

HARVESTPLUS NUTRITION RESEARCH

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The nutrition research plan of HarvestPlus is designed to prove the concept that consumption of biofortified crops results in improved nutritional status and health of target population groups in developing countries, namely children under 5 years and women of child bearing age. The pathway to impact is travelled with world renowned food technology and nutrition scientists and research centers. The aim of HarvestPlus Nutrition research boils down to answering three basic questions: (1) Does the biofortified crop contribute contain sufficient micronutrients to achieve the targeted proportion of the Estimated Average Requirement (e.g. 30-40%)? (2) Are the micronutrients in the biofortified crops bioavailable? and (3) Does regular consumption of biofortified foods produce a measurable improvement in nutritional and health status? Dietary intake, nutrient losses due to food storage and processing, in vitro, animal and human bioavailability, and efficacy studies have been conducted by HarvestPlus in the last 5 years which demonstrate that significant progress has been made and micronutrient levels have been reached for provitamin A in sweet potato, iron in pearl millet and beans, zinc in rice. Bioavailability, efficacy and effectiveness have been established for Orange Sweet Potato; Bioavailability has been measured favorably for provitamin A carotenoids in cassava and maize and for iron from beans. Currently, bioavailability studies are underway for high zinc rice and high iron beans and pearl millet, and efficacy studies are planned for 2009-13 for high iron beans (Rwanda & Uganda) and pearl millet (India), high zinc rice (Bangladesh and India) and wheat (India and Pakistan), high pVA maize (Zambia) and cassava (DRC).

Keywords: Biofortified crops, nutrition, bioavailability studies.

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