**Methodological Details for Calculating Recommended Nutrient Intake Values for prehispanic U.S. Southwest Populations**

To provide a better estimate of how well traditional landraces of maize would fulfill the macronutrient and micronutrient needs of prehispanic U.S. Southwest populations, we draw on a range of published World Health Organization (WHO), joint Food and Agriculture Organization and WHO (FAO/WHO), and joint FAO, WHO, and United Nations University (UNU) recommended nutrient intake (RNI) values (FAO/WHO 1994, 1998, 2004; FAO/WHO/UNU 1985, 2007; WHO 2012). RNI values are similar in concept to the Recommended Dietary Allowances (RDAs) established by the Food and Nutrition Board of the U.S. National Research Council, and are hypothetical and constantly evolving approximate dietary values meant to guide the adequate intake of essential nutrients to meet the needs of nearly all individuals of a given population (Aggett et al. 1997). As such they are not meant to represent values recommended for individual intake as much as values that should provide adequate nutrition for a healthy population. As RNI values have been developed and refined using data from modern populations they should not be assumed to perfectly reflect the dietary requirements of prehispanic populations who were likely both more physically active and had smaller body mass compared to many modern groups.

Whenever possible, to better approximate the dietary needs of prehispanic U.S. Southwest populations, the RNI values presented in Supplemental Table 1 were calculated as a percentage of daily caloric intake or as a ratio of estimated body weight (see below). Further, each RNI value in Supplemental Table 1 was calculated by taking the average of the RNI values for adult men and women. The RNI values presented in Supplemental Table 1 do not include estimates for pregnant or lactating women. In the bullet points below, we provide additional information about how the RNI values for each nutrient were calculated and note when there were discrepancies in adult male and female recommended intakes. For example, there is a large discrepancy in dietary iron RNI values for adult men and women. We also discuss other relevant assumptions that were used to calculate the RNI values presented in Supplemental Table 1, including the estimated bioavailability of dietary iron and zinc.

* To establish somewhat more accurate estimates of daily caloric needs for prehispanic populations, we follow Matson (2016:627-628) in estimating prehispanic U.S. Southwest adult male weights at 57 kg and adult female weights at 47.5 kg. When averaged between adult male and female daily caloric needs, this produces an estimate of 2240 Cal per day needed to maintain a 52.3 kg body weight (FAO/WHO/UNU 1985, Annex 2C).
* Total fat and total carbohydrate RNI values were based on WHO recommendations that at least 55% of daily caloric intake be derived from dietary carbohydrates (FAO/WHO 1998) and that at least 15-20% of daily caloric intake be derived from dietary fat (FAO/WHO 1994).
* For Protein RNI values we drew on the published safe intake levels of dietary protein for both male and female adults that is calculated as 0.83 g per kg bodyweight per day (FAO/WHO/UNU 2007:242-243).
* Conditional potassium RNI values for adult men and women are 3510 mg per day (WHO 2012:16).
* Calcium, iron, thiamin, riboflavin, niacin, magnesium, and zinc RNI values were all drawn from the 2004 FAO/WHO joint report on vitamin and mineral requirements:
  + Calcium RNI values for adult men and women are 1000 mg per day (FAO/WHO 2004:72)
  + Given a likely low intake of animal protein for most prehispanic populations, we estimated iron RNI values with a low bioavailability of 10% (2004:251-271). While Supplemental Table 1 displays an averaged iron RNI value of 21.6 mg per day, it should be noted that there is a large discrepancy in adult male (13.7 mg per day) and female (29.4 mg per day) RNI values (2004:271). As such, the RNI value presented in Supplemental Table 1 is inadequate for adult females.
  + For thiamin, the RNI value for adult males (1.2 mg per day) and females (1.1 mg per day) was averaged to 1.2 mg per day (2004:168).
  + Similarly, riboflavin RNI values were averaged to 1.2 mg per day using RNI values for adult males (1.3 mg per day) and females (1.1 mg per day) (2004:172).
  + Niacin RNI values for adult males (16 mg per day) and females (14 mg per day) were averaged to 15 mg per day (2004:176).
  + The magnesium RNI value was calculated based on the recommended ratio of 4 mg magnesium per kg bodyweight per day (2004:224).
  + We estimated a low bioavailability (15%) of dietary zinc as prehispanic diets had a high intake of unrefined and unfermented high-phytate maize kernels and a low intake of animal protein. As such, the zinc RNI value was calculated as 0.1315 mg zinc per kg bodyweight per day (2004:237-238).

**Supplementary References**

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