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Sensory quality evaluation for appearance of needle-shaped green tea based on computer vision and nonlinear tools

Key words: Needle-shaped green tea, Appearance quality, Image feature, Nonlinear tools, Extreme learning machine (ELM)

Research Summary

This article is mainly focused on method of intelligent sensory evaluation for appearance quality of needle-shaped green, and summarizes the key procedures as follows:

- **Feature extraction of tea images**
- **Correlation analysis on vision and human sensory**
- **Establishment of linear and nonlinear quantitative model**
- **Model performance comparison (PLS, ELM and Ada-ELM)**

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Innovation points

- **Presents** a new method to quantitative prediction for appearance of needle-shaped green tea based on computer vision and nonlinear tools.
- **Correlation** between image features and sensory quality was investigated.
- **A** new nonlinear hybrid algorithm (Ada-ELM) was chosen as the best model for prediction of appearance quality.

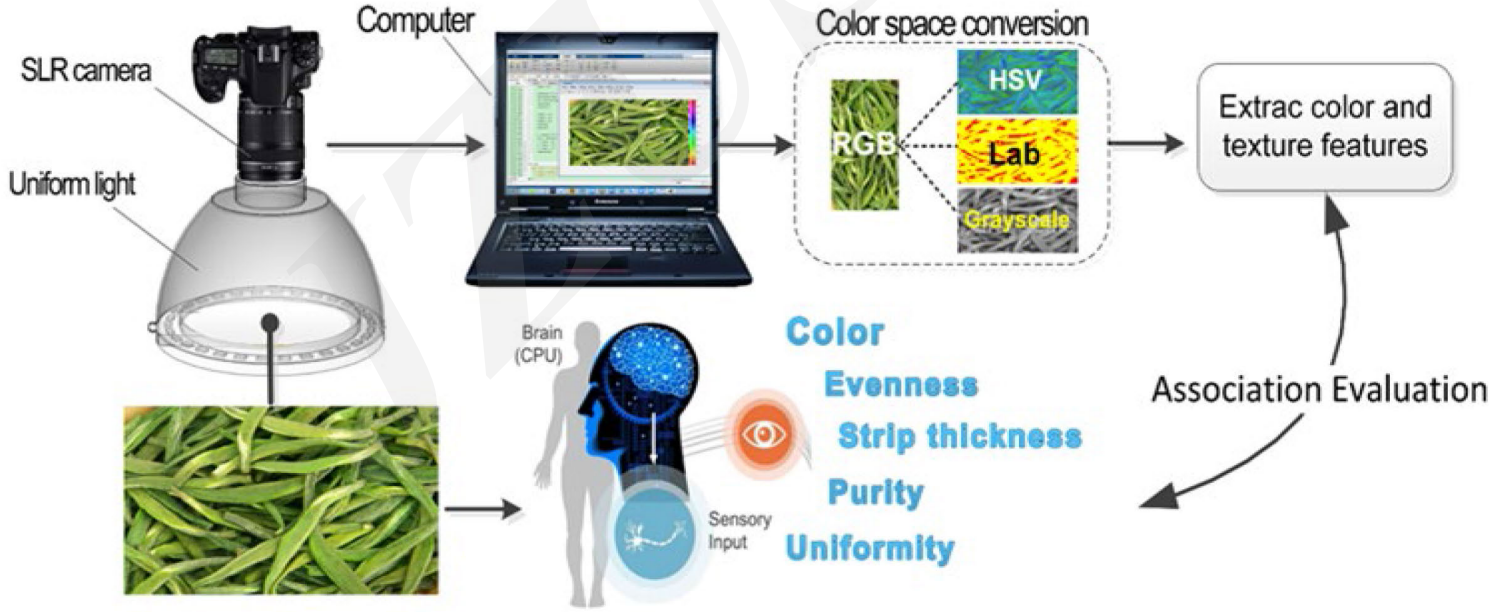


Figure 4