

脱脂麦胚蛋白粉的持水能力和蛋白溶解度试验研究

Defatted Wheat Germ Protein Flour Solubility and Water Retention

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中文摘要:

脱脂麦胚蛋白粉是一种优质植物蛋白资源,采用均匀设计方法研究了pH值(4.0~8.0)、加热温度(20~70℃)和加热时间(10~30min)对其持水能力和蛋白溶解度的影响。随着温度的升高,持水能力显著增强,pH值的影响相对较小,而温度的影响可以忽略。pH值为4.0,温度为70℃时,持水能力最强。pH值对蛋白溶解度的影响显著,时间的影响可以忽略。pH值为8.0,温度为20℃时,蛋白溶解度最大。研究结果还表明,脱脂麦胚蛋白粉可作为食品添加剂以改善食品的营养和品质。

英文摘要:

Defatted wheat germ protein flour (DWGPF) is a good plant protein resource. Its functionality should be studied thoroughly and put into a good use. The effects of pH (4.0~8.4), incubation temperature (20~70 °C) and time (10~30 min) on water retention (WR) and protein solubility (PS) of defatted wheat germ protein flour were studied with the method of homogeneous design. WR increases apparently with the increase of temperature from 20 °C to 70 °C. The effects of pH and time are noticeable and trace respectively. Maximum WR occurs at 70 °C and pH 4.0. The pH influences PS apparently, but incubation time almost doesn't do it. The highest PS was at pH 8.0 and 20 °C. The experiment results also indicate that DWGPF, as an additive, can improve nutrition and quality of food.

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