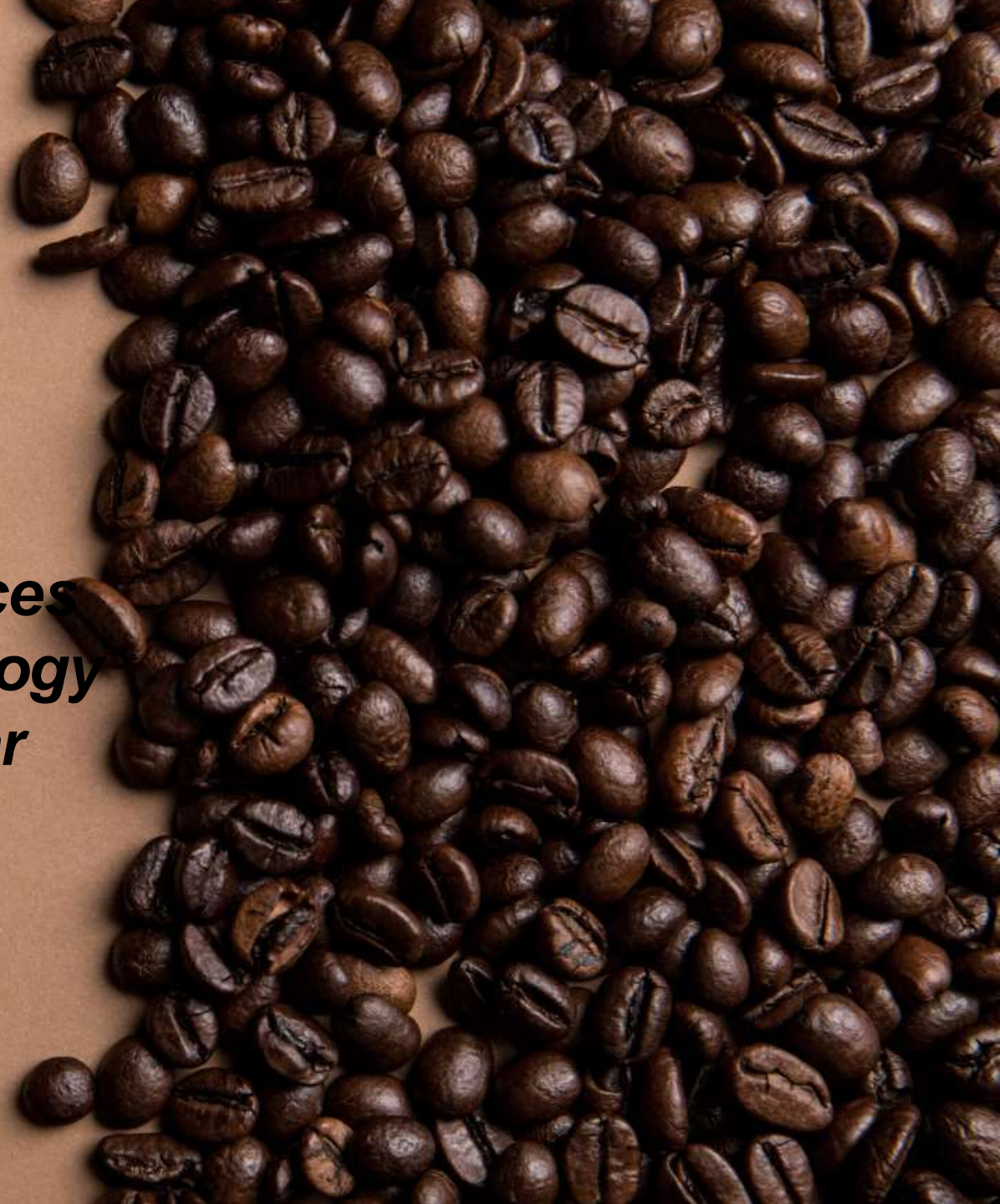


COFFEE

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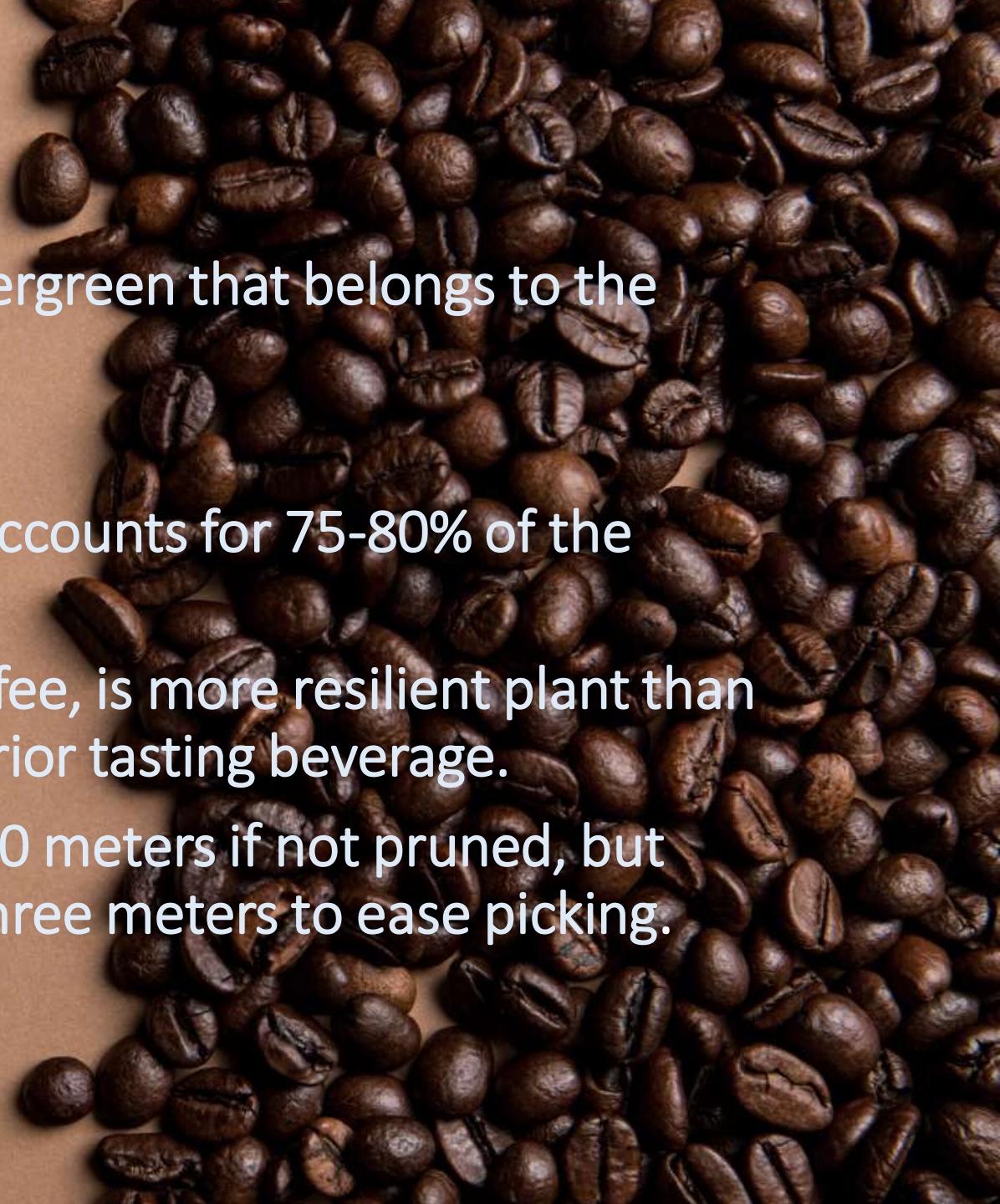
SCIENTIFIC CLASSIFICATION:

- Kingdom: Plantae
- Family: Rubiaceae
- Genus: Coffea



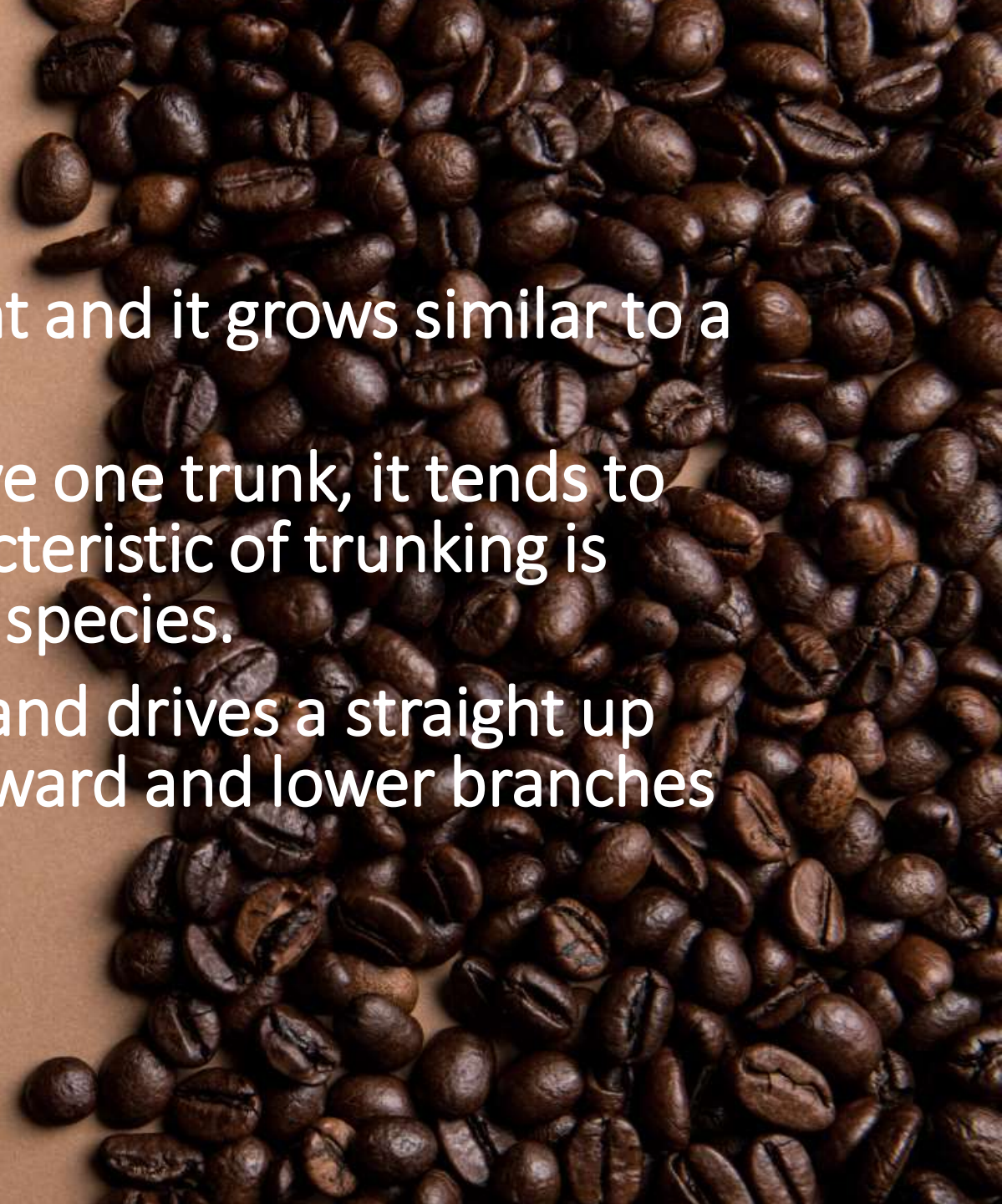
MORPHOLOGY:

- The coffee plant is a woody perennial evergreen that belongs to the Rubiaceae family.
- Two main species are cultivated today.
- *Coffea arabica* known as Arabica coffee accounts for 75-80% of the world's production.
- *Coffea canephora*, known as Robusta coffee, is more resilient plant than the Arabica shrubs, but produces an inferior tasting beverage.
- The coffee plant can grow to heights of 10 meters if not pruned, but producing countries maintain coffee at three meters to ease picking.



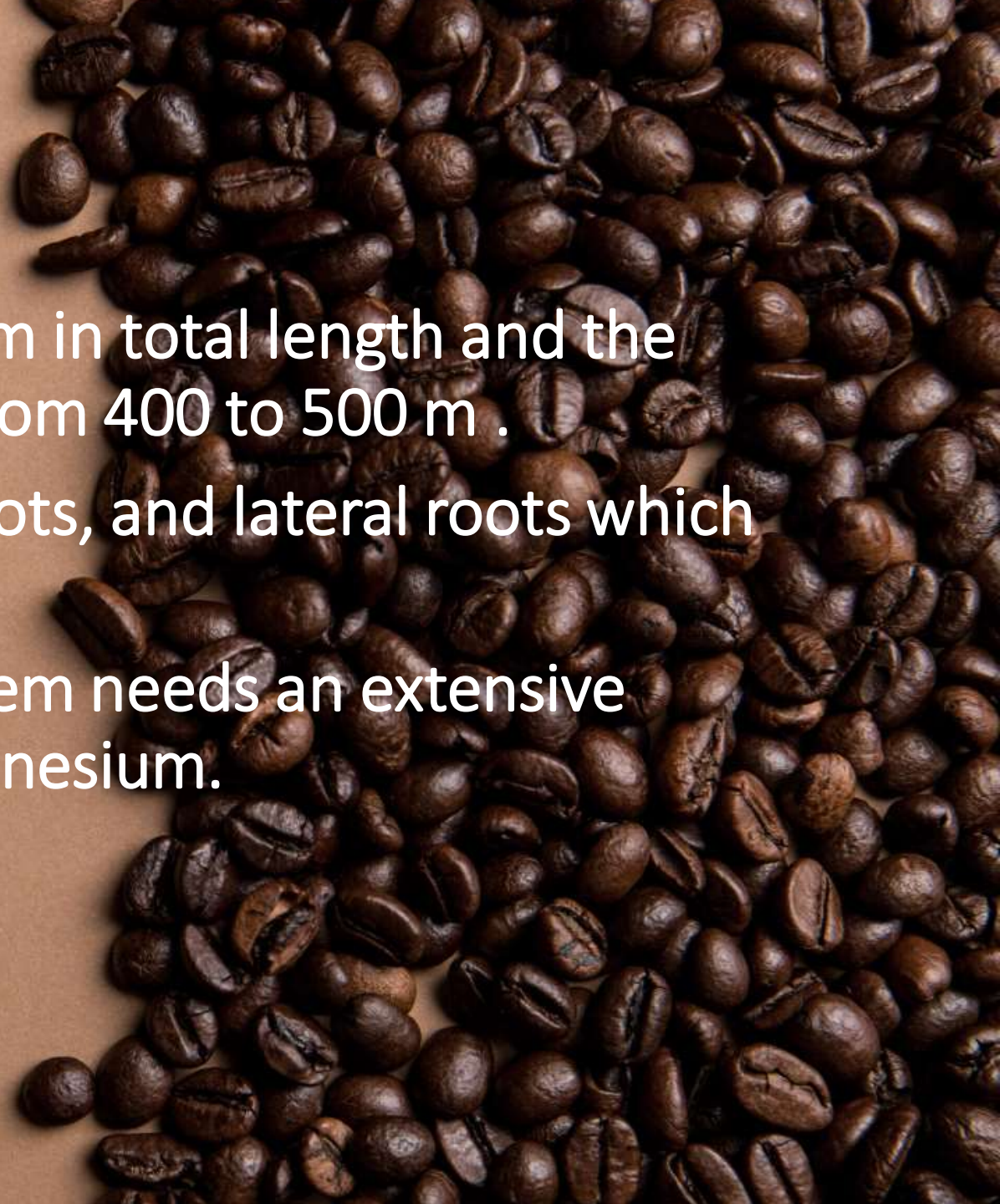
PLANT:

- Coffea Robusta is a shrub type plant and it grows similar to a bush, in that it has several trunks.
- Although, the coffee plant may have one trunk, it tends to have more. Additionally, this characteristic of trunking is different among the various coffee species.
- Coffea Arabica is a tree type plant and drives a straight up trunk with branches paired off outward and lower branches tend to droop downward.



ROOT:

- The root system can extend 20-25 km in total length and the absorbing surface of a tree ranges from 400 to 500 m .
- There are main vertical roots, tap roots, and lateral roots which grow parallel to the ground.
- To be thick and strong, the root system needs an extensive supply of nitrogen, calcium and magnesium.



LEAF:

- Oblong - ovate leaves of the coffee tree are shiny, dark green, and waxy.
- The leaf area index is between 7 and 8 for a high-yielding coffee.
- It is a bipolar leaf structure, where two leaves grow from the stem opposite each other.
- The distance between leaf pairs and the stem is about 1 to 3 inches.
- The leaf pairs generally are at 90 degree rotation for each pair on the stem. It is an evergreen.



FLOWER:

- Three to four years after the coffee is planted, following a shower sweet smelling white flowers grow in dense clusters in the axils of the leaves.
- Flowers have five-toothed calyx and a tubular five-parted corolla.
- Five stamens and a single bifid style. Flowers last only a few days.
- Sexually, the *Coffea arabica* is autogamous, in that it can pollinate itself, whereas the *Coffea Robusta* can not pollinate itself.



FRUIT:

- About 6-8 weeks after the flowers are fertilized, cell division occurs and the fruit remains as a pin head for a period that is dependent upon the climate.
- The ovaries will then develop into drupes in a rapid growth period that takes about 15 weeks after flowering.
- After pollination of the coffee plant, a small green coffee berry appears called a drupe.
- This coffee berry grows to about 15-35 millimeters (0.5 inch to 1.25 inches) depending on species. The coffee berry grows in clusters.
- When the coffee berry is ripe it turns red. At maturity, the coffee berry is bright red.
- After what is considered ripe, the coffee berry turns brown to reddish brown and falls off the coffee tree.



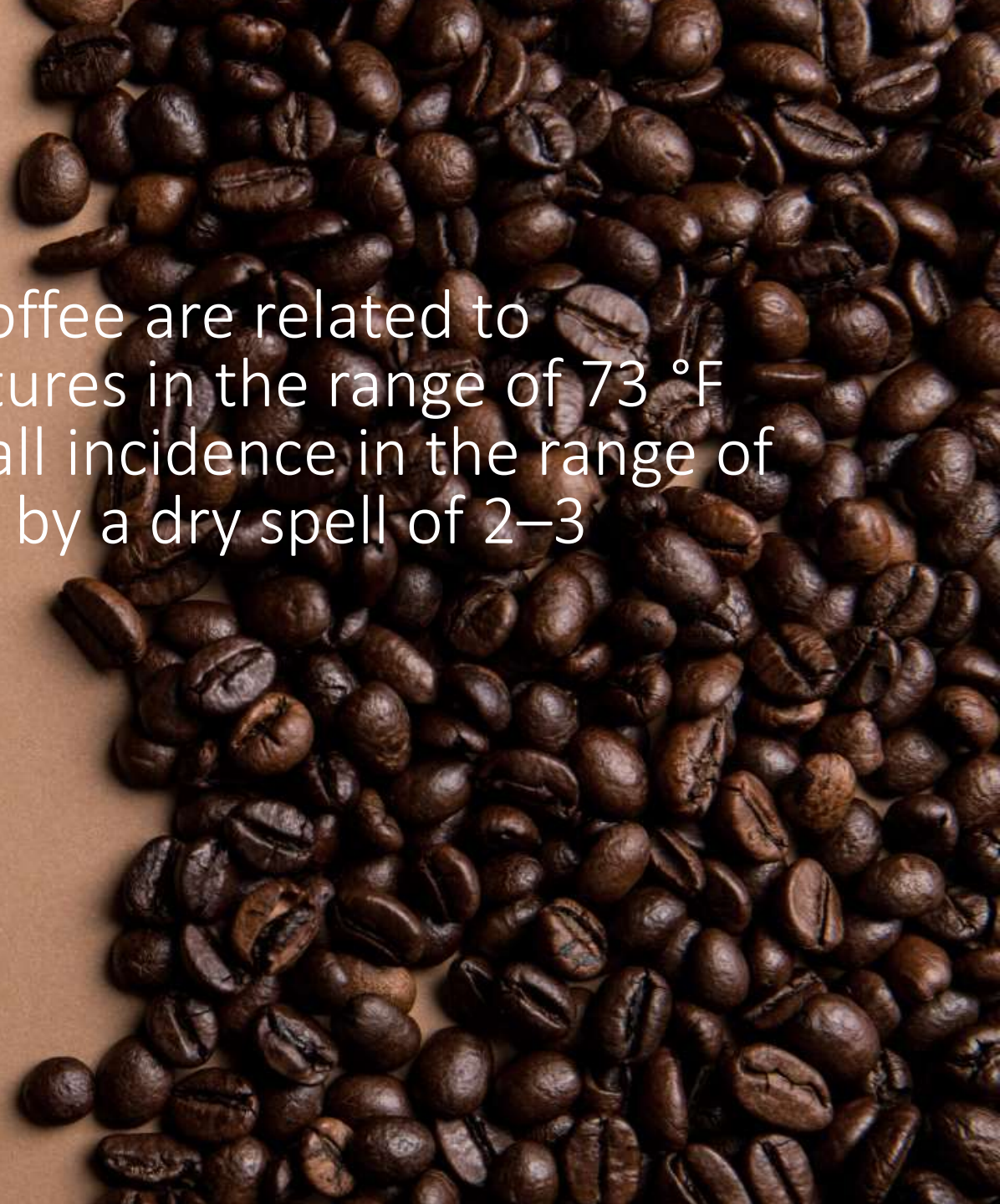
BERRY:

- There are typically two seeds per coffee berry packed with the flat end facing each other, but that is not always the case.
- A special case which is common is called peaberry which is a single seed. But, there can be more than two in a coffee berry also.



CLIMATIC CONDITION :

- Ideal climatic conditions to grow coffee are related to temperature and rainfall; temperatures in the range of 73 °F (23 °C) and 82 °F (28 °C) with rainfall incidence in the range of 60–80 inches (1.5–2.0 m) followed by a dry spell of 2–3 months suit the Arabica variety.



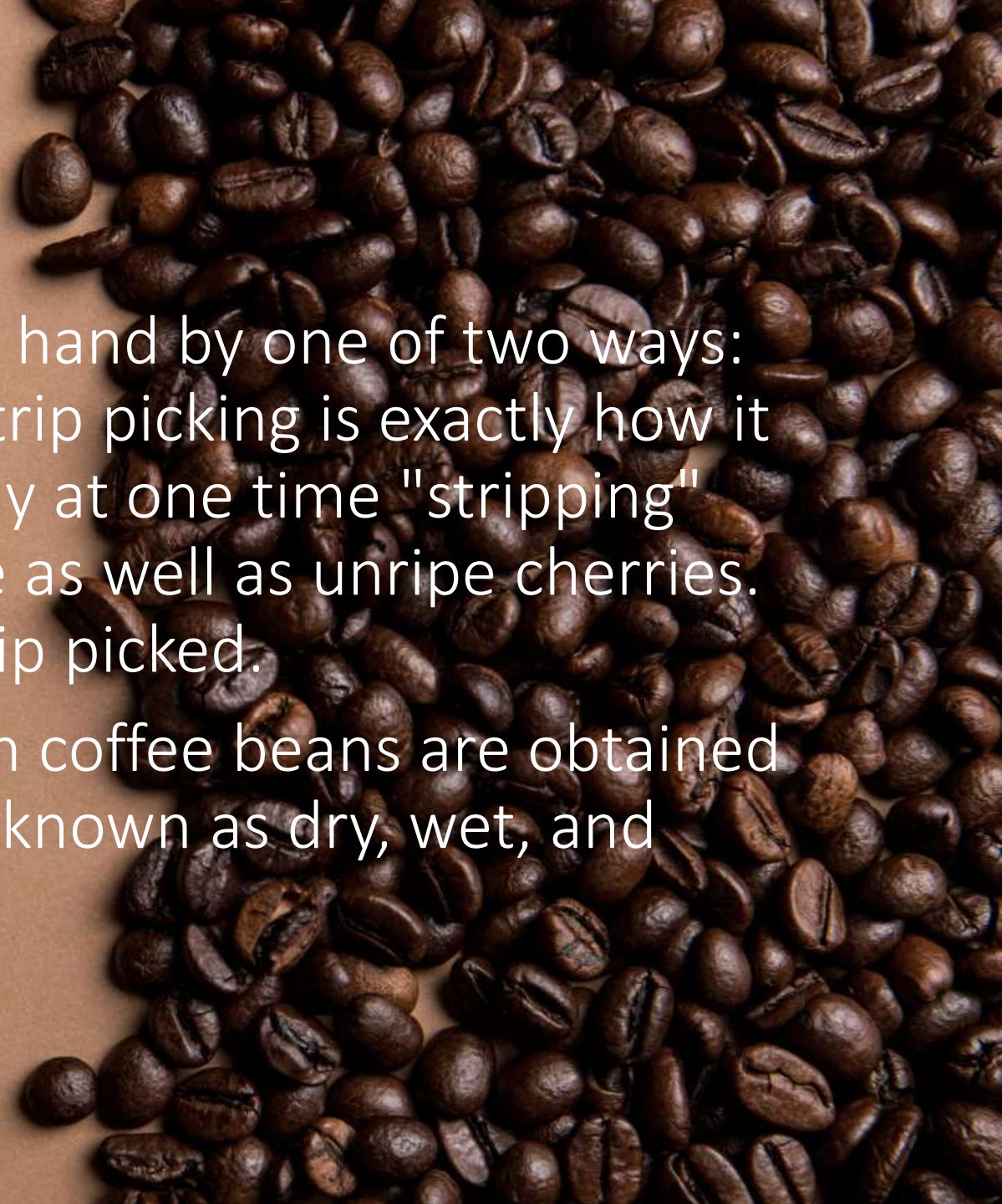
SOIL REQUIRED :

- Coffee can be grown on many different soil types, but the ideal is a fertile, volcanic red earth or a deep, sandy loam. Yellow-brown, high silt soils are less preferred. Avoid heavy clay or poor-draining soils.



HARVESTING:

- Traditionally coffee is harvested by hand by one of two ways: strip picking or selective picking. Strip picking is exactly how it sounds, trees are harvested entirely at one time "stripping" all the beans off the branches, ripe as well as unripe cherries. Typically, only Robusta coffee is strip picked.
- After harvesting of the fruits, green coffee beans are obtained by one of three different methods known as dry, wet, and semi-dry processing.



PROCESSING:

- Natural Process
- Washed process
- Wet hulled
- Honey processed



THANK YOU

