

## Visible spectroscopy as a tool for the assessment of storage conditions of fresh pork packaged in modified atmosphere - DTU Orbit (08/11/2017)

### Visible spectroscopy as a tool for the assessment of storage conditions of fresh pork packaged in modified atmosphere

The storage conditions of fresh meat are known to impact its colour and microbial shelf life. In the present study, visible spectroscopy was evaluated as a method to assess meat storage conditions and its optimisation. Fresh pork steaks (longissimus thoracis et lumborum and semimembranosus) were placed in modified atmosphere packaging using gas mixtures containing 0, 40, 50, and 80% oxygen, and stored with or without light for up to 9 days. Principal component analysis of visible reflectance spectra (400-700nm) showed that the colour of the different meat cuts was affected by presence of oxygen, illumination, and storage time. Differences in the oxygen levels did not contribute to the observed variance. Predictive models based on partial least squares regression-discriminant analysis exhibited high potency in the classification of the storage parameters of meat cuts packaged in modified atmosphere. The study demonstrates the applicability of visible spectroscopy as a tool to assess the storage conditions of meat cuts packaged in modified atmosphere.

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