

**UNIT 2:  
FOOD AND THE ENVIRONMENT**

**L.13**

# **THE ORIGINS OF AGRICULTURE**

**FOOD**  
Ed.

**FOOD EDUCATION  
FOR CHANGE**



# AGRICULTURE



**AGRICULTURE:** The practices of cultivating crops and raising animals.

- The development of agriculture took place over thousands of years, beginning around 10,000 BCE in Mesopotamia (often called the “Fertile Crescent”).
- No one set out to develop agriculture. No one could have known what it looked like, since it had never been invented before!
- The first steps were all unintentional.
  - One of the first stages would have been the discovery of plants that humans enjoyed growing at the site of their latrines. By eating fruits and defecating their seeds, they were—like birds and other animals—helping to disperse their seeds.
  - Over the course of the millennia, humans began to plan crops intentionally.

Taken from Jared Diamond, *Guns, Germs, and Steel* (NY: Norton, 1999), 83-191.





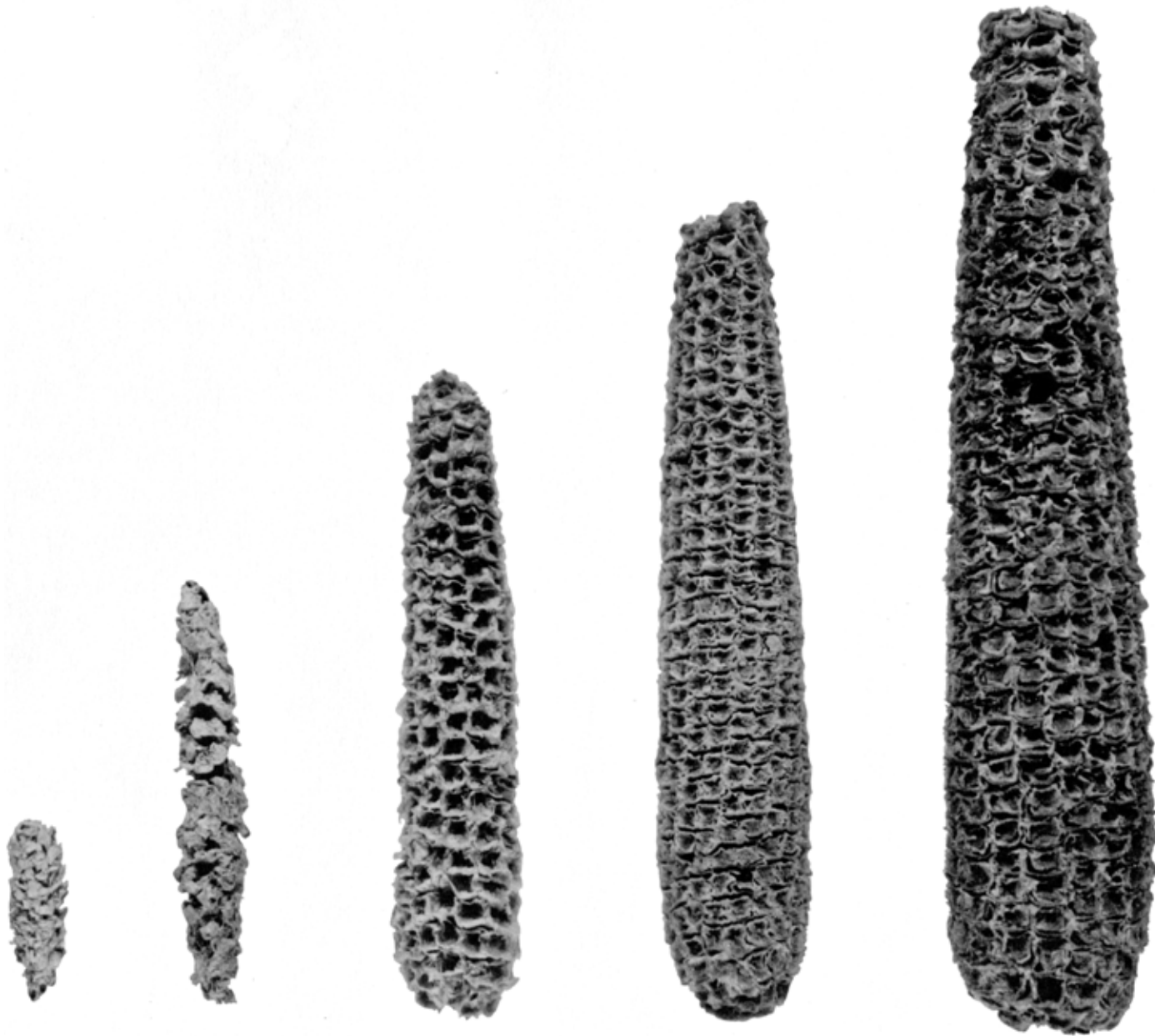
# DOMESTICATION OF PLANTS AND ANIMALS

**DOMESTICATION:** the process of raising a plant or animal, and changing it in ways that made it more useful to humans.

- Humans unintentionally chose traits that they would notice, like size.
  - Selecting the largest berry on the bush
  - Wild apples and corn cobs

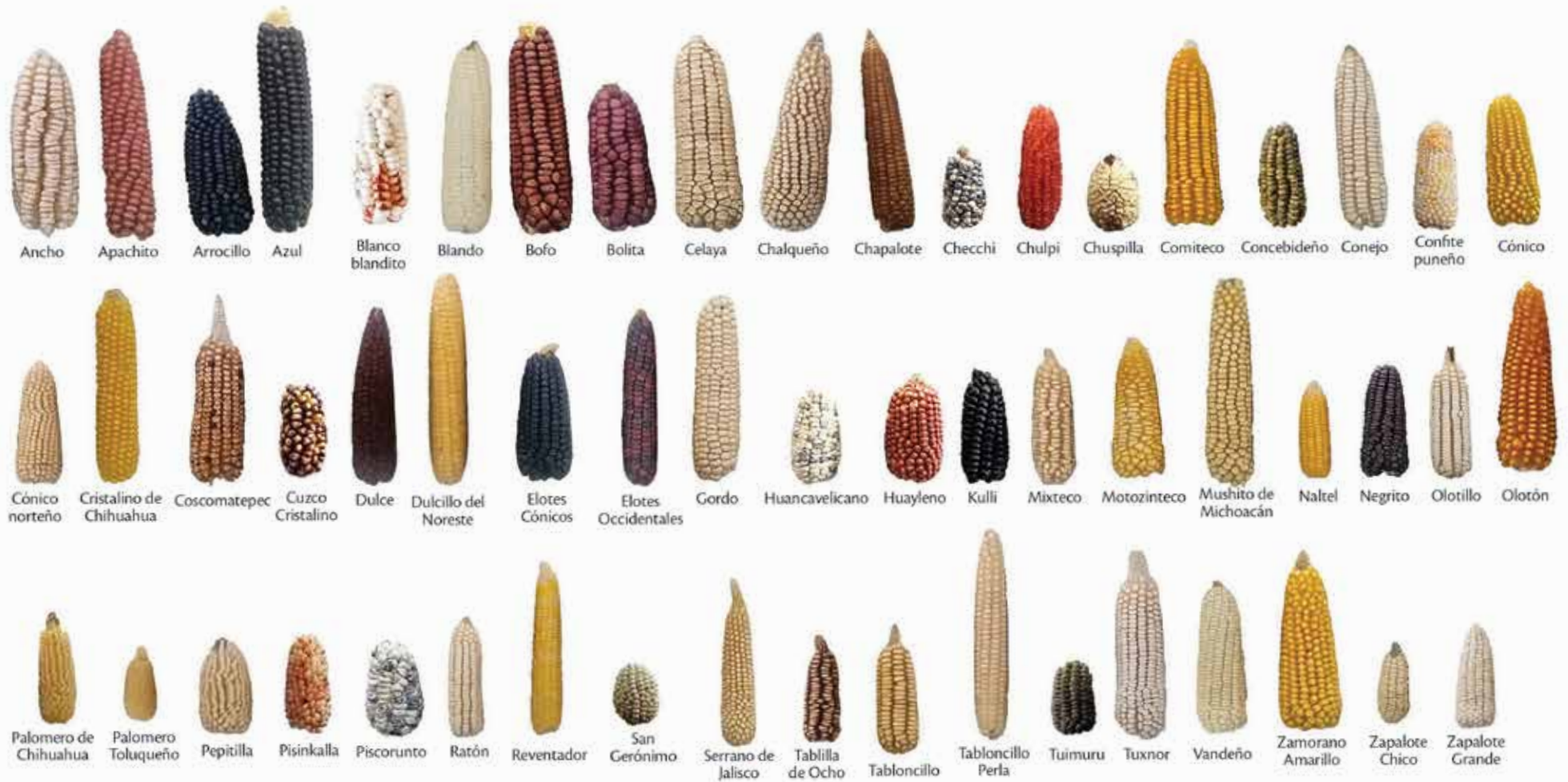






<http://learn.genetics.utah.edu/content/selection/corn/>





<http://www.cimmyt.org/maize-from-mexico-to-the-world/>



# DOMESTICATION OF PLANTS AND ANIMALS

Humans also selected for things that would not have been apparent to them, such as genetic mutations

- Bitter poisonous almonds
- Shattering wheat stalks









Wild emmer wheat (*Triticum turgidum* ssp. *dicoccoides*) in its natural habitat in the Near East, with a mature disarticulating spike.



Spikelets of wild emmer wheat collected from the soil surface.



Brittle rachis spike of wild emmer wheat and non-brittle spike of domesticated durum wheat.

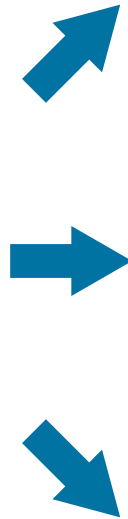




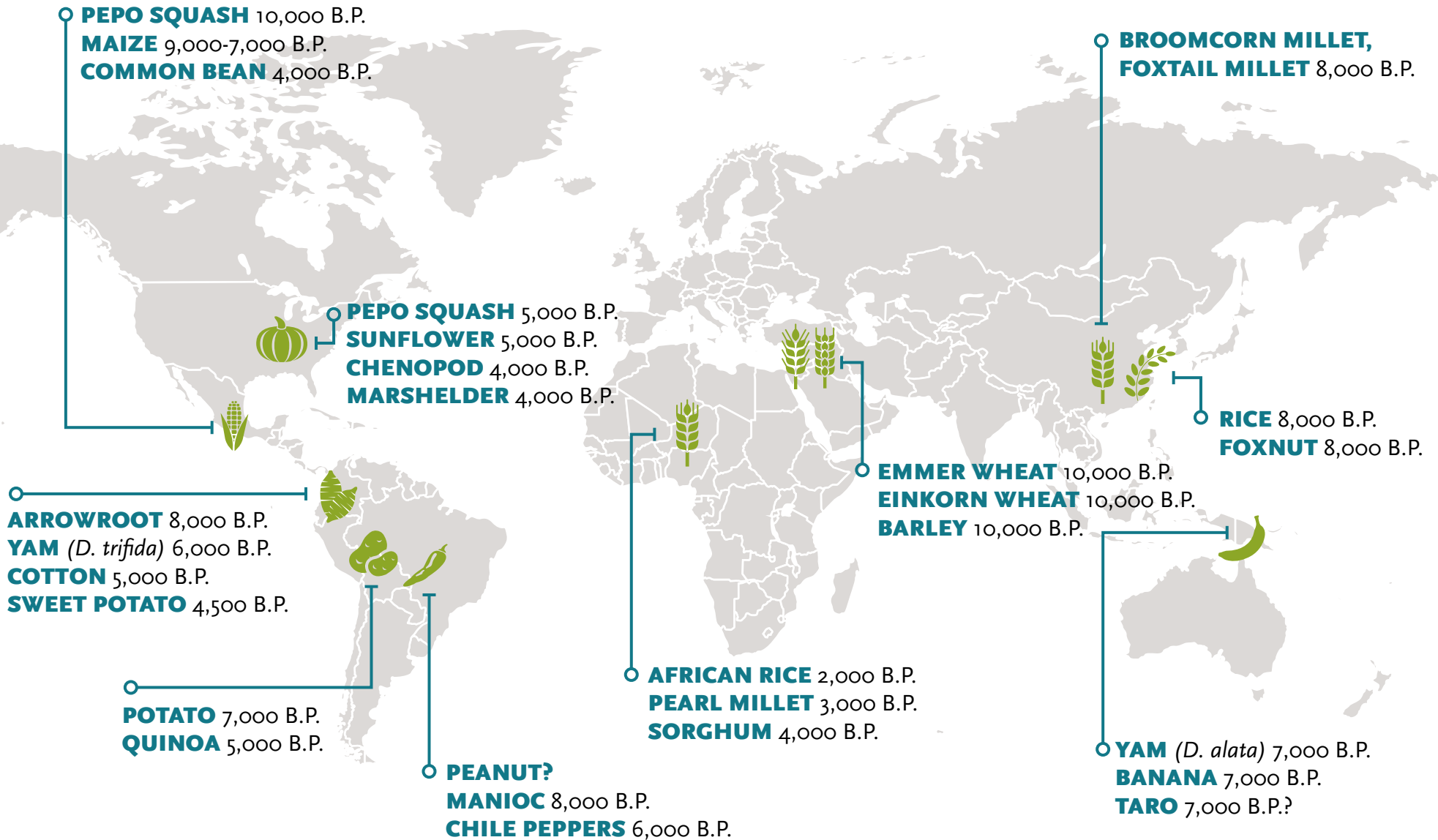
# DOMESTICATION OF PLANTS AND ANIMALS



*Brassica oleracea*  
(a common wild mustard)



# CHRONOLOGY AND GEOLOGICAL LUCK



# CHRONOLOGY AND GEOLOGICAL LUCK: PLANTS

**AROUND 10,000 BCE:** cereals and pulses that still form the basis of diets today

**4,000 BCE:** first fruit and nut trees

**1,000 BCE:** fruit trees that require more complex cultivation technique called grafting

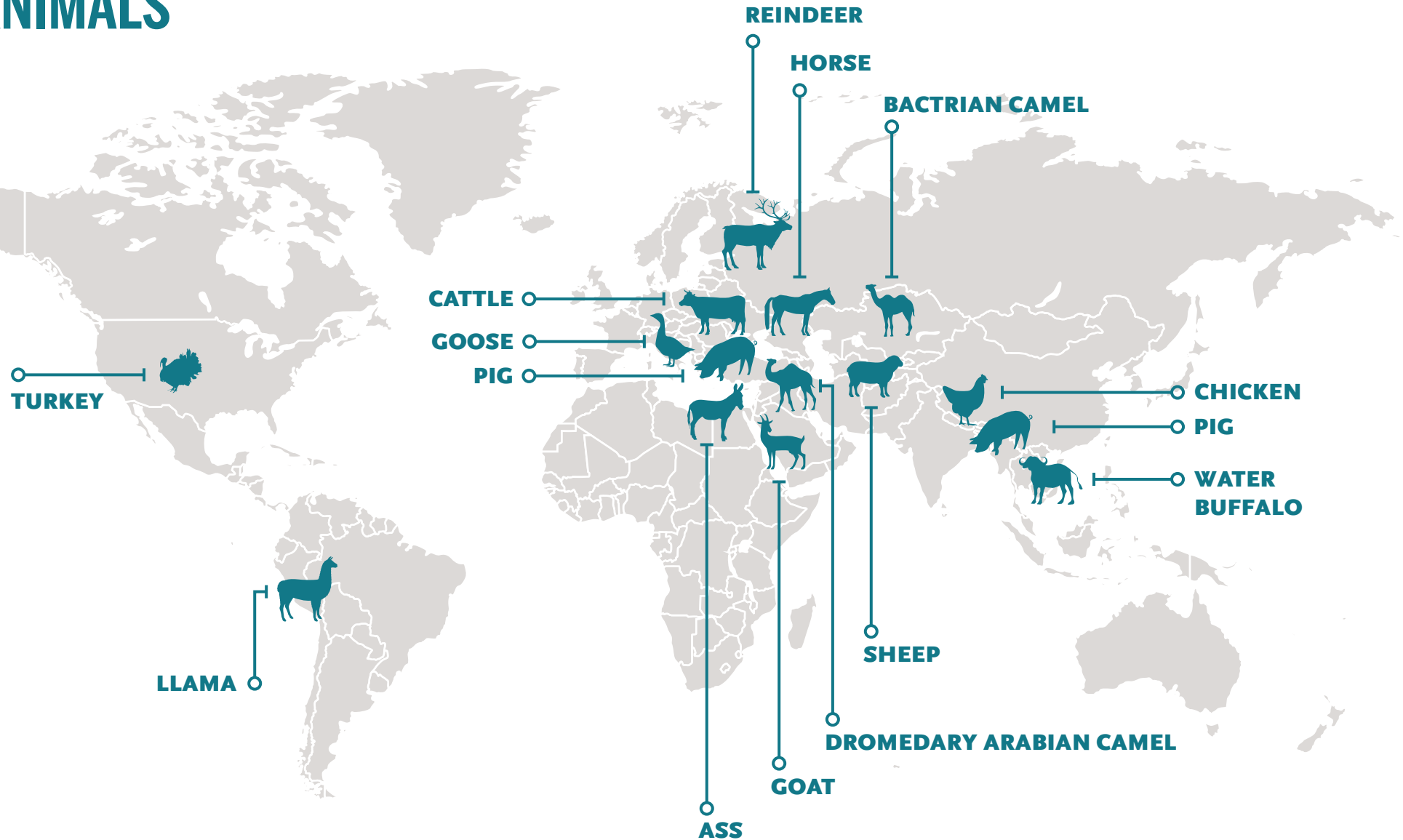
**13TH C. CE:** strawberries

Some plants like the oak tree have never been domesticated



# CHRONOLOGY AND GEOLOGICAL LUCK: ANIMALS

Some parts of the world had access to more domesticable animals than others.



# DIALOGUE WITH NATURE

- Plants used humans to disseminate seeds.
- Humans had to notice what happens in nature and respond to it.
- Geography limited the spread of agriculture.
- East/West vs. North/South Axes.

