



**Send a Cow ETHIOPIA**  
Change a family's future

# Sweet potato leaves for family nutrition: Overview of research

A presentation by Lauren Howe

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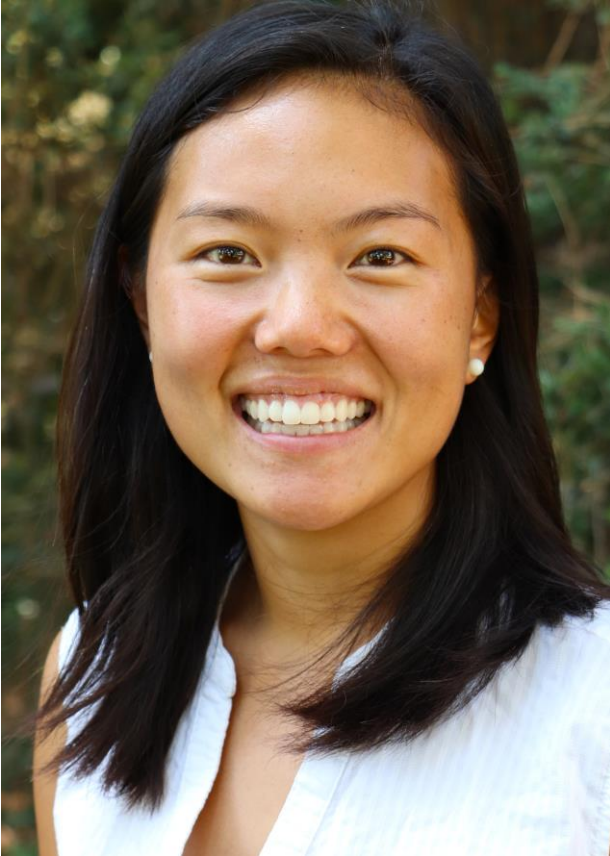


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**HORTICULTURE  
INNOVATION LAB**

**UC DAVIS**  
UNIVERSITY OF CALIFORNIA

# About me



- ▶ My role in this Send a Cow Ethiopia project
- ▶ 2<sup>nd</sup> year Master's student - International Agricultural Development at UC Davis
- ▶ Specializing in International and Community Nutrition
- ▶ Interested in gender-equity, climate resilience, and nutrition-sensitive agriculture by promoting fruits and vegetables as a foundation for sustainable diets
- ▶ Master's thesis: Dehydrating fruits and vegetables using the chimney solar dryer with women farmers in Nepal w/ Helen Keller International
- ▶ Graduate Student Researcher at the Horticulture Innovation Lab, managing the Trellis Fund program
- ▶ Slow Food and school gardens background

# Personal reflection on food - what did you eat yesterday?

- ▶ What did you eat for breakfast, lunch or dinner?
- ▶ Who did you eat with? Where did you eat?
- ▶ Did you enjoy the experience?
- ▶ **What or who influenced your choices about the food you ate?**

# The basics of nutrition



[https://www.flickr.com/photos/edsel\\_/32151290195](https://www.flickr.com/photos/edsel_/32151290195)



Text from [1] Burrows, E., & Kuyper, E. (2018). New NELK Plus Module on Nutrition-Sensitive Extension - Module 16: Nutrition-Sensitive Extension - Presentation:

<https://www.g-fras.org/en/866-new-nelk-plus-module-on-nutrition-sensitive-extension.html>

- ▶ Nutrition is the study of:
  - ▶ what happens to nutrients in the body
  - ▶ how people can get the right types of food for good health and growth
- ▶ For your body to function, you need to eat a healthy diet
- ▶ A healthy diet:
  - ▶ meets a person's daily nutritional requirements
  - ▶ Has the correct balance of macronutrients and micronutrients

# Micronutrients

# Macronutrients

Grouped into vitamins and minerals

Needed in smaller amounts

Produce substances required for growth and health

Include carbohydrates, proteins, fats and oils

Needed in larger amounts

Provide energy for the body

**Nutrients:** Substances that are needed for healthy growth, development and functioning, usually found in the food a person eats.



Text from [1] Burrows, E., & Kuyper, E. (2018). New NELK Plus Module on Nutrition-Sensitive Extension - Module 16: Nutrition-Sensitive Extension - Presentation: <https://www.g-fras.org/en/866-new-nelk-plus-module-on-nutrition-sensitive-extension.html>



# What are food groups?



Text from [1] Burrows, E., & Kuyper, E. (2018). New NELK Plus Module on Nutrition-Sensitive Extension - Module 16: Nutrition-Sensitive Extension - Presentation: <https://www.g-fras.org/en/866-new-nelk-plus-module-on-nutrition-sensitive-extension.html>

Food group	Examples	Importance
Staples	Injera, maize, bread, rice, porridge	Provides energy for the body to move, breathe and perform daily activities (cook, work in the fields, etc.).
Fats	Vegetable oil, butter	Provides the body with energy and protects the organs (heart, liver, skin).
Fruits	Papayas, mangoes, bananas, avocados	Helps protect the body from diseases and illnesses.
Vegetables	Pumpkins, potatoes, leafy greens, tomatoes	Helps protect the body from diseases and illnesses
Legumes	Chickpeas, lentils, Cowpeas, kidney beans, lima beans, black beans	Helps strengthen the muscles, repairs wounds and protects against heart disease and diabetes
Meat and eggs	Chicken, beef, mutton, organ meats, eggs	Helps strengthen the muscles and repairs wounds
Dairy	Milk, yoghurt, cheese	Helps strengthen bones

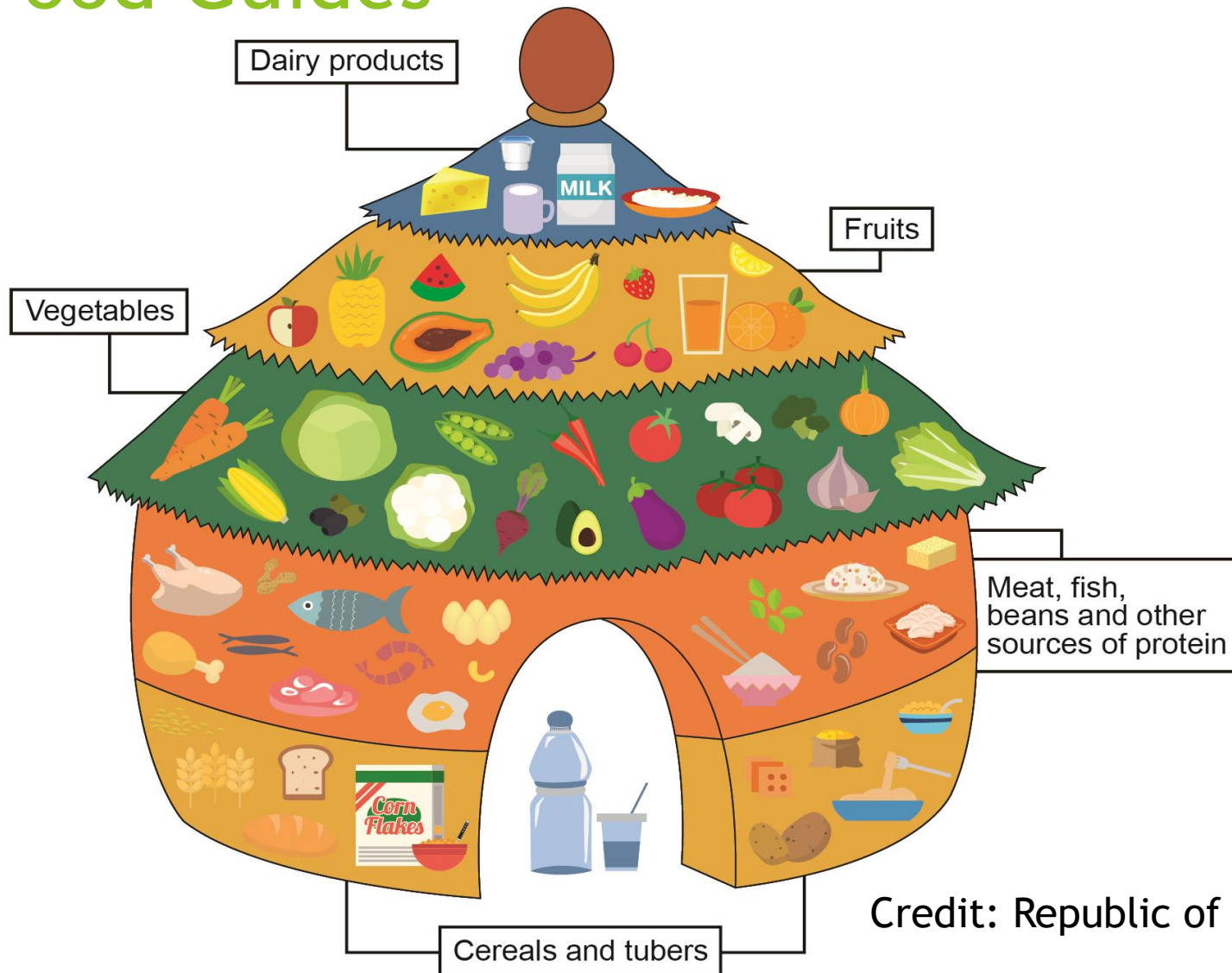
A healthy diet refers to the types and combinations of foods typically consumed.

Humans require a diversity of foods in the right quantities and good health to use the nutrients in the foods they consume.

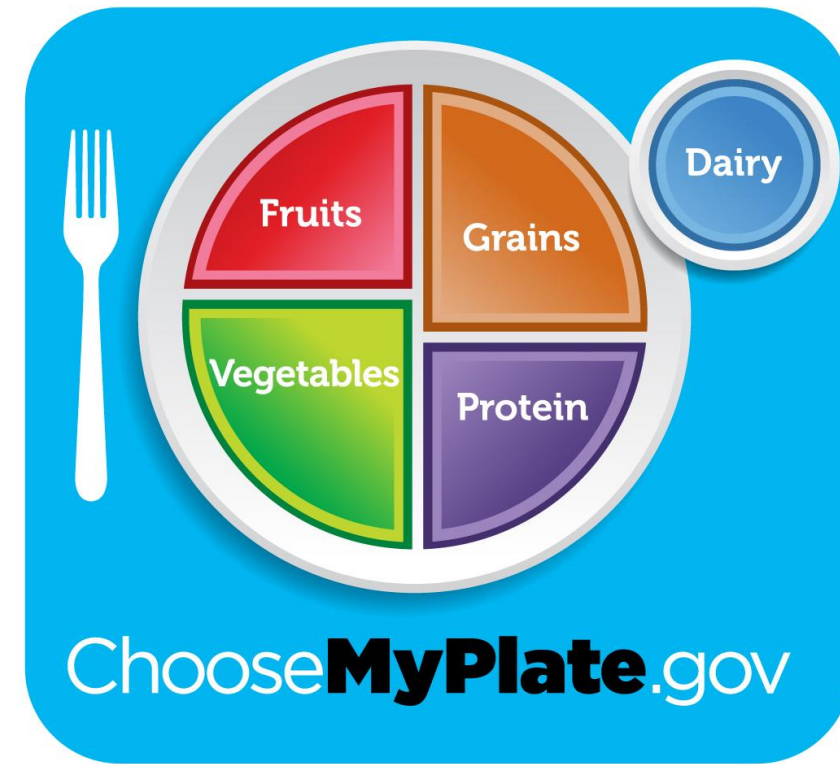
# Food-based Dietary Guidelines

- ▶ Provide science-based recommendations about the quantity, quality and diversity of foods that should be consumed.
- ▶ Depend on a person's size, activity level and factors that make some people require more nutrients than others (e.g. breastfeeding).
- ▶ Different countries have developed **food-based dietary guidelines** that reflect the foods that are locally available and culturally preferred.

# Food Guides



Credit: Republic of Benin, 2015



What would a food guide for Ethiopia look like?



Text from [1] Burrows, E., & Kuyper, E. (2018). New NELK Plus Module on Nutrition-Sensitive Extension - Module 16: Nutrition-Sensitive Extension - Presentation: <https://www.g-fras.org/en/006-new-nelk-plus-module-on-nutrition-sensitive-extension.html>



# Reflection/Discussion

How does the diet of the project participants compare to the recommended diet in the food guides?

# Nutritional needs

- ▶ Malnutrition occurs when a person eats too much or too little food (and nutrients) or is unable to use the nutrients in the food they eat.
- ▶ Nutritional needs are determined by:
  - ▶ Age.
  - ▶ Body make-up and size.
  - ▶ Activity level.
  - ▶ Physical state.
- ▶ **Nutritional status** is the physical state of a person that is a result of the relationship between how many nutrients that individual takes in, their nutritional requirements and the body's ability to digest, absorb and use these nutrients.



Text from [1] Burrows, E., & Kuyper, E. (2018).  
New NELK Plus Module on Nutrition-Sensitive  
Extension - Module 16: Nutrition-Sensitive  
Extension - Presentation:  
<https://www.g-fras.org/en/866-new-nelk-plus-module-on-nutrition-sensitive-extension.html>

# Who is vulnerable to poor nutrition?

- ▶ Women of reproductive age
- ▶ Infants
- ▶ Young children
- ▶ Sick and elderly
- ▶ Poor households



- ▶ **1,000 most critical days** is the period from pregnancy to a child's second birthday.
  - ▶ This period is the window of opportunity in which good nutrition sets children on a path for strong growth and healthy, productive futures.
- ▶ But what about men?

# Making better food choices

- ▶ There are several methods for influencing people's food choices:
  - ▶ Nutrition education
  - ▶ Social and behavior change communication (SBCC)
  - ▶ Social marketing
- ▶ People will be more likely to change their food behaviours:
  - ▶ When they are supported by their social networks; and
  - ▶ When they have greater agency.
- ▶ **Agency:** The ability to act independently and make their own choices



Text from [1] Burrows, E., & Kuyper, E. (2018). New NELK Plus Module on Nutrition-Sensitive Extension - Module 16: Nutrition-Sensitive Extension - Presentation: <https://www.g-fras.org/en/866-new-nelk-plus-module-on-nutrition-sensitive-extension.html>



# Factors affecting food choice

Food availability	Accessibility	Affordability	Convenience	Desirability
<p>Many people will only choose food that is already available in their local markets</p>	<p>Most people tend to choose food that is easy to get at a manageable distance from their home or work</p>	<p>The price of food is a very important factor for food choice, especially in poor and subsistence communities</p>	<p>If a certain type of food is not easy to get or difficult to prepare, most people will rather choose a convenient alternative</p>	<p>Social and cultural backgrounds play an important role in what food a person will want to eat or not</p>



# Why are recommendations in development often not adopted?

- ▶ Cost/affordability
- ▶ Cultural or social issues
- ▶ Resistance to change or averse to risk
- ▶ Does not benefit the audience
- ▶ Maybe the intervention is unreliable, difficult to implement or sustain



**What are the biggest barriers to sweet potato leaves being adopted in Wolaita?**

# Tips that will help you to change food habits in your community:

- ▶ Use simple language
- ▶ Focus on short- term benefits
- ▶ Give only the essential information
- ▶ Talk in a natural and friendly tone
- ▶ Always treat people with respect
- ▶ Always check whether your audience has understood your message



## What strategies are being used in this project in Wolaita?

# Why grow sweet potatoes?

- ▶ Why do farmers in Wolaita grow sweet potatoes?
- ▶ Grow well in many different climates and seasons, including hot, humid and even drought conditions [2]
- ▶ The leaves grow even better than some introduced western vegetables, which can suffer from high moisture, tropical pests and diseases [2]
- ▶ The leaves can grow quickly and can act as a mulch, covering the ground, protecting the soil, conserving moisture, preventing erosion [3] and reducing the need to weed and requiring minimal labor [2]





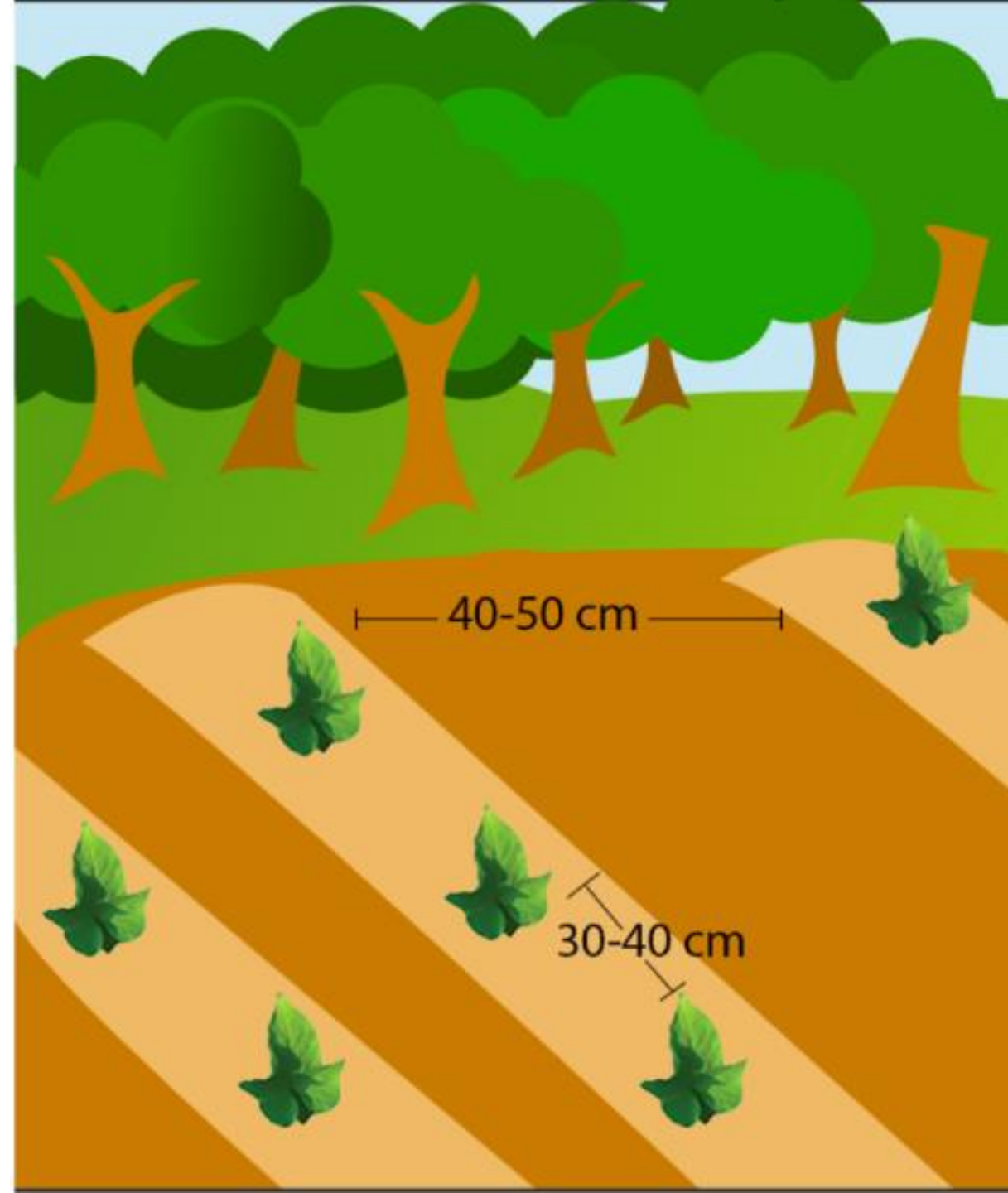
## Why grow sweet potatoes (cont.)

- ▶ The vines can also be preserved as silage or hay and fed to livestock as a nutritious animal feed [3]
- ▶ With a yield much higher than many other green vegetables [4], farmers can sell both the leaves and roots to earn more income [5]
- ▶ Sometimes, local sweet potato varieties have leaves that are more nutritious than exotic varieties. [6]



# Harvesting and handling the leaves

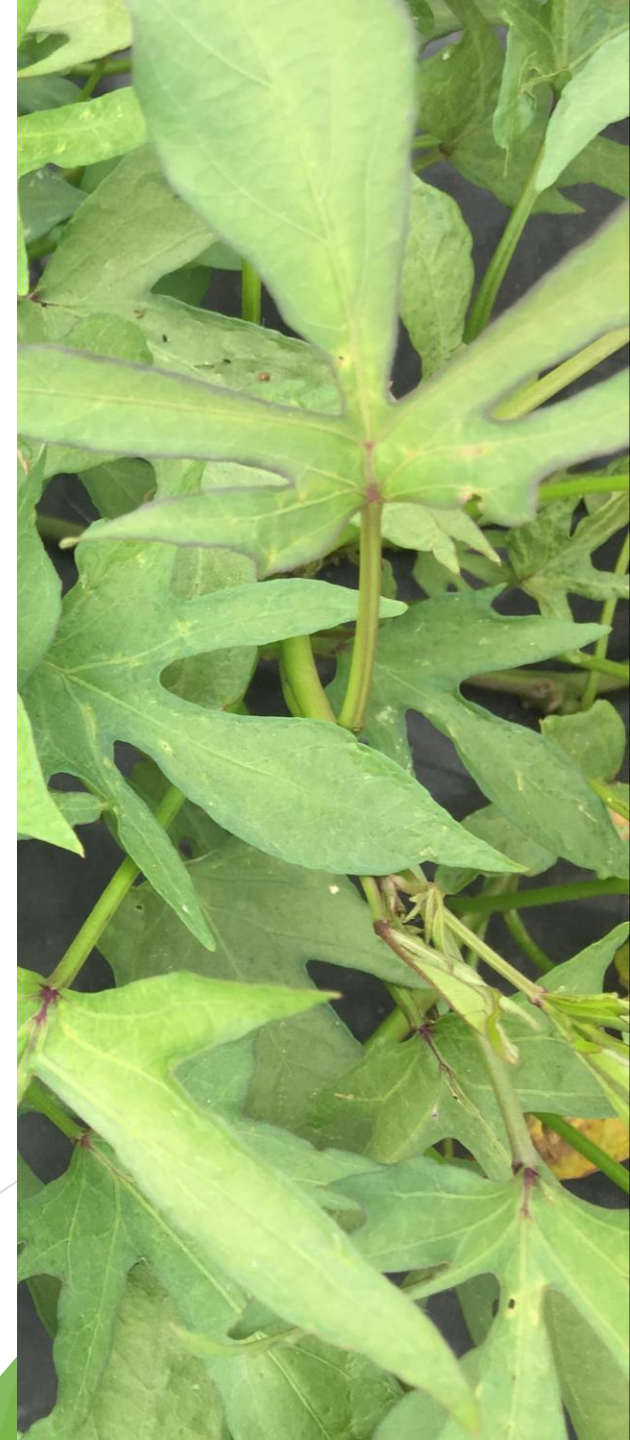
- ▶ Begin harvesting leaves 45-90 days after planting [7] [3], 1-2 times per month until the roots are harvested [6]
- ▶ Don't harvest the leaves too frequently or you may reduce the root growth [2], or the leaves may be less nutritious [8]
- ▶ If you are mainly growing sweet potatoes for their leaves, then don't plant them too close. Try planting them on flat land with 30-40 cm spacing between plants and 40-50 cm spacing between rows [7]





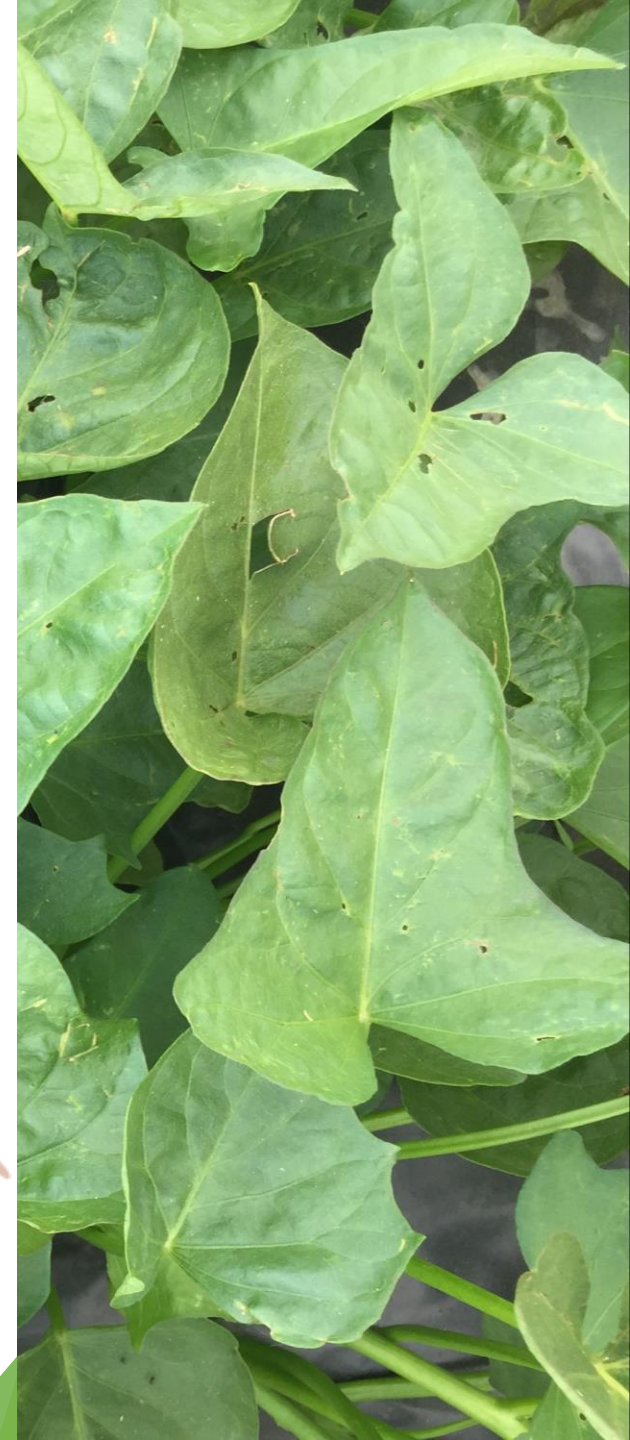
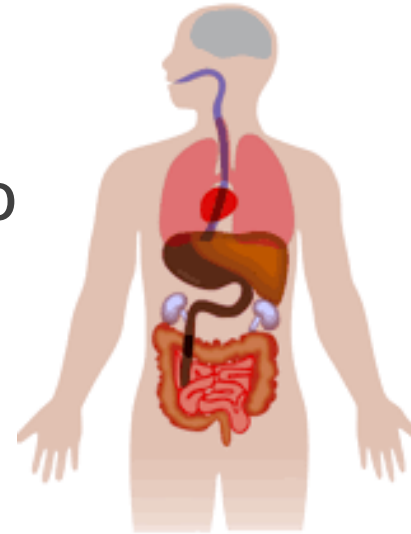
# Harvesting and handling the leaves

- ▶ The best way to harvest multiple vines is to cut 1-2 of the longest branches of each plant, leaving about 10 cms for the plant to regrow [7]
- ▶ When harvesting, transporting or marketing the leaves, handle them carefully to reduce bruising, and store them in cool shady conditions [2]
- ▶ Sell the leaves or use them as soon as possible [2]

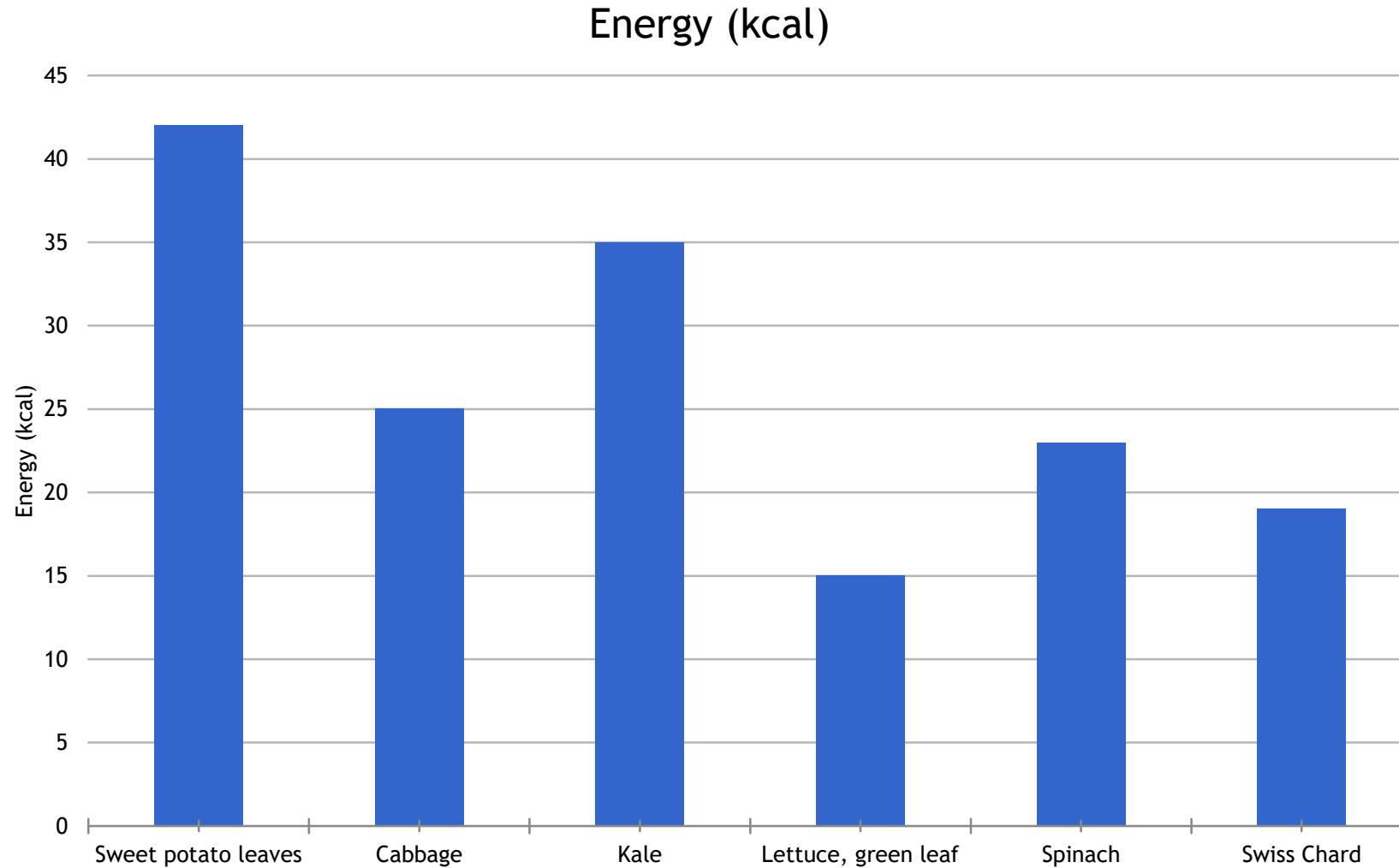


# Sweet Potato Leaf Nutrition: Macronutrients

- ▶ **Carbohydrates** <sup>[15]</sup> - first source of energy <sup>[10]</sup> for the body to move, breathe and perform daily activities
- ▶ **Protein** <sup>[9]</sup>
- ▶ **Fiber** <sup>[11]</sup>
- ▶ Low in saturated fat and cholesterol <sup>[12]</sup>
- ▶ Omega-3 fatty acids <sup>[3]</sup>, which contribute to all tissues in the body functioning normally <sup>[13]</sup>, including the heart, lungs, blood vessels, immune system, and hormone production <sup>[14]</sup>



# Macronutrient comparison: calories



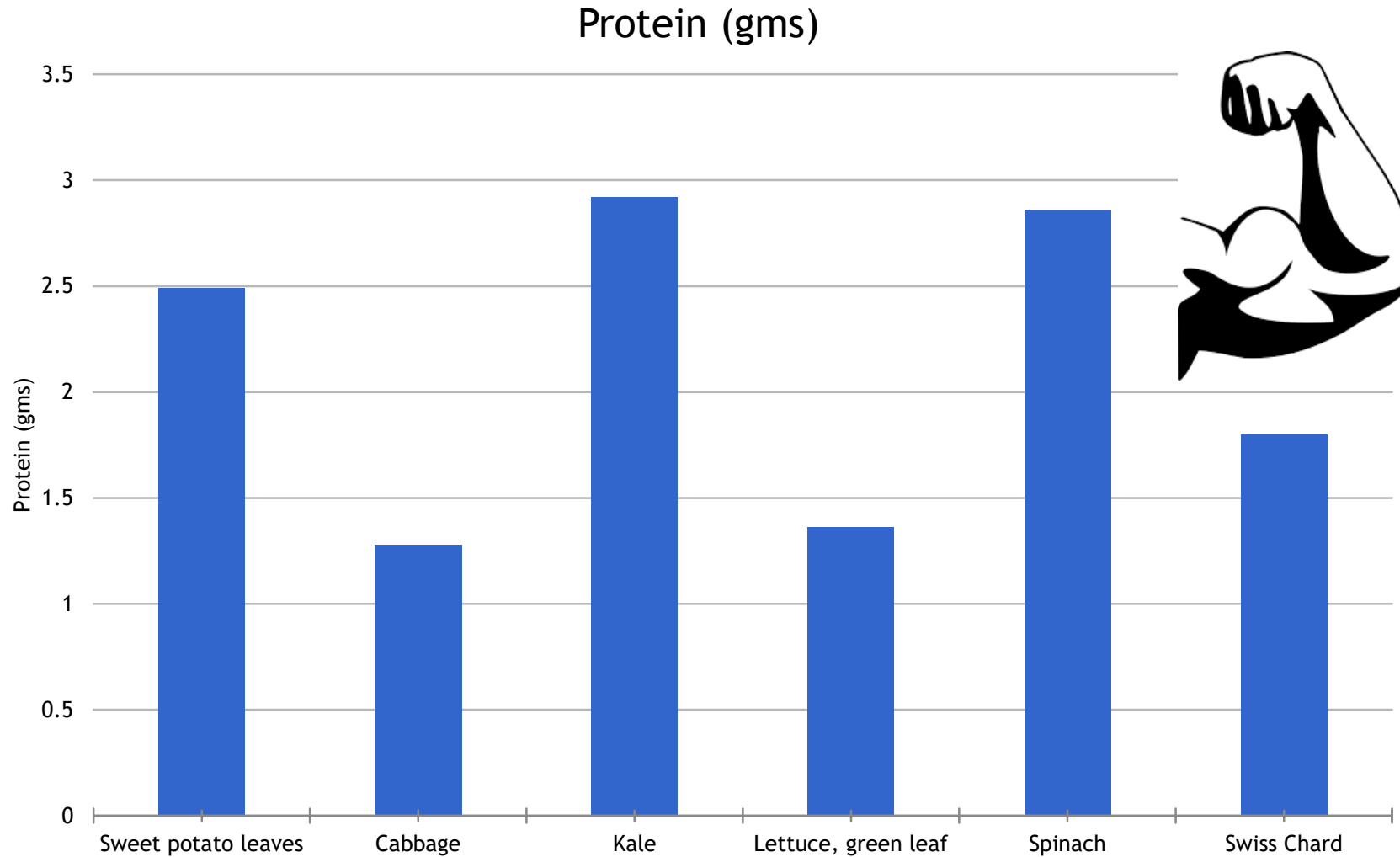
But still a relatively “low calorie” food because 40 kcal per serving is only 2% of 2,000 kcal in a day

**Nutrient composition per 100 grams raw**

USDA. (2018). *USDA Food Composition Databases: National Nutrient Database for Standard Reference Legacy Release*. Retrieved from: <https://ndb.nal.usda.gov/ndb/>



# Macronutrient comparison: protein



Required for building muscle and repairing wounds, aids cell structure and function, and is another source of energy<sup>[10]</sup>

Recommended daily intake <sup>[18]</sup>:

Men & Women (ages 19-50) = .8 g of protein per kg of body weight

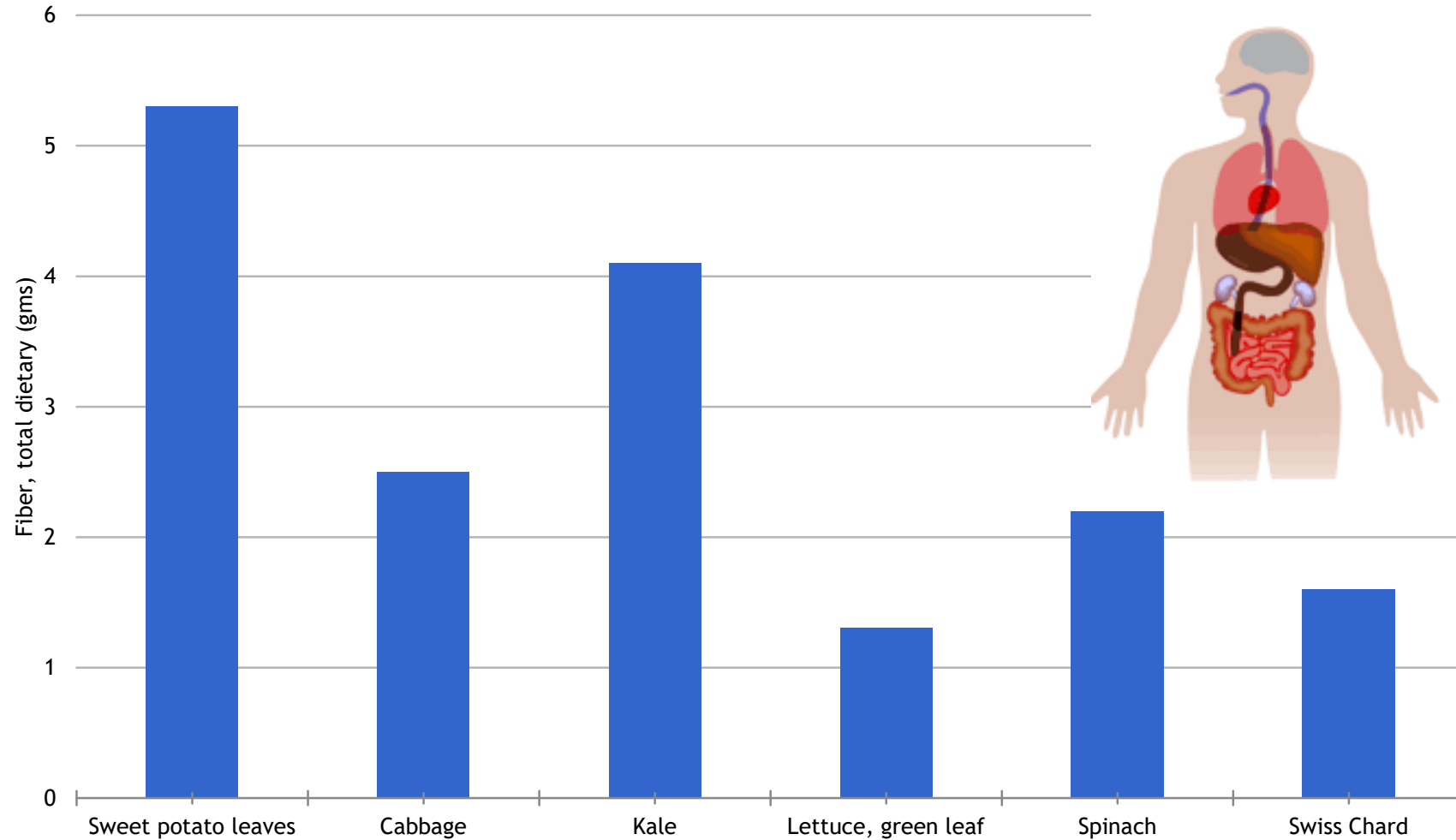
Example: A 60 kg person should consume 48 g of protein per day

Nutrient composition per 100 grams raw

USDA. (2018). *USDA Food Composition Databases: National Nutrient Database for Standard Reference Legacy Release*. Retrieved from: <https://ndb.nal.usda.gov/ndb/>

# Macronutrient comparison: fiber

Fiber, total dietary (gms)



Nutrient composition per 100 grams raw

USDA. (2018). *USDA Food Composition Databases: National Nutrient Database for Standard Reference Legacy Release*. Retrieved from: <https://ndb.nal.usda.gov/ndb/>

Important for  
digesting food [10]

Recommended  
daily intake [18] :  
Men (age 19-50) =  
38 g  
Women (age 19-50)  
= 25 g

One serving would  
provide ~20% of a  
woman's daily fiber  
intake and ~13% for  
men



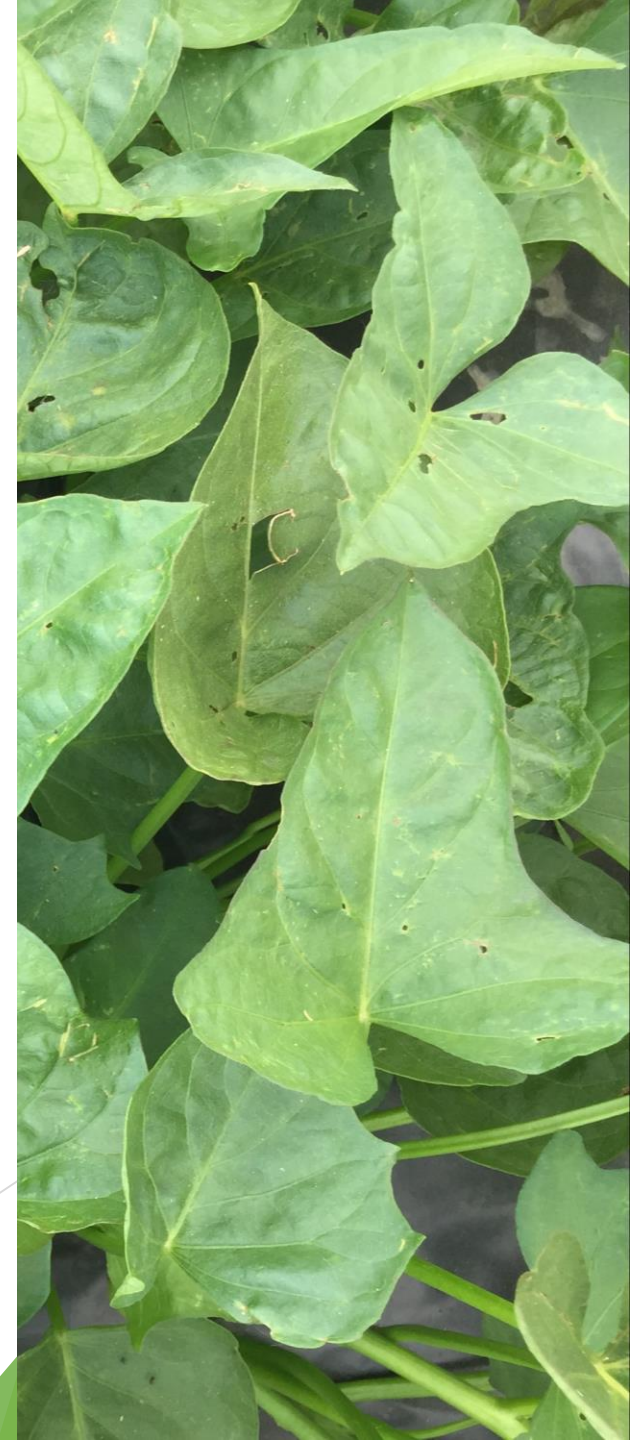
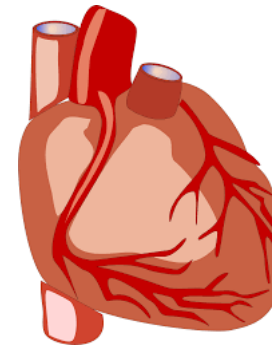
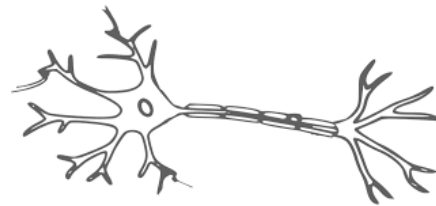
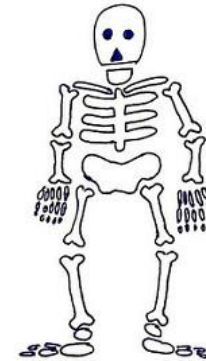
# Sweet Potato Leaf Micronutrients: Vitamins and Minerals

## ▶ Vitamins:

- ▶ Help the body grow
- ▶ Build a strong immune system, helping the body to fight disease fight illness,
- ▶ Break down food into energy [1]

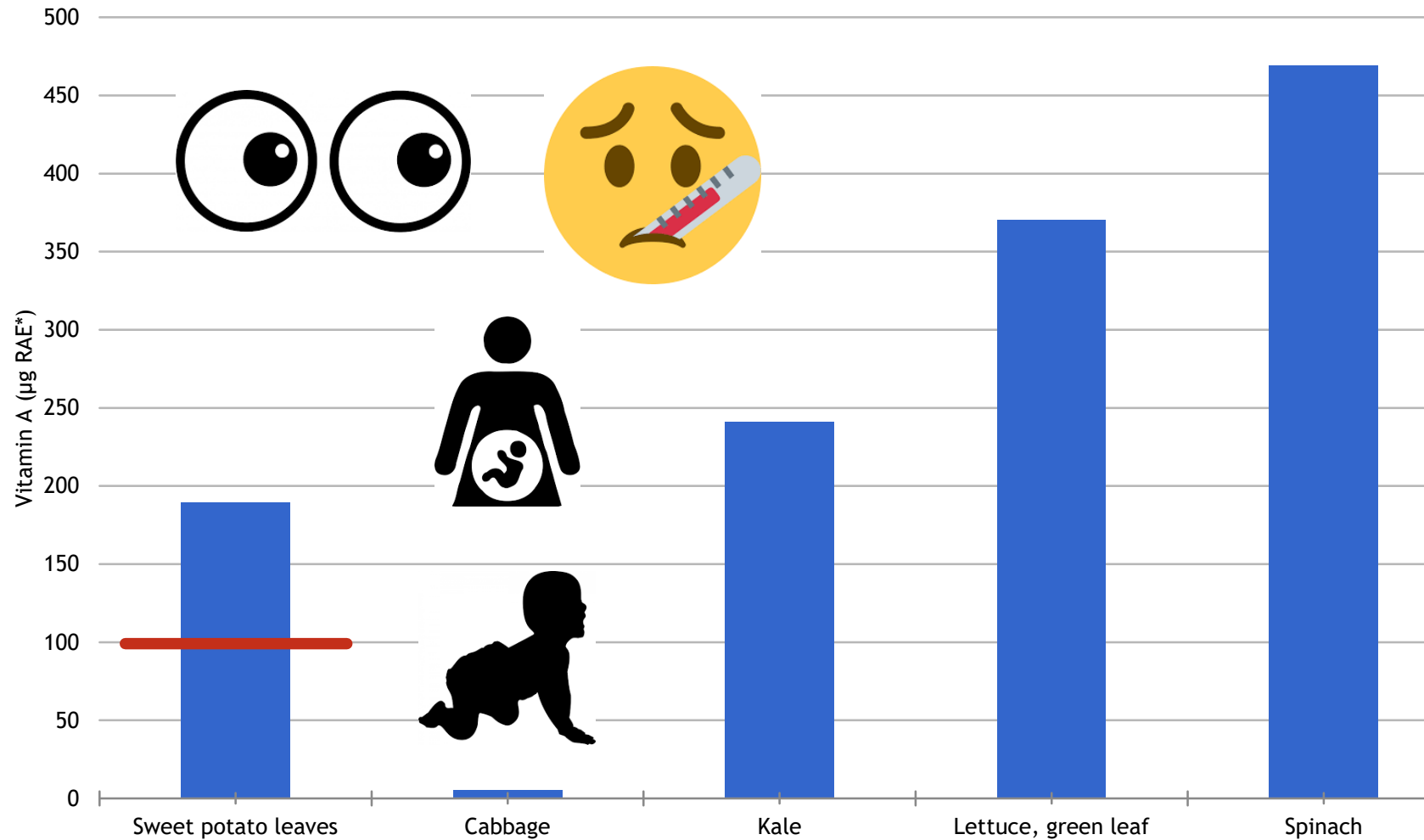
## ▶ Minerals:

- ▶ Support bone growth
- ▶ Regulate heartbeat
- ▶ Help nerve function [1]



# Micronutrient comparison: vitamin A

Vitamin A ( $\mu\text{g RAE}^*$ )



Key for eye health and reducing illness [1], especially for pregnant women and young children [16]

Recommended daily intake [18]:  
Men (age 19-50)=900  $\mu\text{g}$   
Women (age 19-50) = 700  $\mu\text{g}$

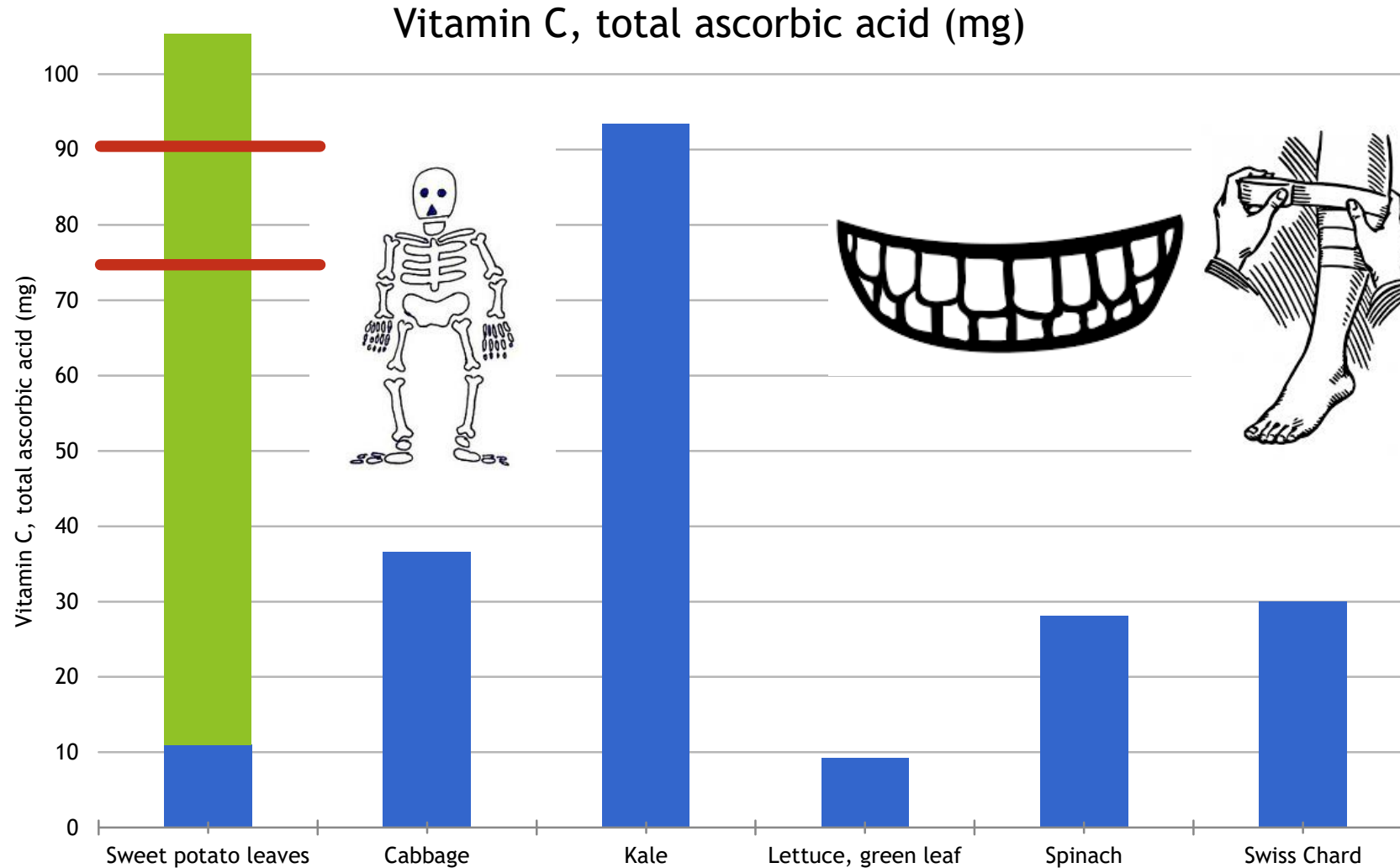
Foods with at least 100  $\mu\text{g RAE}$  per 100 gms are considered good sources of vitamin A [3]

Nutrient composition per 100 grams raw

USDA. (2018). *USDA Food Composition Databases: National Nutrient Database for Standard Reference Legacy Release*. Retrieved from: <https://ndb.nal.usda.gov/ndb/>

\*RAE means Retinol Activity Equivalent. Conversion rate of 12 units beta-carotene for 1 unit retinol used.[3]

# Micronutrient comparison: vitamin C



Nutrient composition per 100 grams raw

USDA. (2018). *USDA Food Composition Databases: National Nutrient Database for Standard Reference Legacy Release*. Retrieved from: <https://ndb.nal.usda.gov/ndb/>

Maintains strong bones, teeth and gums, and helps with healing wounds [10]

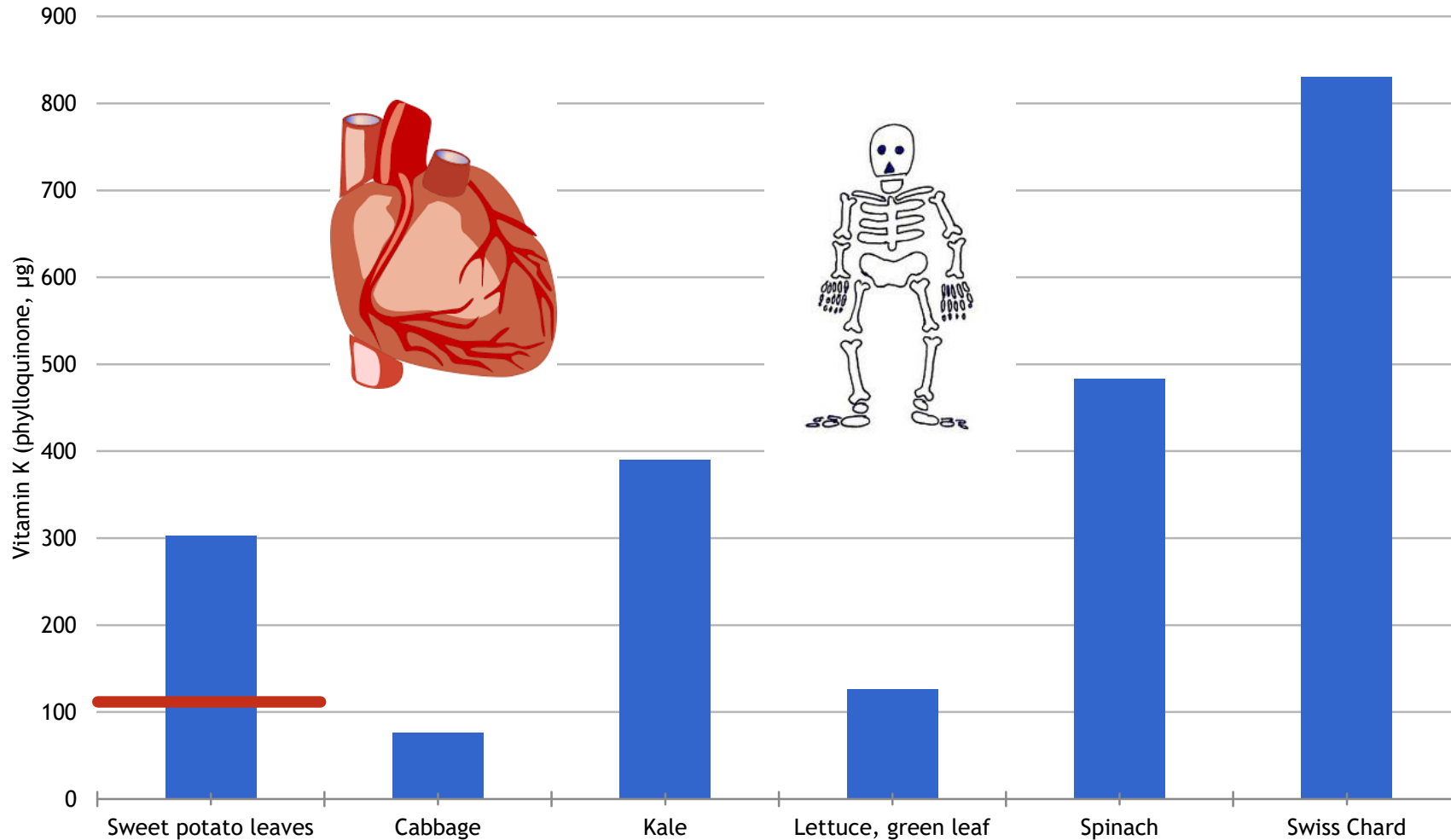
Recommended daily intake [18]:  
Men (age 19-50) = 90 mg  
Women (age 19-50) = 75 mg

[30] Moshia, T., Gaga, H., Pace, R., Laswai, H., & Mtebe, K. (1995). Effect of blanching on the content of antinutritional factors in selected vegetables. *Plant Foods for Human Nutrition*, 47(4), 361-367.

doi:10.1007/BF01088275

# Micronutrient comparison: vitamin K

Vitamin K (phylloquinone,  $\mu\text{g}$ )



Nutrient composition per 100 grams raw

USDA. (2018). *USDA Food Composition Databases: National Nutrient Database for Standard Reference Legacy Release*. Retrieved from: <https://ndb.nal.usda.gov/ndb/>

Needed for blood clotting and may help bone health<sup>[18]</sup>

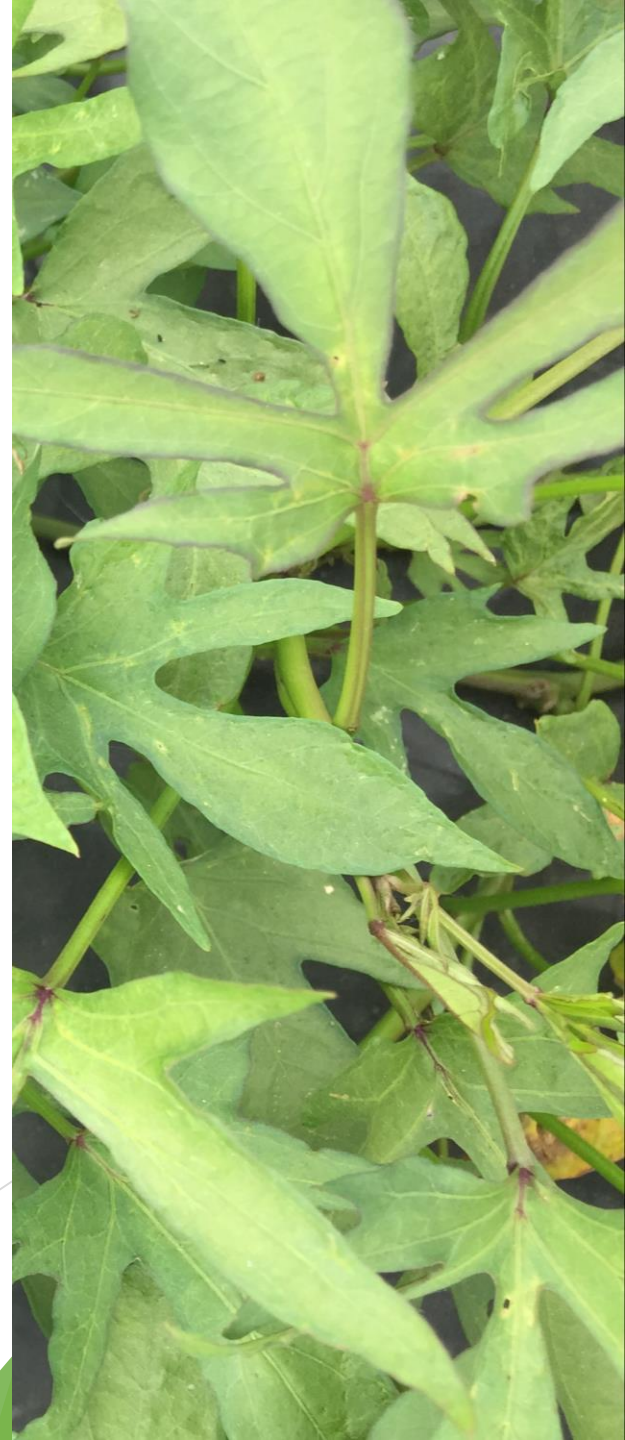
Recommended daily intake <sup>[18]</sup>:  
Men (age 19-50) = 120  $\mu\text{g}$   
Women (age 19-50) = 90  $\mu\text{g}$



# Sweet Potato Leaf Nutrition

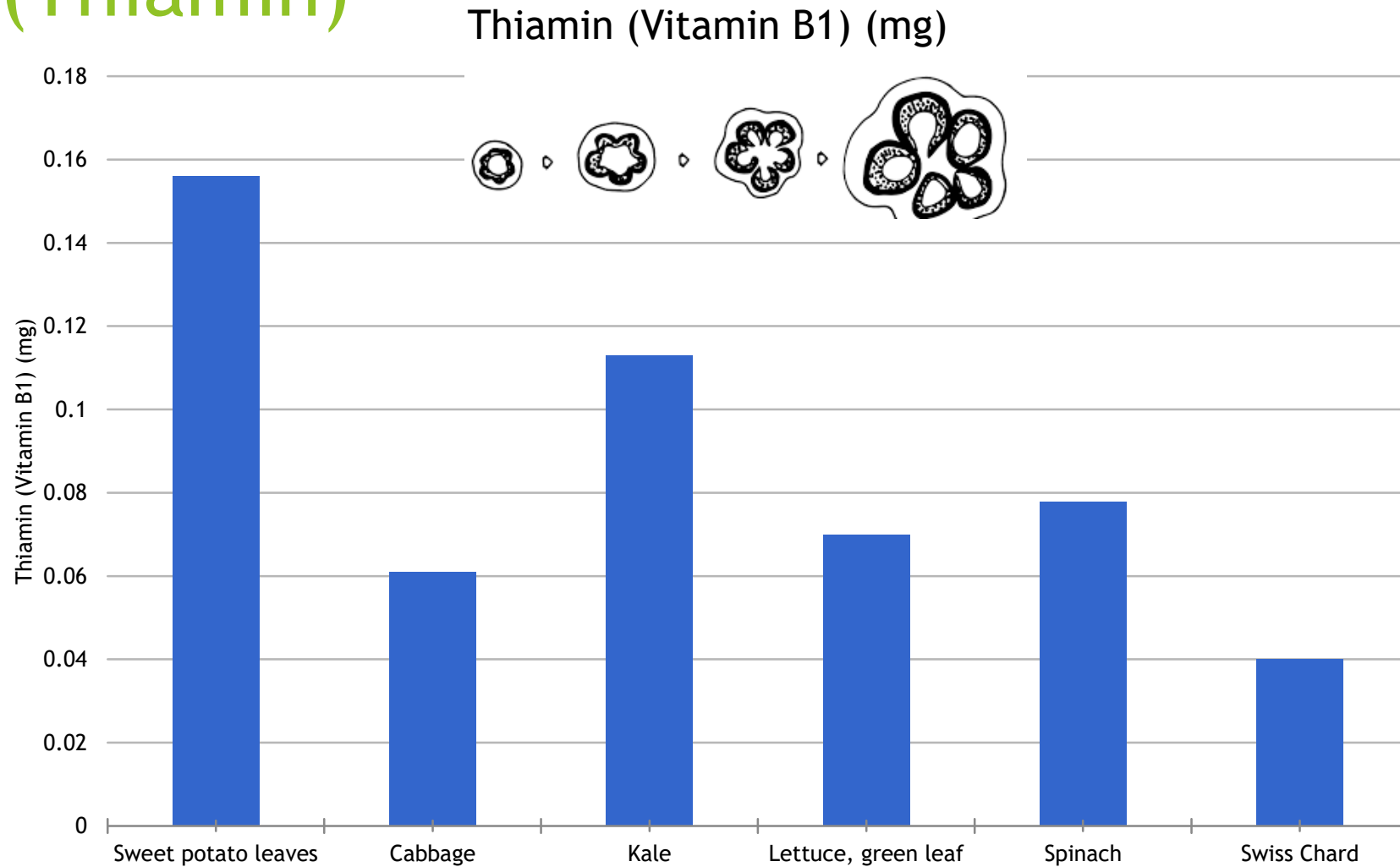
## Micronutrients: B Vitamins

- ▶ **B-vitamins** [2] - help break down carbs, protein, and fat for energy [10]
- ▶ Important for the growth, repair, and maintenance of cells in the body [10]
- ▶ Sweet potato leaves contain B1, B2, B3, B6, B9
  - ▶ **Vitamin B6** is required for brain development and health of skin, red blood cells, immune system [23]





# Micronutrient comparison: vitamin B1 (Thiamin)



Nutrient composition per 100 grams raw

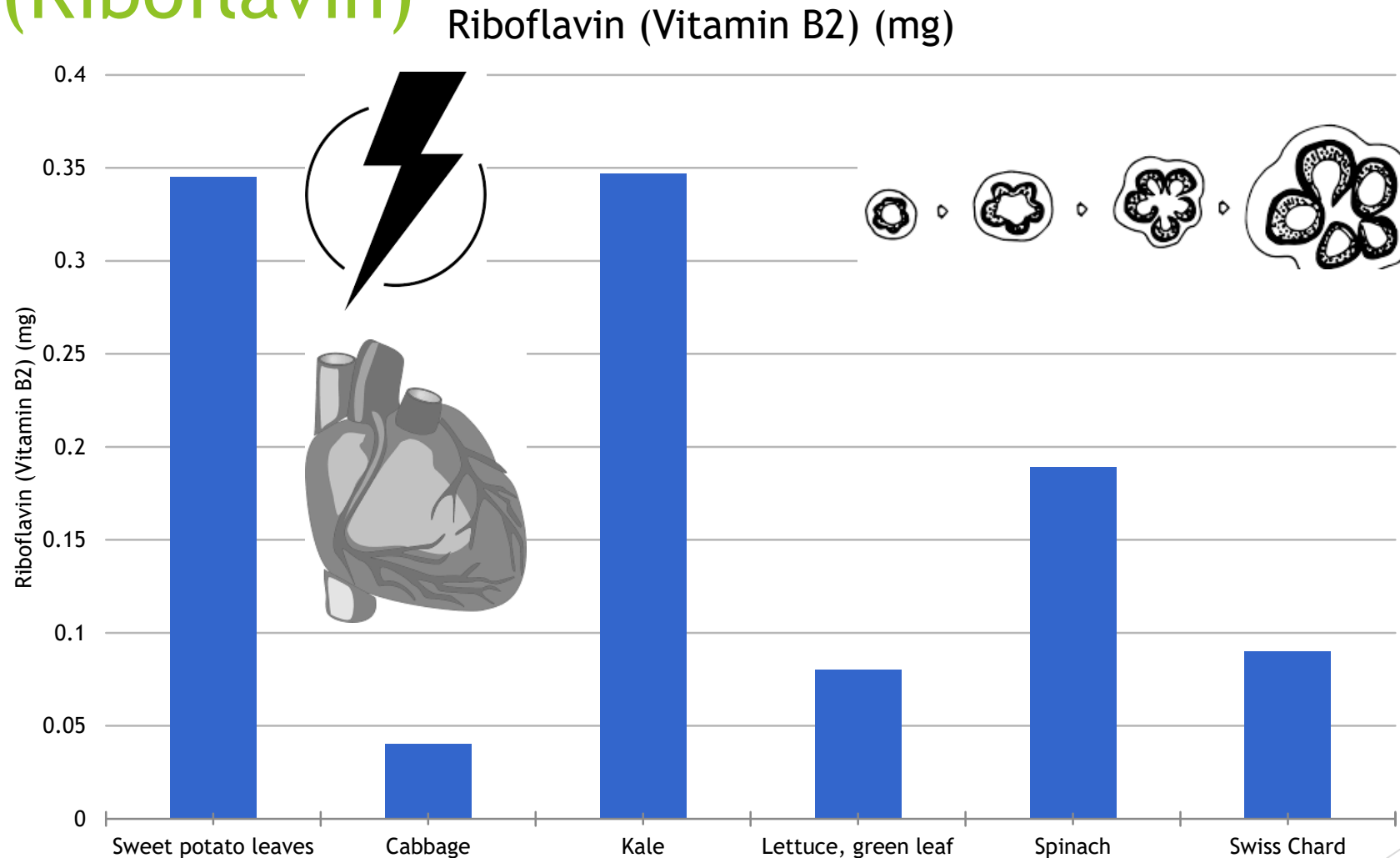
USDA. (2018). *USDA Food Composition Databases: National Nutrient Database for Standard Reference Legacy Release*. Retrieved from: <https://ndb.nal.usda.gov/ndb/>

For the cell growth, development, and functioning [19]

Recommended daily intake [18]:  
Men (age 19-50) = 1.2 mg  
Women (age 19-50) = 1.1 mg

One serving would provide ~14% of someone's daily Thiamin intake

# Micronutrient comparison: vitamin B2 (Riboflavin)



Nutrient composition per 100 grams raw

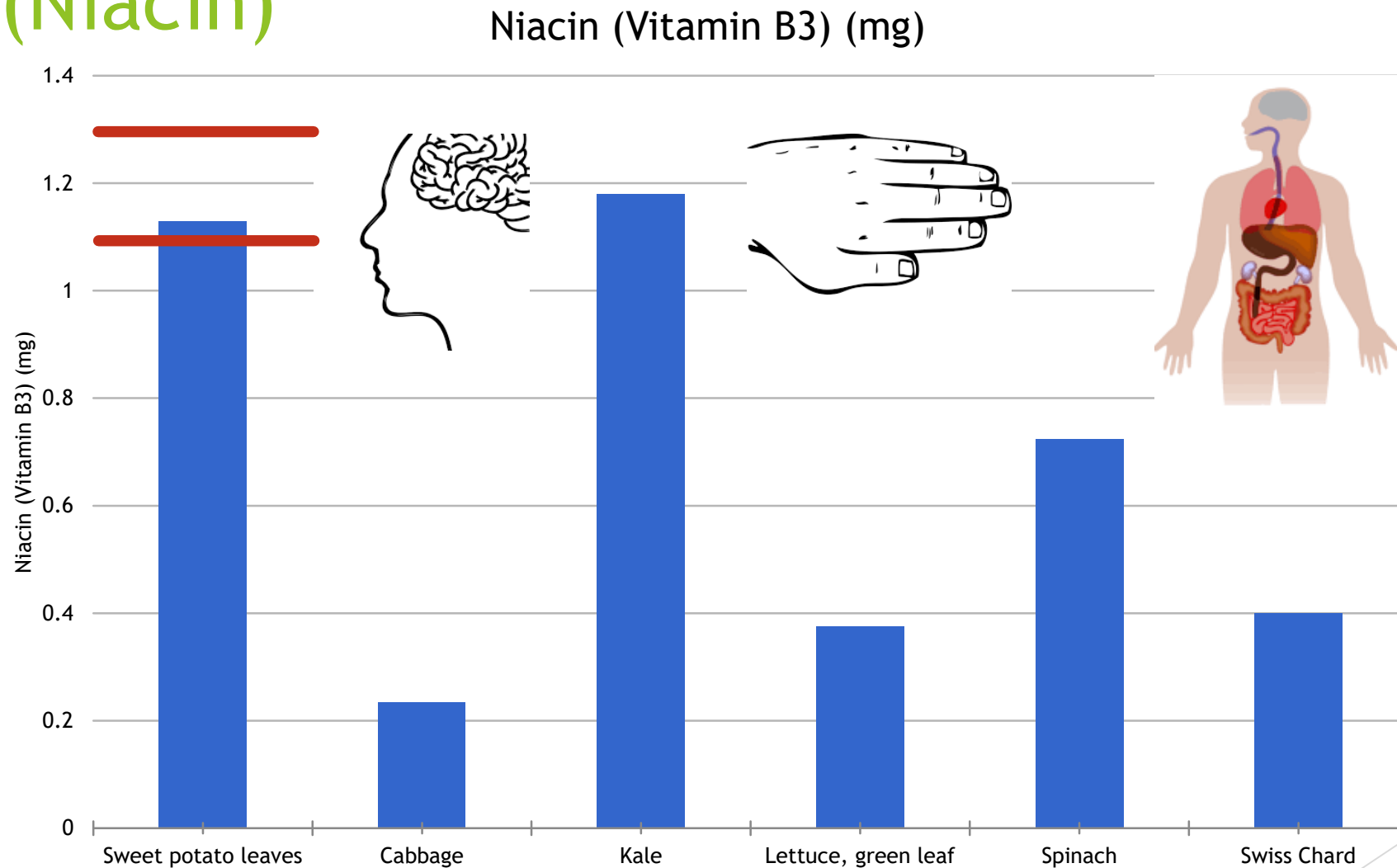
USDA. (2018). *USDA Food Composition Databases: National Nutrient Database for Standard Reference Legacy Release*. Retrieved from: <https://ndb.nal.usda.gov/ndb/>

For producing energy; cell function, growth and development; breaking down fats; and maintaining healthy blood [20]

**Recommended daily intake [18]:**  
Men (age 19-50) = 1.3 mg  
Women (age 19-50) = 1.1 mg

One serving would provide ~29% of someone's daily Riboflavin intake

# Micronutrient comparison: vitamin B3 (Niacin)



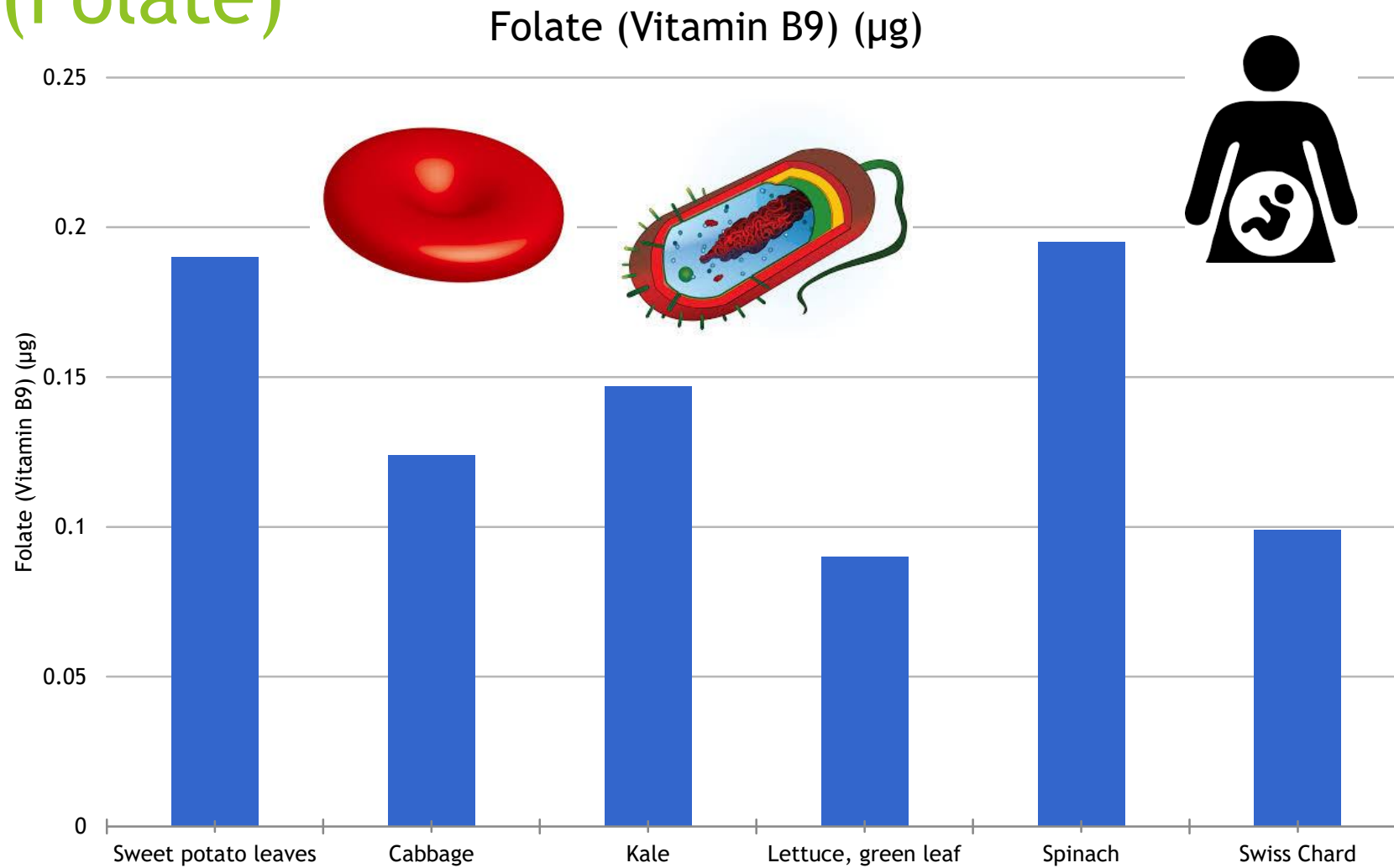
Nutrient composition per 100 grams raw

USDA. (2018). *USDA Food Composition Databases: National Nutrient Database for Standard Reference Legacy Release*. Retrieved from: <https://ndb.nal.usda.gov/ndb/>

Boosts brain and nervous system functions, contributes to healthy skin, helps with digestion [21]

Recommended daily intake [18]:  
Men (age 19-50) = 1.3 mg  
Women (age 19-50) = 1.1 mg

# Micronutrient comparison: vitamin B9 (Folate)



Nutrient composition per 100 grams raw

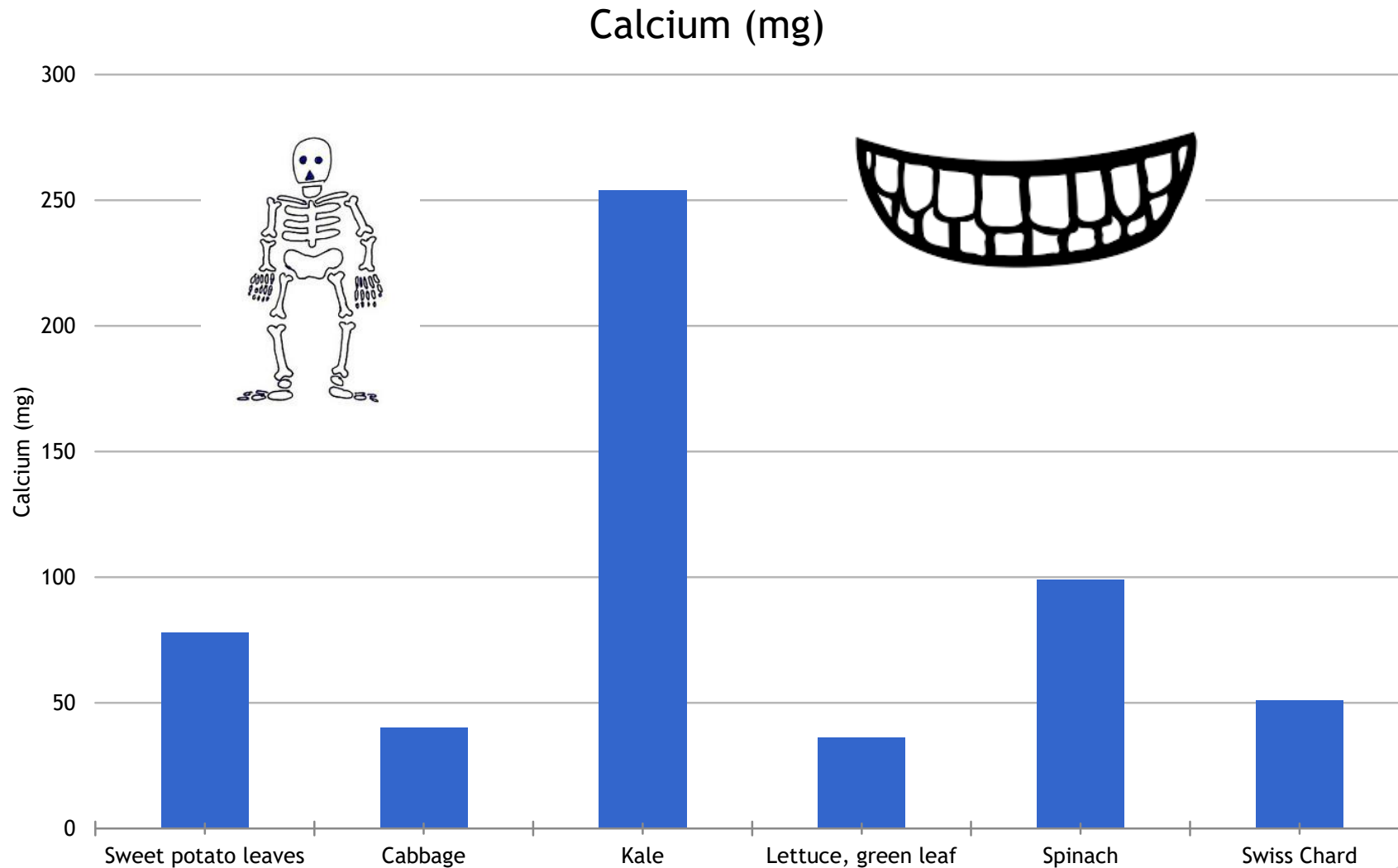
USDA. (2018). *USDA Food Composition Databases: National Nutrient Database for Standard Reference Legacy Release*. Retrieved from: <https://ndb.nal.usda.gov/ndb/>

Needed to make red blood cells (can prevent anemia) and for normal cellular function [22], and for pregnant women so their babies do not develop brain or spine deformities [16]

Recommended daily intake for adults: 400  $\mu\text{g}$  [18] (one serving < 0.05% daily folate intake)

Adult women who are planning pregnancy should consume 400-800  $\mu\text{g}$ /day [31]

# Nutrition comparison: calcium



Nutrient composition per 100 grams raw

USDA. (2018). *USDA Food Composition Databases: National Nutrient Database for Standard Reference Legacy Release*. Retrieved from: <https://ndb.nal.usda.gov/ndb/>

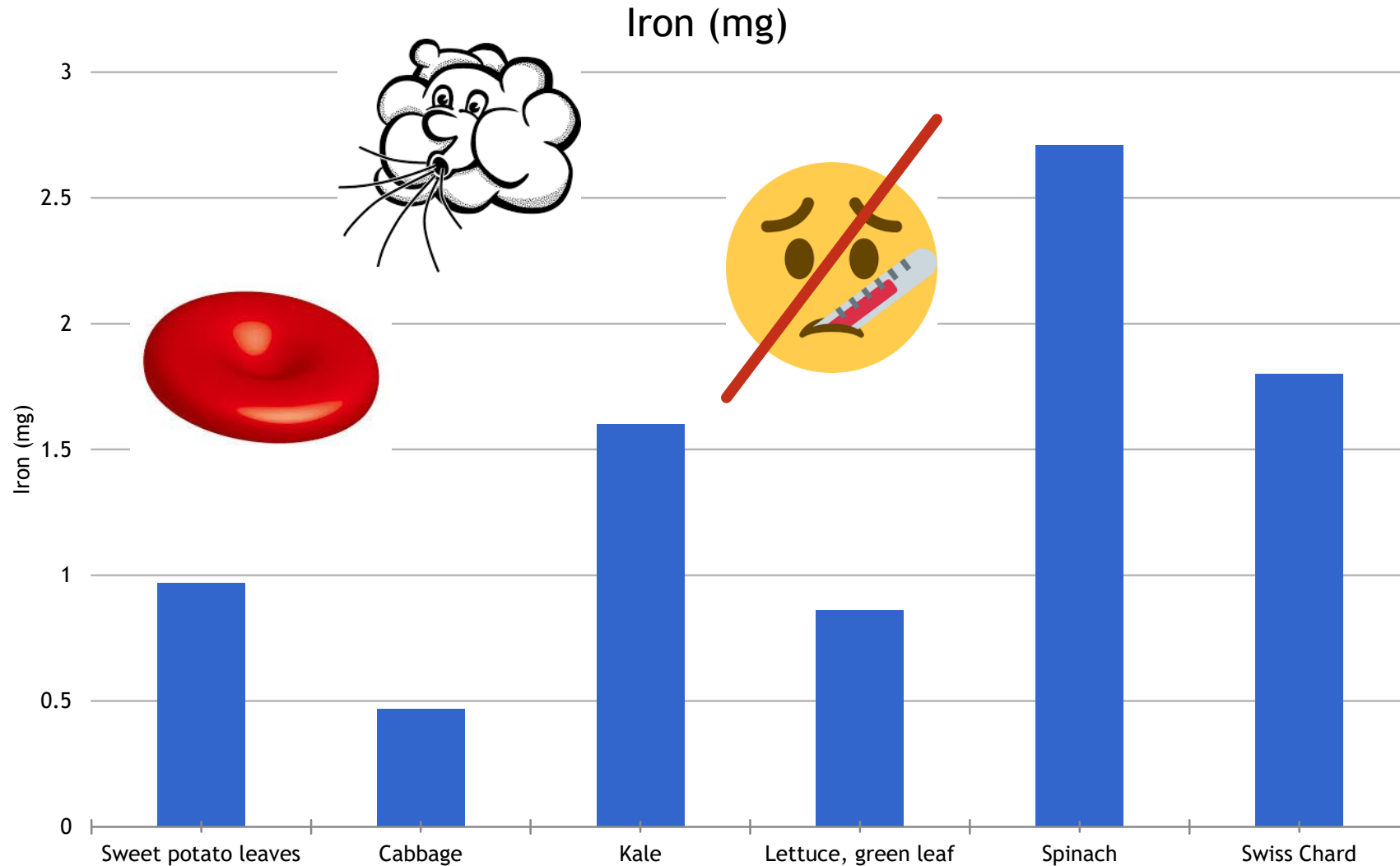
For strong bones  
and teeth <sup>[10]</sup>

Recommended  
daily intake <sup>[18]</sup>:  
Men and women  
(age 19-50) = 1,000  
mg

One serving would  
provide ~7.5% of  
someone's daily  
calcium intake



# Nutrition comparison: iron



Nutrient composition per 100 grams raw

USDA. (2018). *USDA Food Composition Databases: National Nutrient Database for Standard Reference Legacy Release*. Retrieved from: <https://ndb.nal.usda.gov/ndb/>

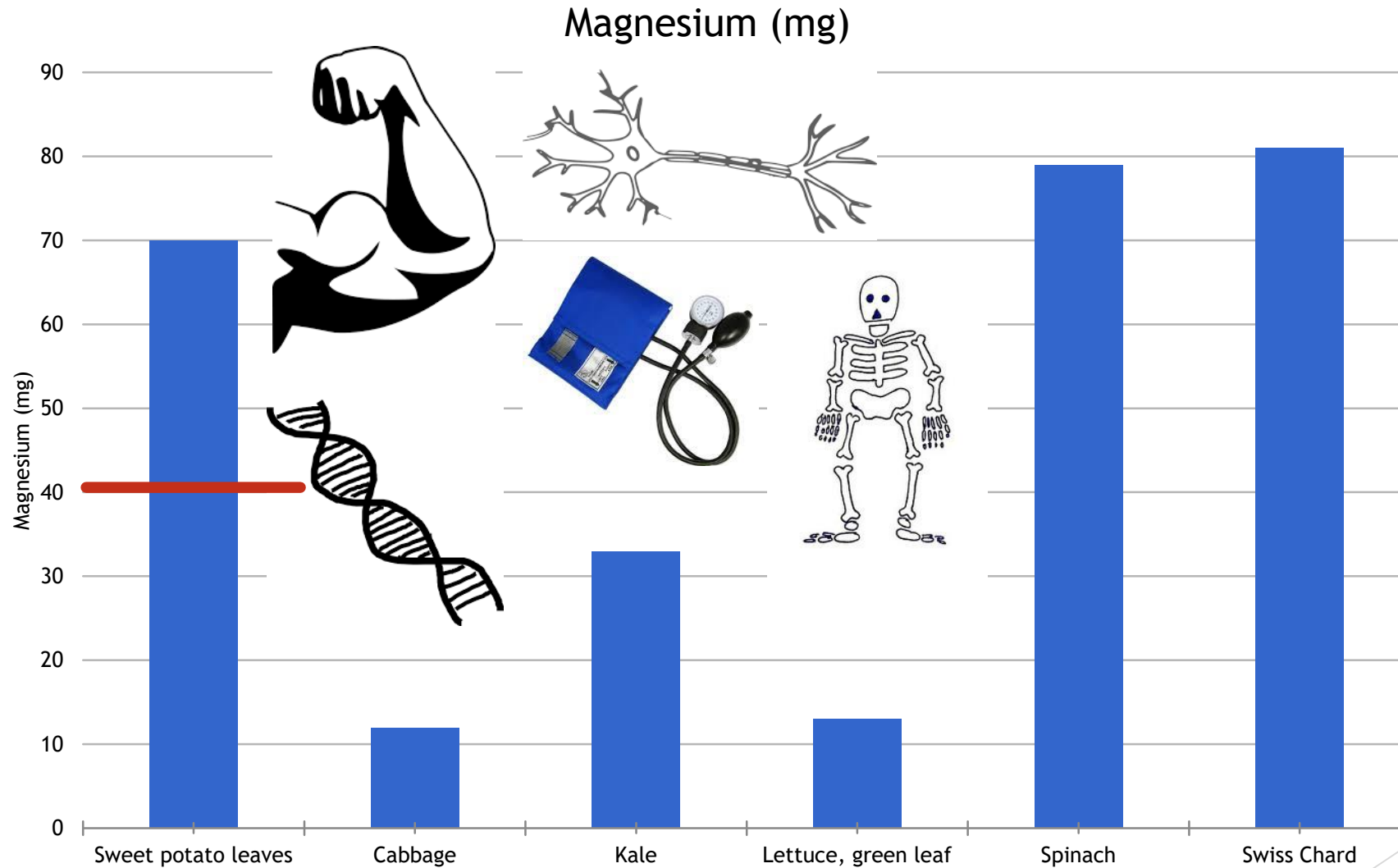
Helps provide cells with oxygen and reduces illness [1]

Recommended daily intake [18]:  
Men (age 19-50) = 8 mg  
Women (age 19-50) = 18 mg

One serving would provide ~12.5% of men's daily iron intake and ~5.6% of women's



# Nutrition comparison: magnesium



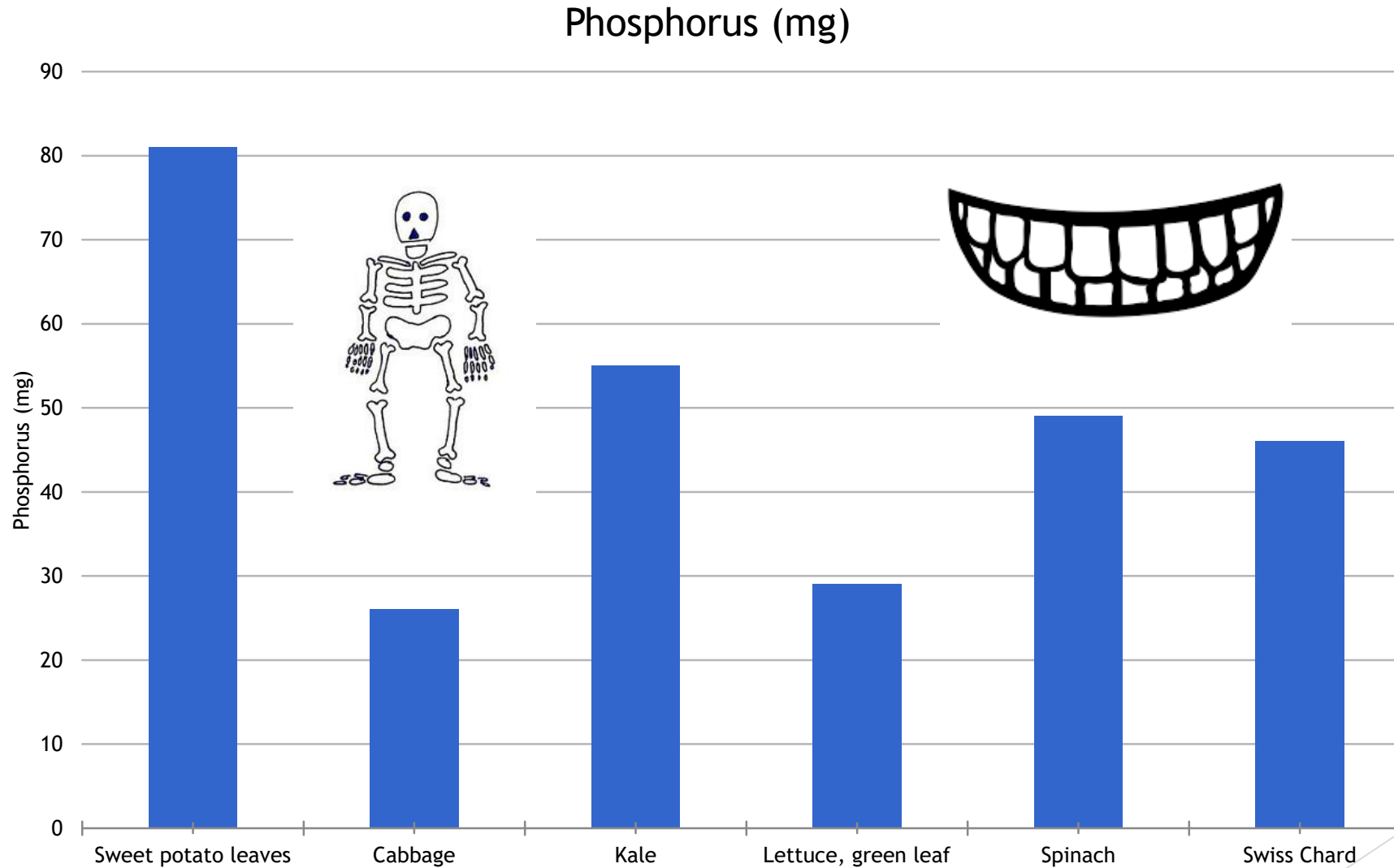
Important for many processes in the body, including regulating muscle and nerve function, blood sugar levels, and blood pressure and making protein, bone, and DNA [24]

Low magnesium intake is less than 40 mg [18]

Nutrient composition per 100 grams raw

USDA. (2018). *USDA Food Composition Databases: National Nutrient Database for Standard Reference Legacy Release*. Retrieved from: <https://ndb.nal.usda.gov/ndb/>

# Nutrition comparison: phosphorus



Nutrient composition per 100 grams raw

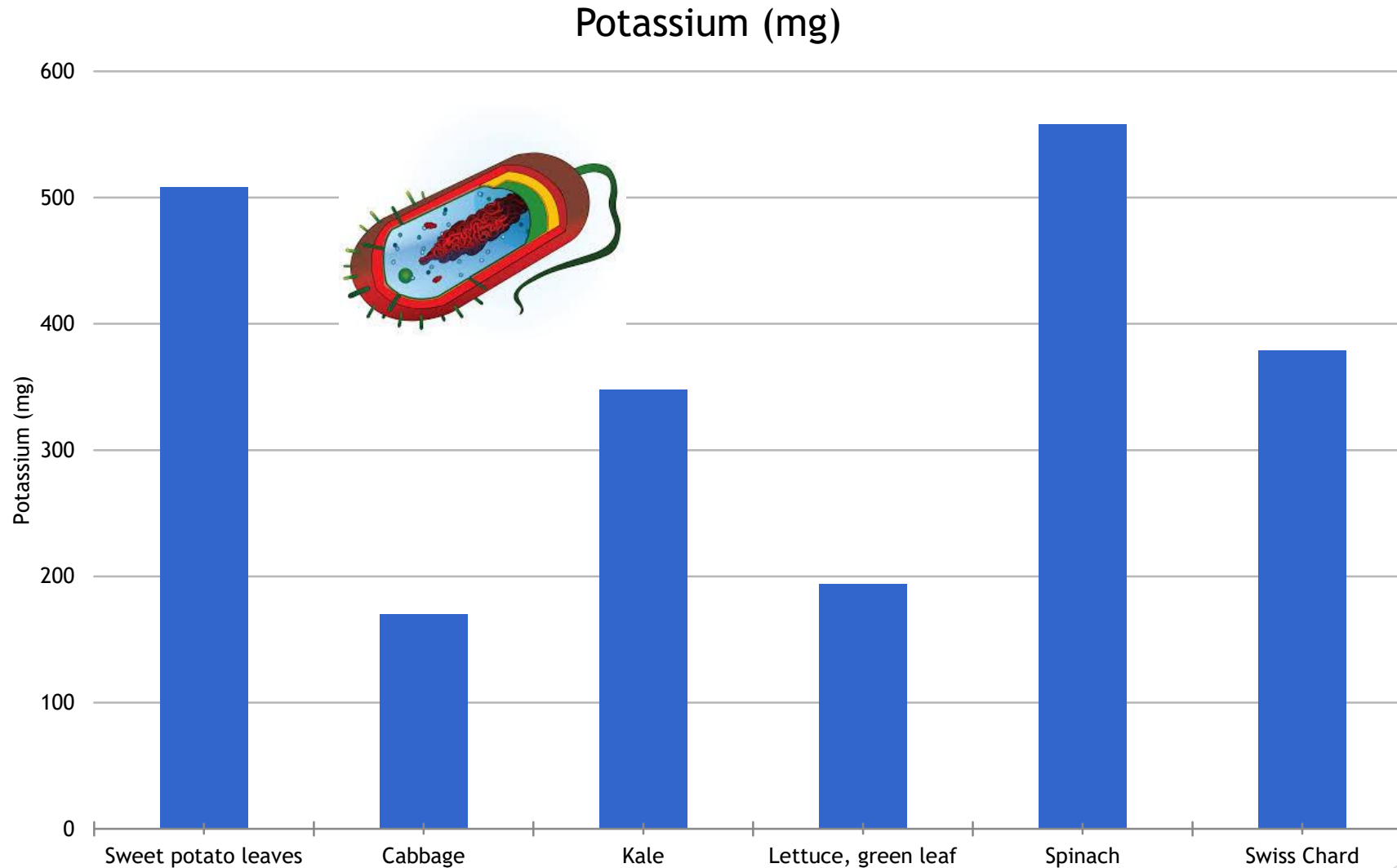
USDA. (2018). *USDA Food Composition Databases: National Nutrient Database for Standard Reference Legacy Release*. Retrieved from: <https://ndb.nal.usda.gov/ndb/>

For formation of bones and teeth [25]

Recommended daily intake [18]:  
Men and women (ages 19 and older)  
= 700 mg

One serving would provide ~11% of someone's daily phosphorus intake

# Nutrition comparison: potassium



Nutrient composition per 100 grams raw

USDA. (2018). *USDA Food Composition Databases: National Nutrient Database for Standard Reference Legacy Release*. Retrieved from: <https://ndb.nal.usda.gov/ndb/>

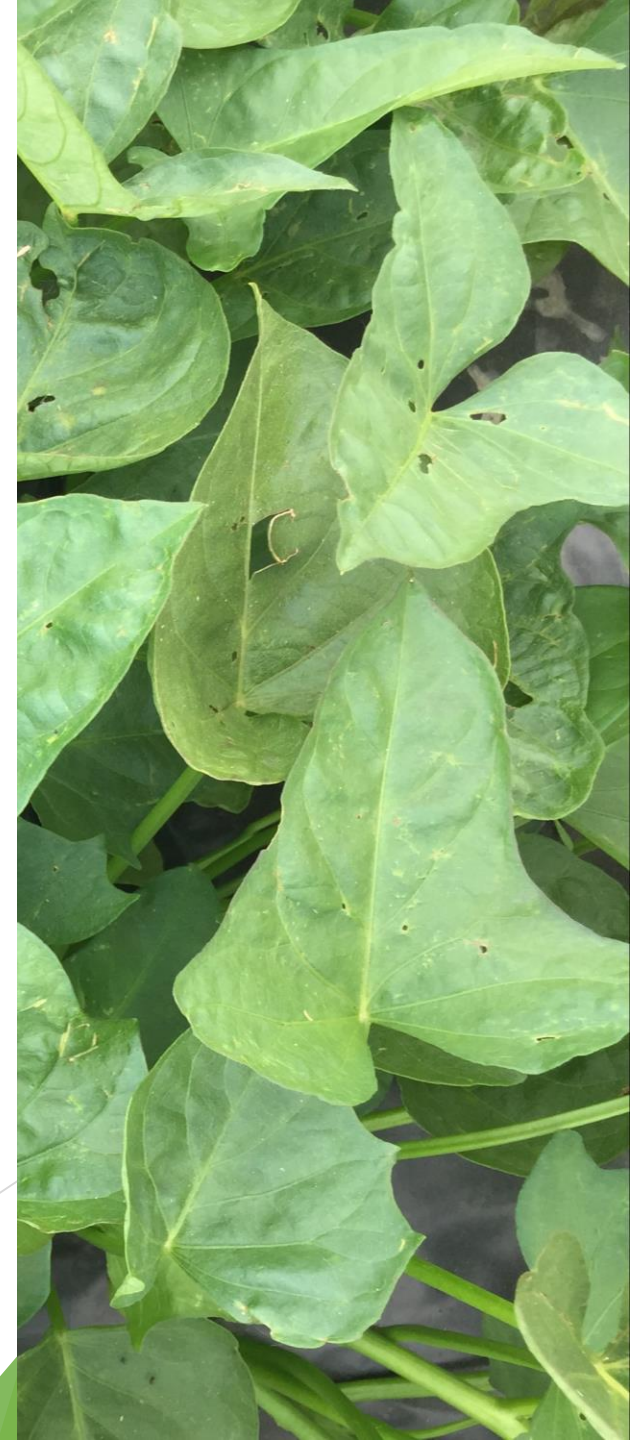
For normal cell function [26]

Recommended daily intake [18]:  
Men and women (ages 19 and older)  
= 4,700 mg

One serving would provide ~10.6% of someone's daily potassium intake

# Sweet Potato Leaf Nutrition: Other Minerals

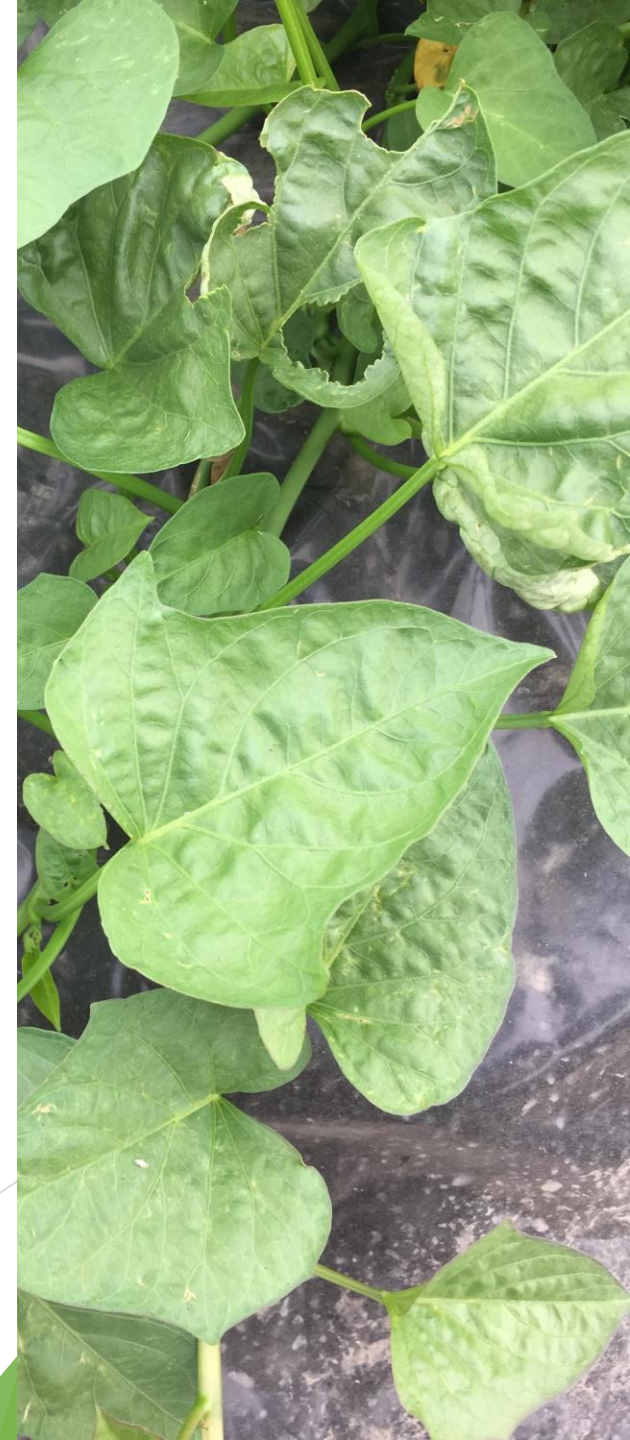
- ▶ Zinc <sup>[15]</sup> for reducing illness, promoting physical growth and brain development <sup>[16]</sup>
- ▶ Manganese <sup>[15]</sup> plays a role in many of the body's processes <sup>[27]</sup>
- ▶ Copper <sup>[11]</sup> which is necessary for the body to use iron <sup>[28]</sup>
- ▶ Low in sodium <sup>[12]</sup>





# Sweet Potato Leaf Nutrition: Disease Prevention and Defense

- ▶ High in antioxidants [8], which can help prevent or delay damage to cells in the body [29]
- ▶ Consumption of the leaves can also help prevent some chronic diseases like inflammation, heart disease, hypertension, diabetes and some cancers [5]





# Cooking Tips

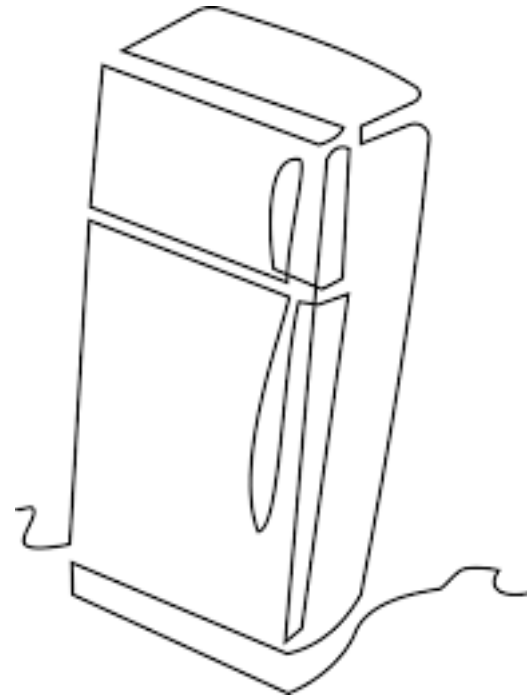
- ▶ Try to prepare meals with a variety of food groups, including fruits and vegetables, staples, legumes, nuts, animal foods, and fats for a more nutritious diet [12]
- ▶ For the most nutrients, choose sweet potatoes with deep green leaves and dark flesh [4]
- ▶ The whole tips of the sweet potato are edible, including the leaves, stems, and leaf stalks.
- ▶ The leaves, however, are the most nutritious [2]





## Cooking Tips (continued)

- ▶ Use sweet potato leaves immediately for the best use and most nutrients.
- ▶ Otherwise, store the leaves properly:
  - ▶ If you have refrigeration, put them in a plastic bag with holes for ventilation [4]
  - ▶ If you don't have refrigeration, keep them moist in a cool, dark place, or put the stems in water [32]



## Cooking Tips (continued)

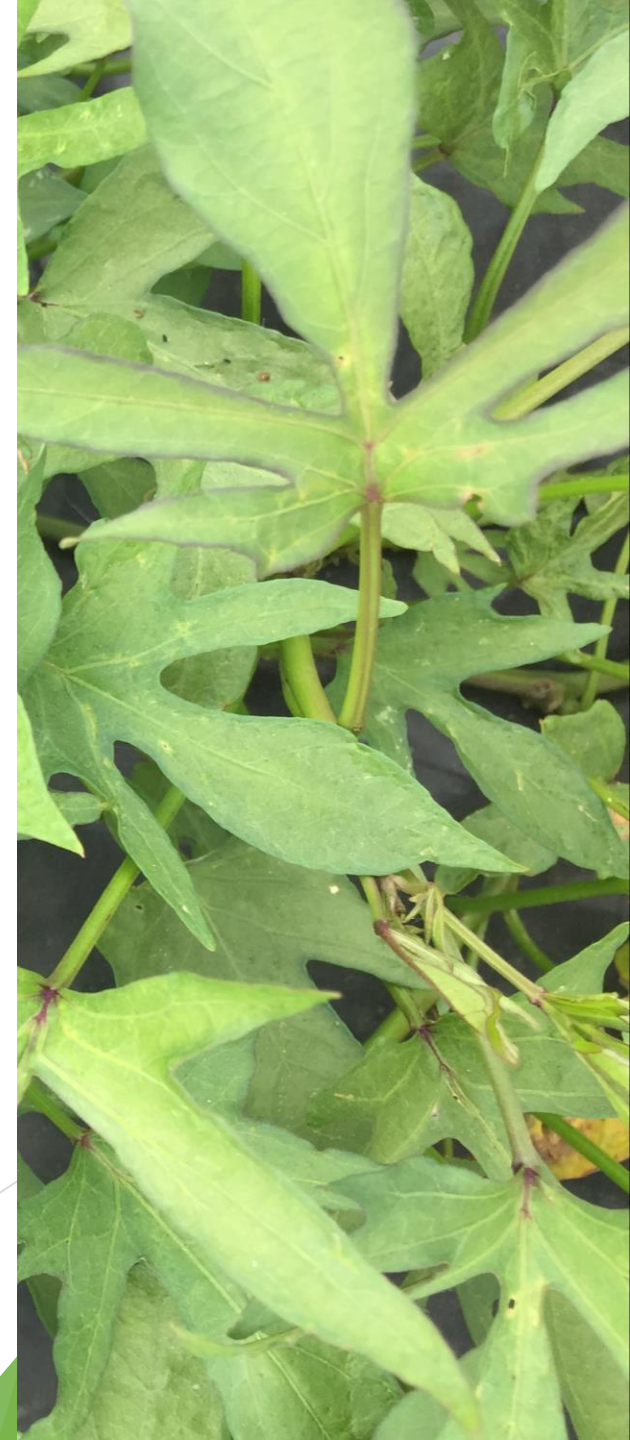
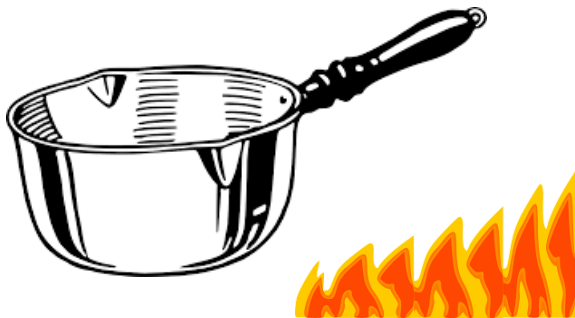
- ▶ Consume foods in proper combinations to help the body absorb more nutrients <sup>[12]</sup>. *E.g. fat is important for the absorption of vitamin A*
  - ▶ Cook the leaves with some fat (e.g. small amounts of oil or butter) to help the body absorb vitamin A <sup>[33]</sup>. The amount of fat required can vary (2.4 to 5 g/meal) for cooked vegetables <sup>[34]</sup>
  - ▶ If you consume the leaves raw as a salad, eat them with a dressing that has some fat (e.g. oil) <sup>[34]</sup>





# Cooking Tips (continued)

- ▶ To make nutrients more available and to make the leaves taste better, cook the leaves with heat (e.g. lightly steam, blanching, stir-fry, boil, etc.) <sup>[35]</sup> for short periods <sup>[34]</sup>
- ▶ Cut them up into smaller pieces <sup>[34]</sup>
- ▶ Don't cook the leaves for too long or some nutrients may be lost <sup>[36]</sup>
- ▶ In general, the smaller the food particle size, the better - so lightly cooked, pureed green leaves, or finely chopped cooked green leaves are better than raw, whole leaves <sup>[37]</sup>



# Cooking Tips: solar drying

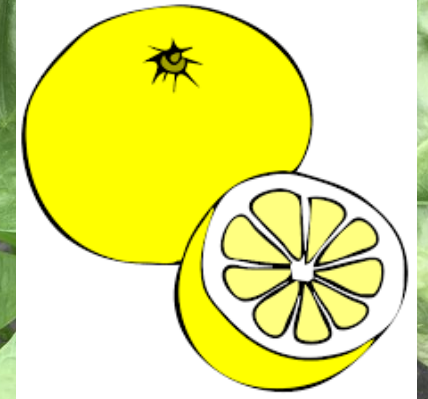
- ▶ Dry the leaves in a solar dryer, rehydrate, and cook later as a boiled or fried vegetable <sup>[4]</sup> or crush into a powder <sup>[5]</sup>.
- ▶ Blanching the leaves for 50 seconds first, followed by rubbing w/ salt and drying in an enclosed solar dryer can help retain more vitamin A <sup>[36]</sup>





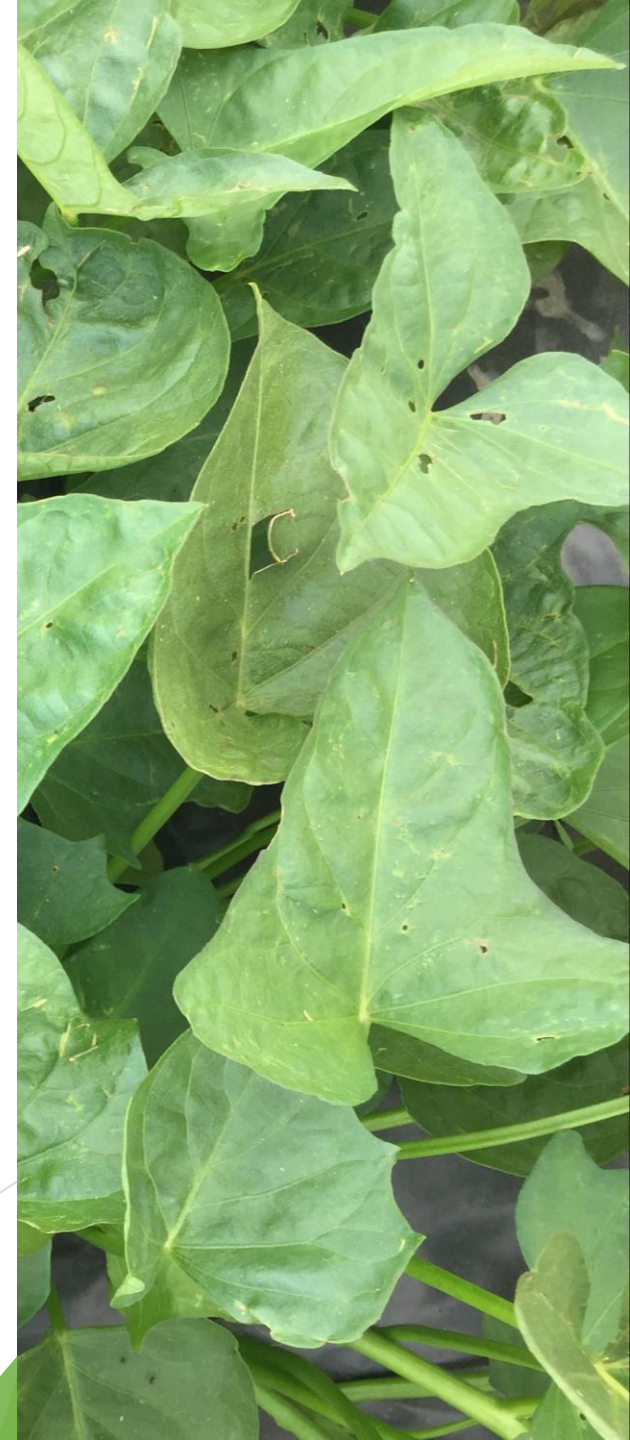
## Cooking Tips (continued)

- ▶ Consider cooking leaves with lemon to retain vitamins and minerals [38]
- ▶ Other preservation methods for the leaves, stems and stalks include canning, salting, pickling, [2] or juicing [39]
- ▶ Sometimes younger leaves are preferred for eating (e.g. top 10 cm) because they are more tender [4]. However, older leaves have more fiber [2].
- ▶ Consider substituting sweet potato leaves in any traditional recipe instead of another leafy green
  - ▶ What are some local examples?



# Sweet potato leaves around the world

- ▶ Philippines: cook the leaves with rice in a dish called sinapaw [2]
- ▶ Japan: boil the leaf stalks in soy sauce and batter and fry the tips [2]
- ▶ Asia: blanched, stir-fried, added to salads or stews [40]
- ▶ Tonga & Fiji: cooked with onion, marinated in coconut cream and eaten cold as a salad [2]
- ▶ South Pacific: stir-fried [2]
- ▶ Western Samoa: tops salad [2]
- ▶ Taiwan: noodles [2] [36]
- ▶ Cameroon: popular vegetable sauce [41]
- ▶ Nigeria: the vines are used in soup [42]
- ▶ Malawi: juice [39]
- ▶ Ghana: infant porridge, soup, relish, one pot meal, stew [12]
- ▶ Cote D'Ivoire: leaf sauce [43]
- ▶ Burkina Faso: groundnut sauce, and couscous with roots and leaves [44]
- ▶ USA: sautéed and stir-fried [4]





# Sweet potato leaves in Ethiopia [45]

## Sweet potato Community Recipe Book



### የብርቱካናማ ስኳር ድንች ምግብ አዘገጃጀት

### Sauteed Sweetpotato Leaves የስኳር ድንች ቅጠል ወጥ



#### Ingredients

- sweetpotato leaves chopped
- 1 large onion chopped
- 4 table spoon edible oil
- 1 clove garlic
- Red or green chillies as needed, chopped
- Herbs as needed
- salt spices to taste

#### Directions

Remove sweetpotato leaves from large stems, wash and chop. Slightly Heat oil in a pan, add onions , garlic, herbs and salt and cook until tender. Add chopped sweetpotato leaves an sautee for 2-3 minutes.Can be served to accompany any main dish.

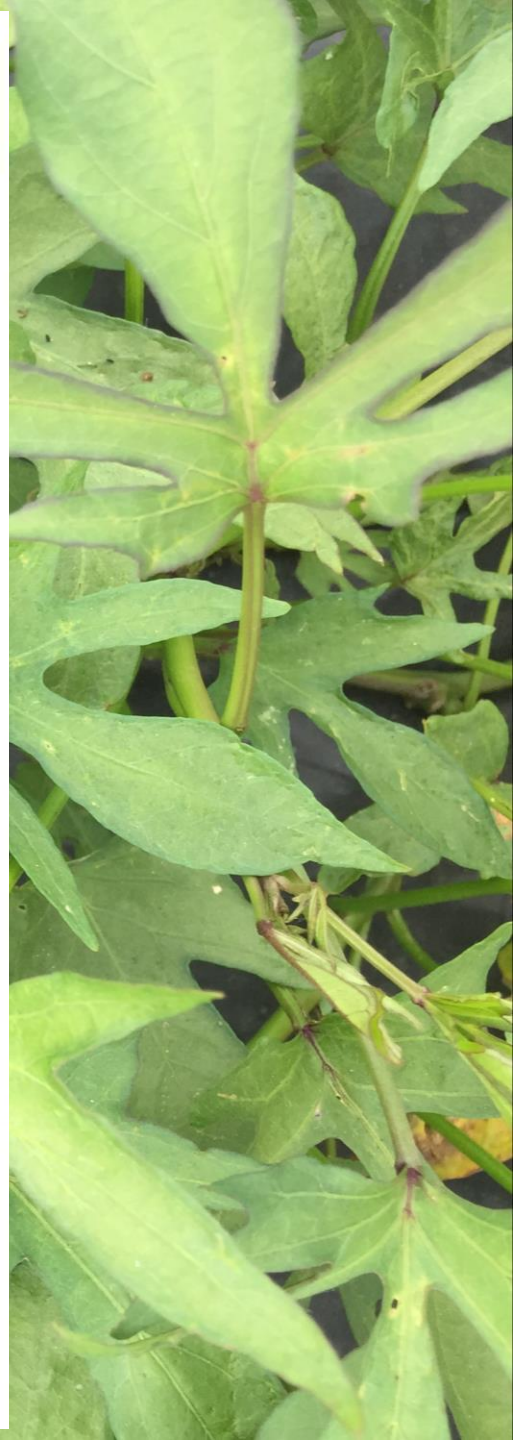
#### የሚያስፈልጉ ጥሬ አቃዎች

- የተከተረ የስኳር ድንች ቅጠል
- 1 የተከተረ ተሰቅ ያለ ሸንኩርት
- 1 ነጭ ሸንኩርት
- 2 ሙከሰኛ ቴማቴም
- 4 የሽርግ ማንኪያ የምግብ ዘይት
- 1 ቃርያ ለማጣፈጫ

በተጨማሪም:  
ለወጥ የሚያስፈልጉ ቅመማ ቅመሞች፣ ውሃ፣ ጫው እንደስፈላጊነቱ።

#### የአዘገጃጀት ቅድመ ተከተል

ቀይ ሸንኩርት በውሃ ብቻ በነጭ ማብሰል ዘይት ሙጨሙርና ተጠንቅቆ ማቆላላት ቅመማ ቅመሞችንና ነጭ ሸንኩርት ጨምሮ ሙቁላላት እና ማብሰል የስኳር ድንች ቅጠሉን ሙጨሙር፣ ከ2-3 ደቂቃ እንዲበሰል ማተው፣ ጫውና ቃርያ ሙጨሙርና ማውጣት፣ ለንባታ ማቅረብ





# My home kitchen

- ▶ August 5, 2018
- ▶ Found a local farm to harvest sweet potato leaves
- ▶ I made Doro wot, Shiro wot, Ye'abasha Gomen, and injera from scratch for dinner with my family.
- ▶ I was able to find Berbere spice mixture and tef flour at a shop here in Massachusetts, and I made my own niter kibbeh. It turned out quite tasty!





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