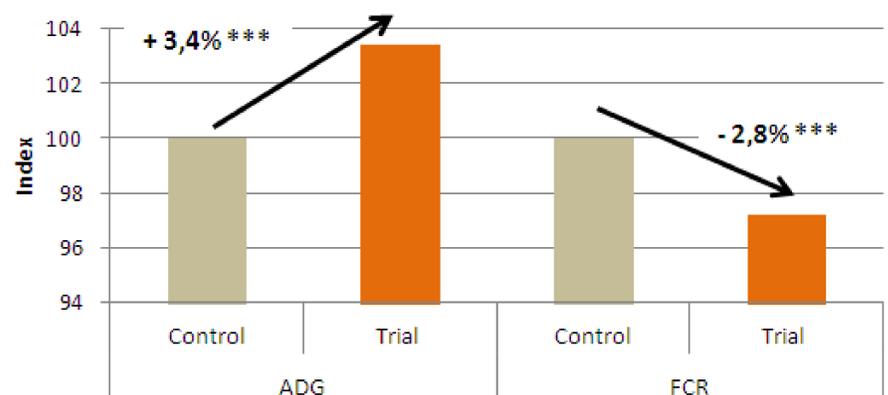
** p<0,01

Figure 1: Improvement of ADG and FCR on piglets supplemented with Nor-Spice AB

Nor-Spice AB effects on growth performances of broilers

Material and methods: Nine trials were conducted on more than 150.000 broiler chicks in commercial or experimental farms in the E.U., Canada, Taiwan and India. Animals were fed *ad libitum* with a commercial feed formulated according to good manufacturing practice and had free access to fresh water. Nor-Spice AB was added to trial groups during a given period following the product direction of use, typically 400 grams per ton of complete feed. Growth and feed conversion rates (FCR) were compared by two-way unbalanced variance analysis (ANOVA), using firstly a Fisher test in order to demonstrate the global effect of treatment factor, and secondly a Student test.

Results:



*** p<0,001

Figure 2: Improvement of ADG and FCR on broilers supplemented with Nor-Spice AB

Discussion and conclusion:

These results confirm conclusions from different reviews on growth promoter alternatives (Vondruskova and al, 2010; Pirot, 2007) in which plant extracts have been demonstrated as efficient natural alternatives to the use of growth promoters, especially antibiotics. This zootecnical effect may be explained by a prebiotic action supporting the growth of certain beneficial micro-organisms of the digestive track (e.g. lactic acid bacteria), combined to a gut flora control, resulting in the depression of the population of other micro-organisms (gram negative bacteria), including potential or opportunistic pathogens.

References

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