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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)**

# 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.

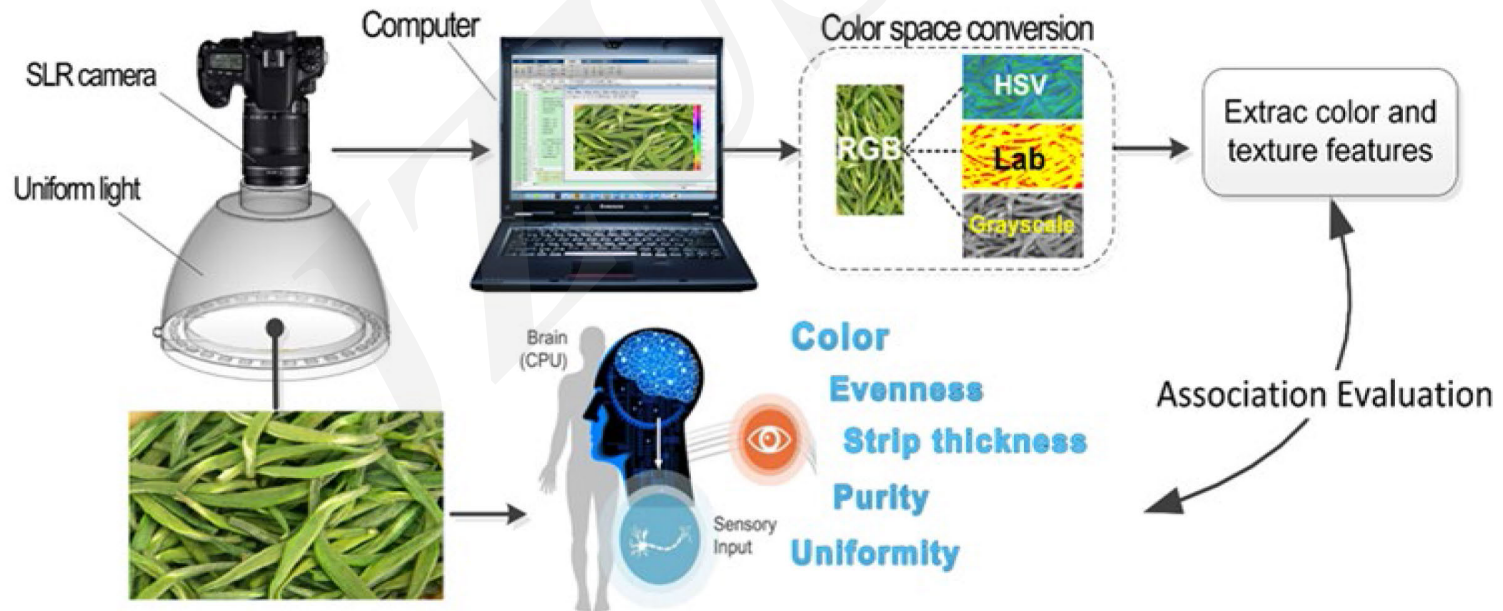


Figure 4