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A novel wheat flour leading to naturally reduced staling and longer shelf life

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A stronger focus on consumer wants, taking into account such things as product texture and flavor, is becoming more important in developing new varieties of crops, according to a recent article in World-Grain.com (Creating wheat varieties for specific food items, 2016). Furthermore, the trend towards clean labeling for specific food end products is relentless, and includes both fewer and more easily recognizable ingredients. Here, we describe the development and characterization of a wheat line with a novel type of starch that naturally imparts a longer shelf life to baked goods. Material from this wheat line was compared with a closely related (near-isogenic) line in terms of starch content, amylopectin chain length distribution, differential scanning calorimetry (DSC) analysis, amylose content and bread-making quality. The starch from this line shows a small but significant decrease in amylose content, as well as an altered amylopectin chain length distribution. Notably, bread made from flour of this line shows a lower increase in firmness or staling several days after baking, without the use of additives.

Biography

Nakamura T has used this expertise to develop and evaluate several economically useful and genetically informative wheat types with modified starch characteristics, including Waxy (amylose-free) Wheat and Sweet Wheat.

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