Achieve adequate iron (especially in endurance athletes), zinc, calcium, and vitamin B12 status by selecting foods rich in these micronutrients is essential.

**Micronutrients**

- **Iron**
  - Beans, peas, lentils, edamame, nuts, seeds, many grain products, fortified bread & breakfast cereals

- **Zinc**
  - Beans, peas, lentils, edamame, nuts & seeds

- **Calcium**
  - Chinese cabbages, kale, texturized vegetable proteins, dairy products & calcium-set tofu

- **Vitamin D**
  - Fatty fish, vitamin D fortified cereals, margarine & plant-based "milks"

- **Iodine**
  - Iodized salt, seaweed, dairy products & eggs

- **Vitamin B12**
  - Nutritional yeast, soymilk and plant-based "milks," fortified meat analogs & Shiitake mushrooms

**Benefits**

- Reduced risk for chronic diseases (demonstrated in non-athletic populations)
- May be advantageous for fueling (high carbohydrate content)
- Rich in antioxidants & phytochemicals
- Slight serum alkalinity

**Precautions**

1. Ensure adequate planning to meet energy needs
2. Select energy-dense foods such as whole grains & quinoa
3. Eat a variety of protein-containing foods (beans, peas, lentils, soy products, nuts, dairy products, and most soy/plant-based "milks")
4. Ensure adequate intake of plant-based sources of omega-3 fatty acids (walnuts, flax, chia, camelina, hemp seeds & oils)
5. Decrease omega-6-rich oils (e.g., nuts, soybean oil, sunflower, safflower)

**Vegetarian & Vegan Eating**

- **Vegetarian** (demonstrated in non-athletic populations)
  - Reduced risk for chronic diseases
  - May be advantageous for fueling
  - Rich in antioxidants & phytochemicals
  - Slight serum alkalinity

- **Vegan**
  - May be advantageous for fueling
  - Reduced risk for chronic diseases (high carbohydrate content)
  - May be advantageous
  - Rich in antioxidants & phytochemicals
  - Slight serum alkalinity

Reference: Lis, Kings, and Larson-Meyer IJSNEM 2019 © Copyright. World Athletics. All rights reserved.