Methods: R5N used a diversified livelihoods approach. WFP selected 30 villages for R5N based on assessed need, and half of these were randomly selected to also receive HPP. A control group of 15 villages was selected by village-level matching. Respondents completed 1-2 phone-based 24-hr dietary recalls at baseline and 12-mo follow-up. Food group and nutrient intakes were estimated using Sri Lankan dietary reference tables. Diet quality was assessed using the Global Diet Quality Score (GDQS). Difference-in-difference (DID) comparisons of All R5N vs. Control and R5N + HPP vs R5N Only were tested. Effects on GDQS were tested using regression models with propensity score weights and k-nearest neighbor matching. Effects on usual nutrient intakes and were analyzed using the National Cancer Institute method with propensity score weighting and Welch's t-test with bootstrapped standard errors.

Results: The DID (95%CI) in GDQS for All R5N vs. Control and R5N + HPP vs. R5N Only were -0.26 (-0.79, 0.27) and 1.51 (0.79, 2.24), respectively. Positive DID effects on intakes of fiber, B vitamins, vitamin C and vitamin A were found for All R5N relative to control. No significant negative DID effects on intakes were found. Nutrient intake comparisons of R5N Only vs. R5N + HPP were non-significant.

Conclusions: The R5N program had multiple significant impacts on diet, including a mix of beneficial, protective and null effects on nutrient intakes. Contrasting results for All R5N vs. Control and R5N + HPP vs. R5N Only on GDQS may indicate a beneficial effect of HPP on healthy food choices. Further programs to increase consumption of nutrient-rich foods are warranted in rural Sri Lanka.

Funding Sources: We would like to thank all funders who support this research through their contributions to the CGIAR Trust Fund: www.cgiar.org/funders. The R5N program evaluation was also supported by WFP, A4NH and the USDA. The Korea International Cooperation Agency funded the R5N Program.

Current Developments in Nutrition 8 Suppl 2 (2024) 102286
https://doi.org/10.1016/j.cdnut.2024.102286

P19-007-24 The Effects of Regenerative Farming on Human Health: A Randomized Crossover Design Clinical Trial

Jennifer J Cloward [1], Chad Bitler [2], Jordan Broadbent [1], Matthew Cox [1], Conner Haycock [1], Derek Hurst [1], Christian Jensen [1], Jennifer Langdon [2], Jennifer Mansfield [2], Saul Nava [1], Ian Zeglin [2], Olivia Mason [1], Tyson Payne [1], Stephan van Vliet [1]

[1] *Utah State University, United States*
[2] *Greenacres Foundation, United States*

Objectives: There is concern that shifts to modern farming techniques produce less nutrient-dense foods. Previous studies have found that regenerative-organic (ROC) farming systems improve the nutrient density of foods. To date, the translation to human health has not been explored. The purpose of this study was to compare conventional and ROC farming practices on biomarkers of human health.

Methods: Thirty-four (N=34) overweight (BMI=25-35) but otherwise healthy adults participated in a randomized crossover-design feeding trial. The study consisted of two interventions—1) a regeneratively-produced diet (grass-finished meats and organic produce) and, 2) a conventionally-produced diet (generic food production practices). The interventions lasted six weeks each with a two-week washout period between the diets. Foods were matched for macronutrient and caloric content across each intervention. At four time points (baseline, post-diet 1, pre-diet 2, post-diet 2), blood was drawn from participants for basic metabolic panel (BMP) analysis.

Results: The significant data indicated positive differences between participants' habitual diet (baseline) and a whole-food diet that both interventions were based upon (post-12 week interventions). Specifically, VLDL (p=0.001), triglycerides (p=0.001), and hbA1c (p=0.03). There were no significant differences in glucose, lipid panel, HbA1c, or weight change between the regenerative or conventional diets.

Conclusions: The clinical trial suggests no differences in biomarkers of human health when consuming ROC foods compared to conventionally-produced foods. The work showed positive health indications from consuming a diet rich in whole foods versus a typical standard American diet.

Funding Sources: This work is funded by Greenacres Foundation, OH.

Current Developments in Nutrition 8 Suppl 2 (2024) 102287
https://doi.org/10.1016/j.cdnut.2024.102287

P19-008-24 Trends in Red and Processed Meat Intake From 2012 to 2018 and Their Contribution to Nutrient Intake in Mexico

Kaela Connors [1], Lindsay M Jaacks [1], Peter Alexander [1], Juan Rivera [2], Carolina Batis [2]

[1] *University of Edinburgh, United Kingdom*
[2] *Instituto Nacional de Salud Pública, Mexico*

Objectives: Trends in red and processed meat consumption may have consequences for Mexico's diet-related disease burden and environmental impacts of the food system. We assessed national trends in red and processed meat intake in Mexico and sociodemographic predictors of these trends.

Methods: We used nationally representative (ages 1-111 years) dietary intake data from the Mexican National Health and Nutrition Survey, collected using a semi-quantitative food frequency questionnaire in 2012 (n=6,871), 2016 (n=15,175), and 2018 (n=18,303). We tested for time trends in daily intake (g) of red and processed meat, and then for predictors of these trends by including interaction terms with sociodemographic variables, using Generalized Estimating Equation linear regression, adjusted for total energy intake. In 2016, a 24-hour dietary recall was also administered and allowed us to assess the contribution of red and processed meat to nutrient intake. All analyses were survey-weighted and accounted for within household correlations.

Results: Intake of both red and processed meat decreased significantly over the study period [change in average g/day intake per two-year survey round (95% CI)]: β = -0.57 (-0.69, -0.45) and -0.25 (-0.32, -0.17), respectively]. Red meat intake increased with time in the 0-5 and 6-11 age groups, females, and those with a high school, bachelors or graduate school education. Whereas, processed meat decreased with time in the 12-19 age group and among urban residents. Additionally, red and processed meat substantially contributed to heme iron (54.9 and 58.6 %, respectively) and vitamin B12 intake (40.2 and 21.4%, respectively) but less than 20% of all other essential nutrients among consumers. Declining consumption translates to a < 1.8%