

## The three avocado races

### Mexican race (*Persea americana* var. *drymifolia*)

Originates from the Mexican highlands. Its leaves have a characteristic aniseed odour. The fruits have a high oil content (more than 15 %). Conversely, their small size and the fragility of their very thin skin limit marketability in fresh form. The Mexican race has useful agronomic characteristics, especially in terms of tolerance to low temperatures and to *Phytophthora* (however, it is highly sensitive to salinity). So it is used as a rootstock (especially Duke) or as a sire in hybridisation programmes.

### Guatemalan race (*Persea nubigena* var. *guatemalensis*)

Originates from the highlands in Guatemala and Chiapas (Mexico). This race has useful characteristics in terms of cold resistance (although they are smaller than the Mexican race fruits). The fruits also have assets sought after by geneticists. Their size is highly variable, but generally bigger than Mexican race varieties. Furthermore, they have a moderate-sized stone, and a thick, very hard and warty skin. Conversely, they have a medium oil content (10 to 15 %). Hass is derived from a cross between the Guatemalan and Mexican races.

### West Indian race (*Persea americana* var. *americana*)

Despite its name, this race apparently originates from Colombia. It is sensitive to the cold (cannot withstand temperatures below -2°C) and aridity, but is more tolerant than the others to salinity. It is particularly well suited to wet tropical regions. Its fruits are large (400 to 900 g) and rather fragile. They have a thin skin (0.8 to 1.5 mm), which is smooth and glowing with a soft green colour, and yellow or reddish when mature. The pulp is watery and low in oil (< 8 %). The large-sized stone often does not adhere to the pulp.

Differentiating traits between the three avocado races

Characteristics	Mexican race	Guatemalan race	West Indian race
<b>TREE</b>			
Adaptation to climate type	semi-tropical to Mediterranean	subtropical	tropical
Cold tolerance	most tolerant (- 5 to - 7°C)	medium tolerant (- 2 to - 4°C)	sensible (- 1 à - 2°C)
Salinity tolerance	sensitive	medium tolerant	tolerant
<i>Phytophthora</i> tolerance	slightly tolerant	sensible	highly sensitive
Pubescence	highly pubescent	low pubescent	low pubescent
Leaf size	small	medium to large	large
Adult leaf colour	waxy pale green	dark green	light green
Odour	strong aniseed odour	no aniseed odour	no aniseed odour
<b>FRUIT</b>			
Shape	elongated	rounded	elongated
Size	small	variable	variable to large
Colour	brown	green or brown on maturity	Green or reddish-purple
Skin	very thin, waxy	thick, rough	thin, shiny
Oil content	high	medium	low
Presence of fibres	frequent	rare	rare
Cold preservation	very good	good	poor
Stone	large, sometimes free, smooth	small, adhesive, smooth	large, sometimes free, rough
Flowering-harvest interval	7 to 9 months	10 to 12 months	5 to 7 months
Source: "The avocado, its cultivation, its products", by Jean-Pierre Gaillard (table as per B.O. Bergh)			