Isoquinoline alkaloids improve performance in broiler chickens – A summary of 10 years of research

The reduction and ban of antibiotic growth promoters in the poultry industry have led to the use of natural products to control gut health problems. Intestinal inflammation interferes with broilers´performance leading to a reduction in feed intake, weight gain, and increased feed efficiency. Plant-derived isoquinoline alkaloids (IQ) have shown anti-inflammatory properties, as presented in previous research. The objective of this study was to evaluate the effects of IQ (Sangrovit®) on broiler performance. A total of 22 university trials were conducted between 2006 and 2016. The trials were carried out in 18 different countries and collected in the company´s owned tailor-made evaluation system. 30,210 broilers were included in the experiments. The survey includes trials with challenged (N = 6) and non-challenged birds (N=16). Results are presented as the difference (in %) to the negative control group. In challenged birds, body weight gain (BWG) was improved in IQ supplemented birds by 5.0% compared to the negative control group, while in non-challenged birds IQ increased BWG by 3.6%. On average, IQ improved BWG in 82% of the trials. Feed conversion ratio (FCR) was improved by 4.1% and 2.7% if IQs were supplemented in challenged and unchallenged birds, respectively. On average, FCR was improved in 82% of the trials. The application of plant-derived IQ demonstrated performance improvement in broilers, as indicated by improved weight gain and feed conversion. Therefore, IQ provide a beneficial and sustainable solution to the poultry industry.

**Keywords: broiler performance, feed additive, alkaloid, inflammation, intestinal health**