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Preparation of cabbage vichyssoise soup utilizing unused resources

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Abstract (300 word limit)

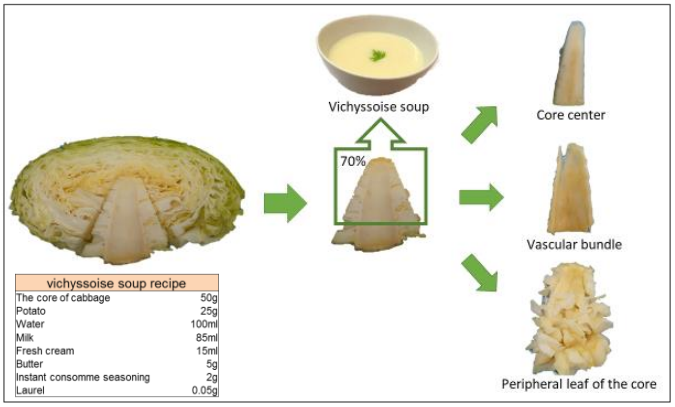
Statement and background: In Japan, the consumer demand for convenience food is increasing. The demand for cut vegetables is increasing because they can be readily consumed without cooking. However, when cut vegetables are increasingly consumed, the amount of unused core and peel of vegetables also increases. Cabbages are the most consumed cut vegetables, which have a yield rate of approximately 70%. Therefore, we investigated the characteristics of the cabbage cores and focused on methods to effectively use the cores.

Methods and results: We investigated the characteristics of the core of cabbage and analyzed nutrient composition. The cabbage core was divided into three parts, namely core center, vascular bundle, and peripheral leaf of the core. We performed a sensory evaluation of the odor strength of the cabbage core parts with 12 women (age, 23 ± 4 years). The result revealed that the vascular bundles had a significant odor ($p < 0.01$). We assessed the odor by a smell distinction assay. The center and peripheral leaf of the core had similar odor quality, sulfur, amine, aldehyde were high. The vascular bundles were high in aromatic and ester.

To effectively use the cores, we prepared vichyssoise soup only using cores that were cutoff at 2 cm from the bottom. The specific gravity of the soup was 1.02± 0.00, the viscosity was 390.6 ±78.7 mPa · s and the hardness was 49.87±1.84Pa.

Conclusion: The soup could be eaten without being affected by the odor of the core. This recipe used approximately 70% of the cabbage core, thereby reducing food loss.

Image



Recent Publications (minimum 5)

1. Minako K, Akiko K, Machiko M (2017) Quality characteristics of the commercial pidan. The Japan Society of Home Economics 68(12):1-8.
2. Minako K, Machiko M (2017) Evaluation of nutritional values of commercially prepared lunch boxes at convenience store using near-infrared spectroscopy. Tokyo-Kasei University Bulletin 57(2):1-9.
3. Minako K, Machiko M, Kazuko I (2017) Accuracy Evaluation of attitude peculiar to Japanese elderly by accelerometer and goniometer. The 64th of Japanese society of nutrition and dietetics congress.
4. Minako K (2005) A study on the Resting Energy Expenditure and Physical Activity Level of the Elderly in Nursing Home. Master Thesis.
5. Hidemi T, Yukie K, Michiko F, Minako M (2004) Basics of baby food to strengthen the baby. Narumido Publishing.

Biography (150 word limit)

MD (Home Economics), Dietician

After graduating from university, I worked as a dietician at t a hospital and nursing home for >15 years. Currently, I am a doctoral student second grader and studying at the graduate school to acquire PhD (Arts).

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