



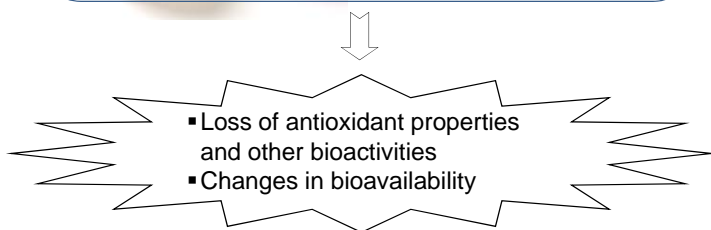
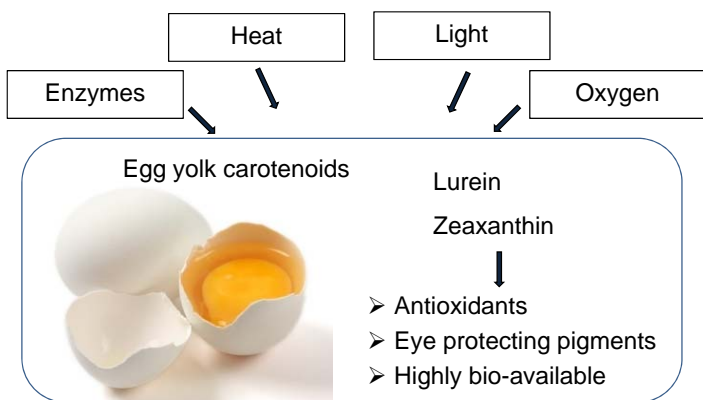
Effect of Cooking methods on Egg Yolk Carotenoids

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Summary

Egg yolk is a rich source of highly bio-available carotenoids, especially lutein and zeaxanthin. They can act as antioxidants in human body and important in preventing many diseases such as eye diseases. Carotenoids are susceptible to heat, light, and storage conditions and different cooking methods can alter the bioavailability of these compounds.

Background



- Limited information on effects of cooking methods on yolk carotenoids
- Need of fast analytical methods to separate and quantify yolk carotenoid isomers

Objectives

- ☞ To identify the effect of cooking methods on yolk carotenoids
- ☞ To develop fast analytical methods to identify and quantify the isomers of carotenoids of cooked yolk

Methodology

- Processing of eggs according to domestic cooking methods
 - Boiling
 - Frying
 - Microwave cooking
- Raw egg yolks as the control sample

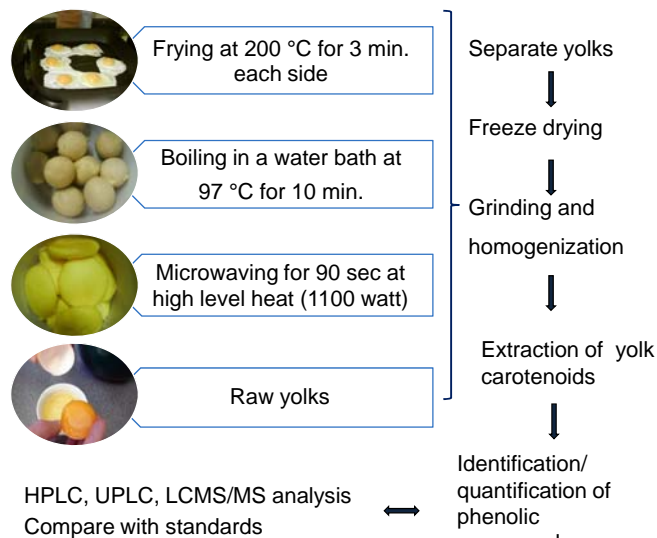


Figure: Cooking conditions and sample preparation

- Use dim light conditions during processing to avoid light induced carotenoid isomerization

Expected results

We expect to:

- Determine the losses of naturally occurring egg yolk carotenoids with respect to different cooking methods
- Obtain information on different carotenoid isomers generated during cooking and investigate the changes in antioxidant activity
- Develop simple and fast analytical methods to separate carotenoid isomers in egg yolk

Who will benefit?

Scientific community, consumers and industry will obtain information on:

- Suitable analytical methods to separate egg yolk carotenoid isomers
- Effect of different cooking conditions on yolk carotenoids

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