

COMPARISON OF THE HEMOGLOBIN CONTENT OF FATTENED GOOSE LIVERS AFFECTED AND NON-AFFECTED BY GREENING

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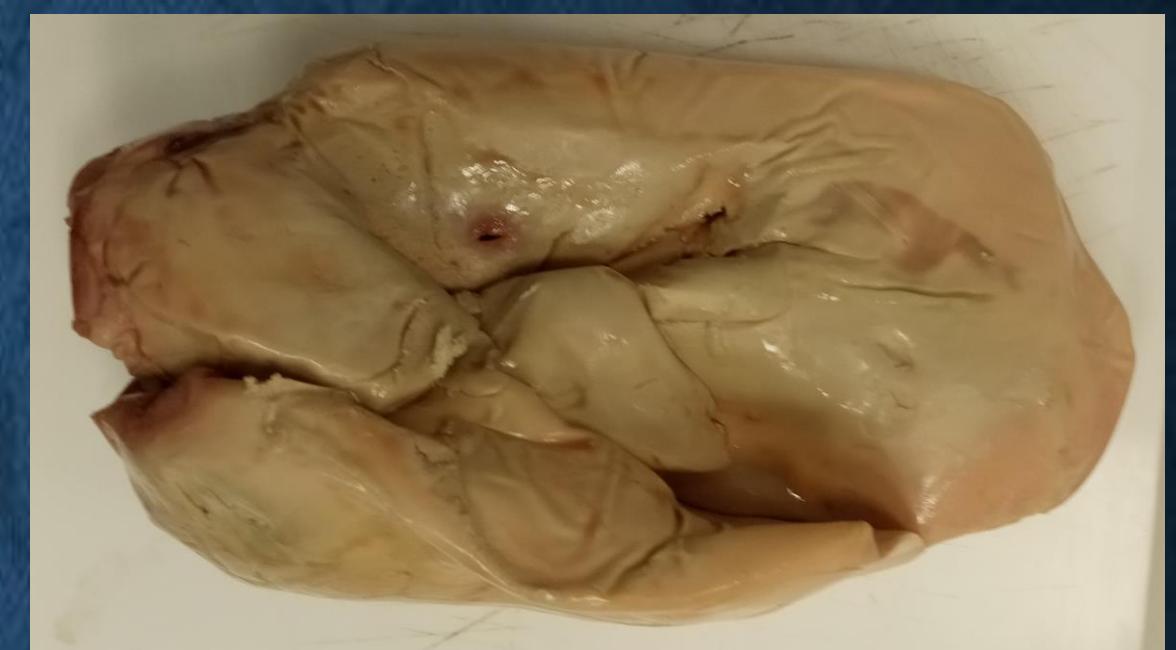
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Introduction

Fattened goose livers are vacuum-packed and stored frozen. It is a common problem that green spots appear on the surface of the products. It is assumed that the hemoglobin of residual blood in the livers can be associated with the discoloration.

The aim of the study was to investigate the hemoglobin content of fattened goose livers affected and non-affected by greening.



Fattened goose liver affected by surface greening



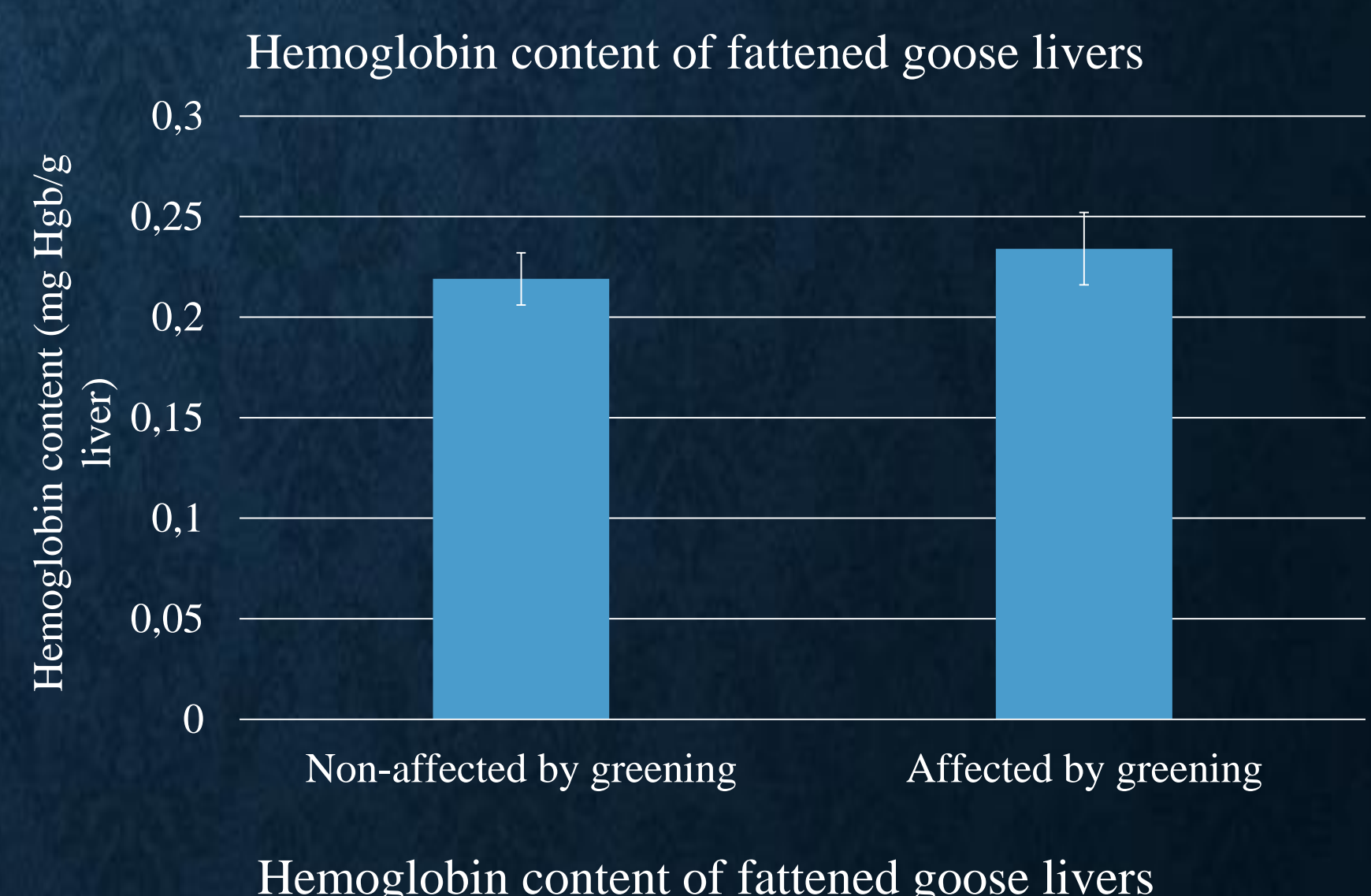
Hitachi U-2900 spectrophotometer

Materials and methods

Hemoglobin content of the livers was determined by using Sigma-Aldrich's Drabkin's Reagent. Livers were individually homogenized and 4 g samples were taken from each of them. The samples were homogenized with 40 ml of water at 10.000 rpm for 1 minute. Mixtures were centrifuged at 5.000 rpm, 4 °C for 10 minutes then filtered. After filtration 20 µl of filtrate and 5 ml of Drabkin's Solution were mixed and stored at room temperature for 15 minutes. The filtrates were submitted to spectrophotometric readings at wavelength 540 nm in a 10 mm pathway cuvetts versus blank which was pure Drabkin's Solution. The absorbance values were recorded and the total hemoglobin concentration (mg Hgb/g liver) was calculated.

Results

Significant difference ($P=0.176$) was not detected between fattened goose livers affected and non-affected by greening in term of hemoglobin content.



Conclusion

It is still hypothesized that hemoglobin is one of the main factors that contributes to the appearance of the green spots however the phenomenon is highly complex this is why a holistic approach has to be applied to reveal the mechanism of discoloration.