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Microbiological quality of retailed green salads In Los Baños, Laguna, Philippines

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Introduction: Consumption of minimally processed vegetables has gained popularity due to consumer's emphasis on convenience and healthy eating. However, much handling during processing intensifies the likelihood of microbial contamination thus posing health risks to the consumers. This study was aimed at determining the proximate composition and microbiological quality of minimally processed packed fresh green salads sold in seven different retail stores in Barangay Batong Malake, Los Banos, Laguna.

Methods: Proximate composition, microbiological quality and presence of filth in the sampled salads were analyzed using standard AOAC, BAM and floatation methods for proximate composition, microbial quality and presence of filth respectively.

Results: The proximate composition of the samples in percentage ranges consisted of carbohydrates (3.07- 14.26), protein (0.95-11.79), fat (0.03-3.64), fiber (0.64-1.13) and moisture (73.27-92.77). Microbial analysis showed a mean total plate counts of 2.4×10^7 and a broad range of 2.7×10^4 - 6.6×10^7 CFU/g. Most probable numbers (MPN) of $>11,000$ /g coliforms were found in four samples and *Escherichia coli* bacteria were detected in five samples but no *E. coli* count exceeded 9.2 MPN/g. Insect fragments and textile fiber were both detected in two samples. Based on the specifications by the Food and Drug Administrations of the Philippines, the levels of contamination found could pose potential health hazard and imminent spoilage.

Conclusion: Although green salads contain fiber and low calories which are nutritionally important, the present findings in a Filipino location accentuates the need for more stringent enforcement of food safety measures to protect the consumers from possible occurrence of food poisoning.

Biography

Aimee Sheree A. Barrion is a licensed Nutritionist-Dietitian in the Philippines. She is an Associate Professor at the Institute of Human Nutrition and Food, College of Human Ecology, UP Los Baños (UPLB). She got her BS Nutrition, MS Applied Nutrition and PhD in Food Science degrees at UPLB. She has been teaching at the University for more than 15 years. Before her teaching stint, she used to work as a foodservice manager for two years at KFC South Manila branches. Aside from teaching, Dr. Barrion has extended numerous works as resource person, trainer and evaluator in different local and national food and nutrition activities and projects. She is also an active member of several professional organizations in the field of nutrition and dietetics. In terms of research, she has presented a number of papers and posters in different scientific fora. She has also accumulated a list of non-*ISI* and *ISI* publications. Her field of research interests lie on food and nutrition and food safety. Her future plans include developing a natural antimicrobial wash formula for cleaning foodservice utensils and equipment and also aid local government in ensuring and maintaining food safety among the various small and medium scale foodservice units.

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