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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：1**

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| **翻译** | The properties of modified potato and sweet potato flours have been determined by acetylation（乙酰化）and by treating with enzymatic modification. Fractionation（分馏法）studies showed that the content of high molecular weight fraction decreased, with a proportionate increase in the lower molecular weight carbohydrate fraction, whereas FT-IR（红外光谱）indicated changes in crystallinity of the modified starches. The data showed that the degradation of starch is dependent on the type of modification. |
| **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** | In the past few years, there has been growing interest in composite systems such as emulsion gels because of their practical applications in food formulations（配方）. Because of their flexibility and amphiphilic（两亲性）nature, globular proteins such as whey proteins rapidly adsorb to the emulsion（乳胶） interface, where they self-aggregate and form continuous and homogeneous(均匀的) membranes around oil droplets through intermolecular（间）） β-sheet interactions. |

**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**