

## Prediction of swelling and pasting behavior of starch solutions

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**Categories:**

- Biomedical Engineering
- Food and Nutrition

**Keywords:**

- granules
- Modeling
- pasting
- rheology
- starch
- swelling
- thickening
- viscosity

Starches are used in a variety of food products but their swelling and pasting properties have not been well characterized. The prediction of starch properties would enable the fine-tuning of food textures.

Researchers at Purdue University have developed a mathematical model for the swelling of starch granules when heated. This model was used to characterize the texture of starches such as maize, rice, and potato and predicted the texture for starches under different processing conditions. The application for this technology include in the optimization of food textures such as in canned soups, gravies, and baby foods, as well as adjustment of non-food products such as paper coatings and paints.

**Advantages:**

- Prediction and optimization of starch properties

**Potential Applications:**

- Food products
- Paper coatings and paint

**People:**

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**Intellectual Property:**

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