

Multietiological factors were responsible for causation of AS in local conditions.

6.5.10

Uric acid determination in poultry excreta and its application for correcting of protein digestibility values: spectrophotometry with ultraviolet detection vs hplc

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Evaluation of uric acid contents of poultry excreta was examined for use in estimation of apparent protein digestibility. Uric acid was determined either by high-performance liquid chromatography or spectrophotometric method. A high-pressure liquid chromatographic assay was used with absorbance measured at 285 nm. The method used a reverse-phase system with a C18-bonded column (250*4.6 mm, i.d.). The mobile phase was distilled deionized water. Injection volume was 20 µl with the flow rate of 1 ml/min. The results obtained by this method were compared with those by UV-spectrophotometry. The correlation (r) between the two methods for uric acid content of excreta from birds fed diets with different methionine levels was 0.976. The uric acid values were then used for the determination of apparent protein digestibility. The apparent protein digestibility values, when corrected for uric acid nitrogen, were comparable with those calculated from amino acid analysis.

Key words: uric acid, poultry excreta, spectrophotometry, HPLC

6.5.11

Energy supply of broiler feeds with GMO-free full-fat soybean

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Objectives: In the experiments home-grown GMO-free full-fat soybean was applied. We were looking for answers on questions like: how can we assure the high energy need of the broilers and how will be formed the body weight gain, feed conversion, the thigh, breast and dry matter, crude protein and crude fat content at the individual application levels.

Methods: In our experiment we used 360 Ross broilers, for 48 days. Control group did not contain any full-fat soybean, the experimental groups contained 10, 15 and 25% full fat soybean. The chicks' starter feed contained: 12.75 MJ/kg, and 23.02%, grower: 13.24 MJ/kg and 21.22% and finisher: 13.35 MJ/kg energy and 19.33% crude protein. The body weights of the animals were weighed individually. Then 10 animal per treatments were processed. We examined the ratio of breast, thigh and abdominal fat to the living mass. We determined the dry matter, crude protein and crude fat content of the thigh and breast.

Results: The body weight on the 48. day was 2025 g in the control group and 1985-2055.6 g in the experimental groups, in the entire length of time. We got no significant difference among the data. The result of the laboratory experiments was as follows: in the control treatment the breast, thigh and the abdominal fat was 20.7, 21.6, 1.9% of the living weight, in the experimental treatments the breast was 19.5-20.9%, the thigh 21.1-22.1%, and the abdominal fat 1.6-1.7% of the living weight. According to the chemical analysis: the dry matter, crude fat, crude protein of the breast in the control were 20.05, 1.27, 19.21% in the experimental treatments: 25.13-25.65%, 1.56-0.92%, 20.65-21.81%. The dry matter, crude fat, crude protein content of the thigh in the control was: 22.65, 4.07, 16.95%, and at the experimental treatments 22.74-23.24, 5.67-3.65, 17.74-19.81%. The values indicated with

2 different letters are significantly different at $P < 0.05$.

Conclusion: By the use of domestic, heat-treated full-fat soybean meal the animal fat can be decreased, respectively totally omittable at the 25% treatment and the import GMO soybean quantity can be decreased. The high energy content of the grower and finisher feeds can be ensured. We have experienced undesirable by-effect not even at 25% inclusion. The ratio of thigh and breast did show no significant difference between the control and experimental treatments. The dry matter and the protein content increased and the fat content decreased in the precious body parts.

6.5.12

Carcass value of slowly growing broiler lines at feeding under organic conditions

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At the feeding and keeping of chickens in the organic farm fundamentally slowly growing origins must be used, which originate from ecological parents animal flocks. According an exception however, fattening chicks of conventional breeders may be bought in addition, if animals are not available in sufficient quantity from organic agriculture. Though these chicks must be younger than 3 days. Considering the feeding, in a transition period to the 24th August 2005 at fowl up to 20 % of the dry mass of the fodder may come from conventional cultivation. In Germany since 13th April 2001 it is possible again to revalue organic starters with fish meal for fattening fowl. For the organic farms the question arises, which of the offered slowly growing hybrids are suitable for the organic chicken fattening and how can be achieved an optimal nutrient supply. Thus, at the Institute for Education and Small Animal Research in Kitzingen two slowly growing breeds with and without fish meal in the organic starter were compared in reference to fattening and slaughtering performance and investigated following on their meat quality.

The investigations led to following results:

Fattening performance: The starter with 10 % fish meal improved the increase already in 28 days at the broiler line ISA J 257 significantly (523 to 653 g). This effect was much slightly characteristic in the more slowly growing hybrid ISA J 457 (492 to 523 g). **Carcass quality:** After a fattening period of 77 days the differences revealed in the carcass criteria between the hybrids to favour of the ISA J 257. Significant differences were found in the slaughter yield, the carcass grade and also in shares of the individual joints. **Meat quality:** The chemical composition of the breast meat showed an influence of the feeding. The ration of fish meal had slightly higher fat and protein values. **Resume:** The use of fish meal in a starter ration had clear advantages compared with an organic standard fodder. A significant superiority of the ISA J 257 over the ISA J 457 showed the comparison of two slowly growing hybrids in almost all examined criteria of fattening and slaughtering performance and thus also in the economy.

6.5.13

Effect of tea polyphenol on performance and oxidative status in broiler chickens under heat stress

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Polyphenols are found in many plants such as fruits, vegetables and tea. Tea (*Camellia sinensis*), especially green tea is proved to be a good source of polyphenols, which are known as catechins. Catechins are water-soluble polyhydroxylated flavonoids. The