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From Nations of “Makan Nasi” to “No-Carb”? Recalibrating the Trend and Perception of Asia’s Grain

Biography

Dr. Cecilia Cristina Santos-Acuin is currently Human Nutrition Scientist at International Rice Research Institute, Philippines. She participates in research that addresses 1) micronutrient deficiency through nutrient dense rice varieties, 2) metabolic issues related to rice consumption through the identification and testing of low glycemic index rice and other functional attributes of rice, and 3) rice safety concerns through investigations of heavy metal, mycotoxin and chemical contaminants in rice. Dr. Acuin chairs the Research Utilization Committee, Philippine National Health Research System, under the Philippine Council for Health Research and Development, and had been Head of the Secretariat of the Universal Health Care (UHC) Study Group, University of the Philippines Manila - National Institutes of Health, that generated a research and policy base towards the institutionalization of UHC as a country policy.

As the previous Chief Science Research Specialist of the National Assessment & Monitoring Division, Food and Nutrition Research Institute of the Philippines Department of Science & Technology (FNRI-DOST), she was responsible for the conduct of the Philippine National Nutrition Surveys, and provided oversight for nationwide nutrition research projects of three Sections: the Nutritional Assessment Section, the Nutritional Statistics and Informatics Section, and the Nutritional Interventions, Evaluation and Policy Section.

Abstract

Rice defines Asia in myriad ways - from its historical roots, to how its production systems have shaped civilizations, in the manners by which its planting and cuisine have molded cultures, and how its abundance has determined economies, stability of governance, security in food, and survival itself. About 90% of rice is grown and consumed in Asia, with Asia prospering even as it is benefiting the most from the rice science that feeds the continent’s billions. But in the early part of this millennium, studies emerged associating white rice intake with the increasing rates of diabetes, obesity and metabolic syndrome particularly among Asian populations. Because of the quantities of white rice that Asians consume, this was contributing significantly to the glycemic load of their diets, relative to other food sources, and was impacting especially on increased diabetes risk.

Ecological data, however, points to a declining trend in rice intakes throughout most of Asia, alongside rising diabetes and obesity rates. Recent, more refined studies from China, India, and Singapore indicate that a more comprehensive view - of rice when part of a diet rather than as a single food item, inclusion of its quality and nutrient attributes, consideration of co-factors such as smoking, alcohol intake and physical activity - emphasize lifestyle, rather than diet alone, as key to the development of these non-communicable diseases. Interventions that replace white with brown rice, and trends in carbohydrate replacement are proving to be
effective as Asians continue to include rice as part of healthier food choices and a more diverse diet.

Our understanding of the rice genome and the ways by which the rice plant’s growing environment can be modified has resulted in a vigorous research track towards selecting rice traits with low glycemic index, increased resistant starch and dietary fiber. Likewise, omics technology has allowed breeders to tap the rich diversity of rice in identifying lines with enhanced nutrient density, flexibility in responding to consumer sensory expectations, while meeting farmers’ productivity expectations and environmental sustainability goals. Value addition in rice preparation and rice product development are a high priority for advancing Asian economies. These exciting innovations are all coming together as a “smart eating” package which ensures that rice will always be Asia’s grain.