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|  | **华中农业大学** |
| **2019年食品科技学院研究生入学复试面试题** |

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**试题编号：5**

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| **翻译** | Food systems sometime require adjustment to higher pH values to achieve more stable or more desirable characteristics. For example, alkaline salts, such as disodium phosphate（磷酸氢二钠）, trisodium phosphate（磷酸钠）, and trisodium citrate（柠檬酸钠）are used in the preparation of processed cheese (1.5-3%) to increase the pH (from 5.7 to 6.3) and to effect protein (casein) dispersion（分散）. This salt-protein interaction improves the emulsifying and water-binding capabilities of the cheese proteins. |
| **1** | Potato/sweet potato flours are prepared by drum-drying or hot air-drying techniques. During the drying process, starch undergoes changes in its structural features, thereby influencing its functional properties, such as pasting viscosities(粘度) and solubility. Thus, the functional properties of such flours are particularly dependent on the method of preparation. Different workers have reported the possible use of potato flours for product development. |
| **2** | High-amylose starch is in great demand by the starch industry for its unique functional properties. However, very few high-amylose crop varieties are commercially available. In this paper we describe the generation of very-high-amylose potato starch by genetic modification. Normal, high-molecular-weight amylopectin was absent, whereas the amylose content was increased to levels comparable to the highest commercially available maize starches. And starch granule morphology and composition were noticeably altered. |
| **3** | Starch is the major storage carbohydrate in plants and one of the most important plant raw materials for both food and industrial applications. Approximately 70% of the European and US starch production is used for industrial purposes, whereas about 30% is used as native starch for direct human and animal consumption. The range of starch applications is heavily influenced by the ratio of its two major components, essentially linear amylose and branched amylopectin. |
| **4** | Food biopolymers, specifically food proteins, are widely used in formulated foods because they have high nutritional value and are generally recognized as safe. Numerous excellent articles highlight the functional properties of food proteins, including emulsification, gelation, foaming, and water binding capacity, as well as their applications as ingredients in the food industry. Among these functional properties, the gel-forming property is especially interesting. |

**备注：学术型硕士1和2是必答题；再从3和4中任选一题作答**

**专业型硕士3和4是必答题；再从1和2中任选一题作答**