



Nitrogen content in pectoralis major muscle – Ross 308 broilers with or without wooden breast

Agenda

- Introduction
- Aim – Methods
- Results





Introduction

- Nitrogen is a component of amino acids. Amino acids are the building blocks of all proteins.
- The amount of nitrogen in raw chicken meat is very important for the processing and cooking yield.
- Nitrogen is a useful factor to uncover misdescription and mislabelling in the chicken preparation market.
- The nitrogen content in modern fast growing chickens like Ross 308 is lower compared to slower growing chickens like Ranger Gold.
- Wooden breast filets – an abnormality in fast growing chickens – differ from normal filets in composition and quality.





Aim

- to document the nitrogen level in pectoralis major in Danish produced Ross 308 broilers with or without wooden breasts and to analyse the collagen share of the total protein.

Methods

64 right skinless chicken breast muscles from two flocks of Ross 308 broilers slaughtered at age 34 or 38 days were collected at the deboning line and separated into normal and wooden breasts before analysis.

- Nitrogen*6.25 → Protein
- Fat

The four samples with the highest nitrogen content and the four samples with the lowest nitrogen content within each flock were analysed for collagen

32 Normal

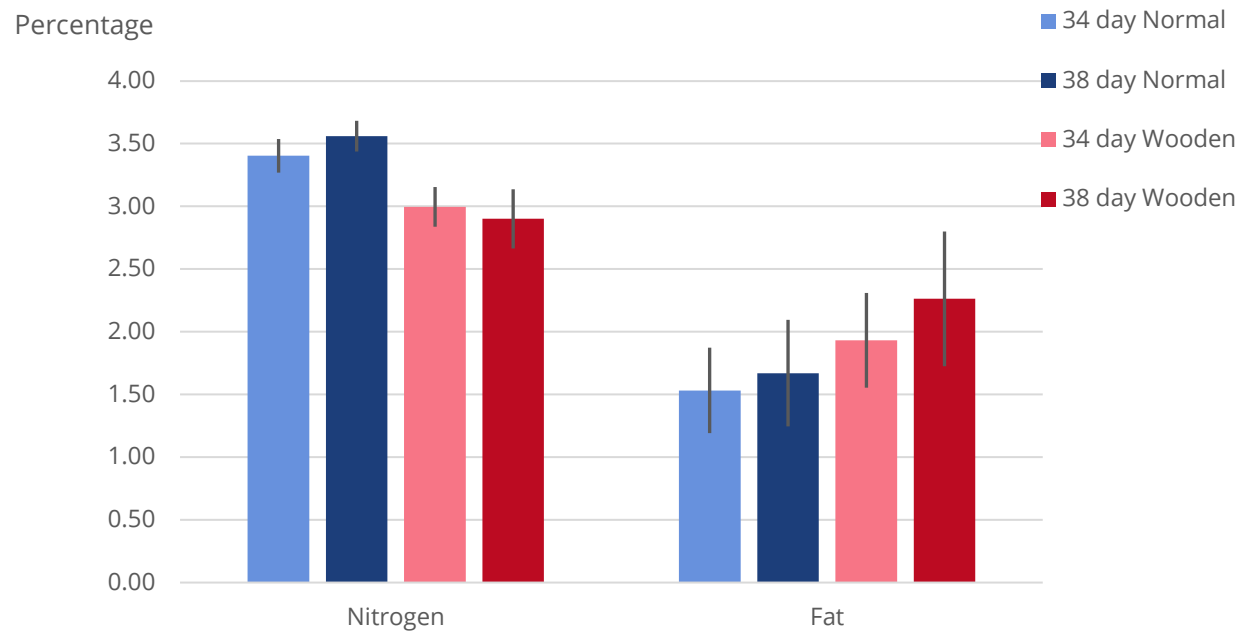


32 Wooden





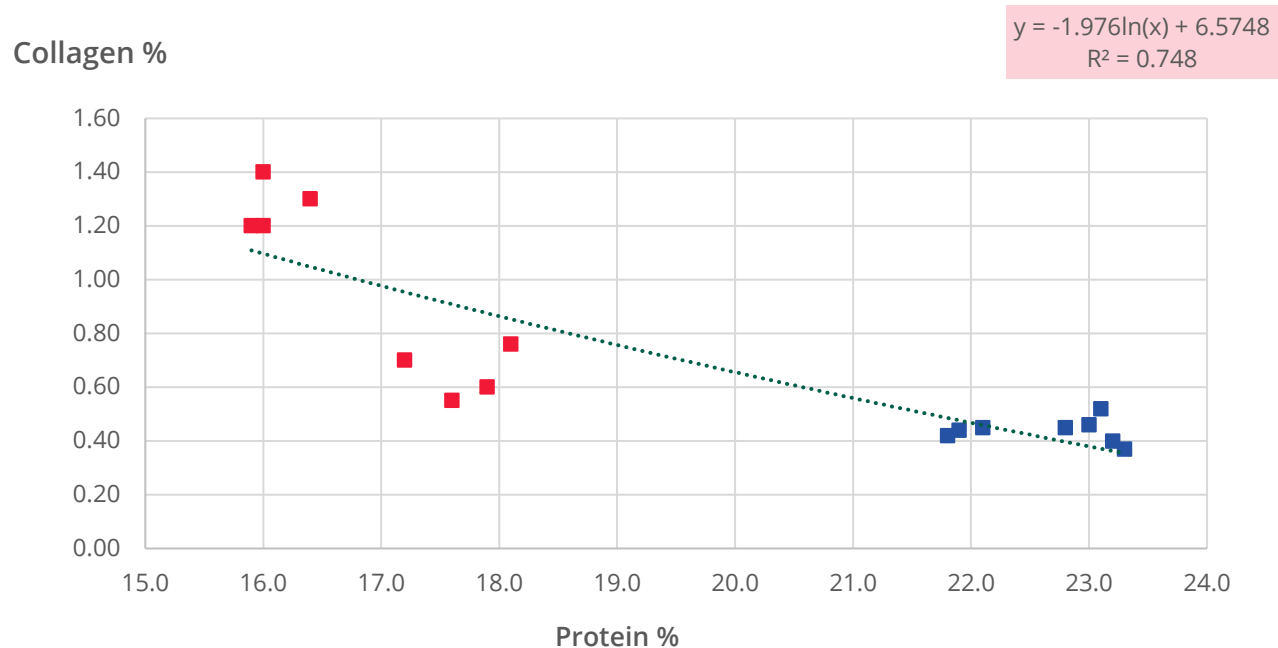
Results: nitrogen and fat – influence of age and breast type



- Wooden breasts had a significantly lower content of nitrogen.
- Wooden breasts had a significantly higher content of fat.
- The effect of slaughter age was not significant.
- The nitrogen level was lower in normal breasts compared with older results.



Results: collagen



- The collagen level in chicken breasts was low.
- Collagen had a higher share of total protein when the protein content was low.
- The relationship is best described by a logarithmic curve.



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Thank you for your attention!
Time for questions

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