



Plate 22.  
*Persea americana*, M i l l.  
*Eedjo pandjang*, Mal.

Excerpted (pages 55-57) from:

**J. J. OCHSE** (*In collaboration with R. C. Bakhuizen van den Brink*). 1931. **FRUITS AND FRUITCULTURE IN THE DUTCH EAST INDIES**. (English edition of *Vruchten en Vruchtenteelt in Nederlandsch-Oost-Indië*). G. KOLFF & Co., BATAVIA-C. 180 pages.

### ***Persea americana*, Mill.**

FAM. Lauraceae.

DUTCH: *Advocaat*.

ENGL.: *Abogado-pear*, *Avocado* or *Avocado-pear* (Florida, Phil.; Popenoe, Bailey, Wester), *Alligator-pear* (old name, Bailey), *Midshipman's butter* or *Subaltern's butter* (G. v. W.).

FRENCH: *Avocat* (Dybowski, R. and L.), *Avocatier* (Dybowski), *Beurre végétal* (R. and L.), *Poire d'avocat* (Sagot, R. and L.).

GERM: *Abakate* (Sehrwald), *Advogato-birne* (Rosenthal), *Agnacatebaum* (Rosenthal), *Avocato-birne* (E. and Pr.), *Avogate-birne* (Sadebeck).

JAVA.

Mal.: *Apokat*, *Djamboo wolanda* (Heyll, Kwast).

Jav.: *Alpokar*, *Plokar*.

Sund.: *Alpookat*, *Alpookèt*

Mad.: *Alpokar*.

OUTER-PROVINCES. Batak: *Booah pokat*, *Djamboo pokat*; Gorontalo: *Apokat*; Lamp.: *Advokat*, *Djamboo mēntēga*, *Djamboo poan*, *Pookat*; Mal.: *Advokat* (Manado), *Djamboo bělanda* (Singkep), *Djamboo mēntēga* (Bengkoelen), *Djamboo walanda* (Manado).

Arborescent shrub or low tree, 3-10 m high; trunk crooked, branched near the base, bark rough with longitudinal bursts; crown ovoid-globose, irregular, densely leafy; branch; lvs thick, terete, at first yellowish green, densely shortly pubescent, afterwards black glabrescent, dull or feebly shining with scattered prominent scars of the fallen leaves; leafbuds and flowerbuds much swollen, ovoid. *Leaves* alternate, crowded at the tops of the branchlets, stalked, simple, ovate-oblong or obovate-oblong; base cuneate or obtuse, rarely rounded or subcordate, often slightly unequal sided; apex acute, obtuse or obtusely acuminate, entire, with transparent yellowish white margins, coriaceous, above dark green, feebly shining, beneath glaucous, dull, at first on both surfaces densely shortly pubescent, glabrescent, 10-20 cm long, 3-10 cm wide, pinnatinerved; costa robust, much prominent beneath, pale yellow on both surfaces; lateral nerves 4-10 pairs, transparent, pale yellow, prominent beneath; veins pellucid, forming a dense network; petiole rather long half-terete faintly grooved on the anterior

side, slightly thickened from the base up to beyond the middle, narrowed in the upper part, yellowish green or pale yellow, at first shortly pubescent, afterwards glabrous, 1.5-5 cm long. *Inflorescences* axillary, crowded at the ends of the branches, hence often apparently terminal, paniculiform, many-flowered, on shorter or longer stalks; rachis terete or compressed, yellowish green, densely shortly pubescent; bracts numerous, oblong-lanceolate, yellowish green, shortly tomentose, fugacious. *Flowers* shortly stalked, rather small, bisexual, fragrant, 0.5-1.5 cm diam. when expanded; pedicel terete, yellowish green, densely and shortly tomentose, 0.2-0.5 cm long. *Perianth* 6-partite, yellowish green or light yellow, usually densely silky-tomentose within and without, rarely subglabrous, persistent, the 3 outer segments shorter and narrower than the 3 inner ones, ovateoblong or lanceolate; 0.3-0.6 cm long, 0.2-0.3 cm wide. *Stamens* 12, in 4 whorls, the 3 *innermost ones* reduced to *staminodes*, very short, with sterile, orange-coloured or reddish brown anthers, without glands; the rest perfect; the 3 *innermost perfect stamens* the longest, with extrorse anthers, each with 2 shortly stalked citrine or orange-coloured ovoid glands at the base of the filaments; the 6 *outermost perfect stamens* with introrse anthers, without glands; anthers ovoid or ovoid-oblong, acuminate or narrowed and obtuse, 4-celled, shortly tomentose, yellowish white or light yellow; cells opening by upcurved valves, pollen yellow; all filaments flattened, yellowish green, pilose on both surfaces, 0.25-0.35 cm long. *Ovary* ovoid with a narrowed, acuminate apex, yellowish green or yellowish white, shortly tomentose, 0.15-2 cm long; style filiform, pubescent, 0.25-0.3 cm long; stigma disciform. *Fruits* large, usually oblique, globose or pear-shaped, with a rounded or depressed apex, when ripe yellowish green or tinged with purple, sometimes dark purple, shining, glabrous, with scattered yellowish white or reddish brown dots, 1-seeded, faintly odorous, 1-20 cm long, 7-10 cm diam.; rind thinly coriaceous; flesh thick, juicy-pulpy, sweetish, edible, 1.5-2 cm thick. *Seed* large, globose, 2.5-5 cm diam.; testa thin, very lax, reddish brown; cotyledons large, pink or yellowish white.

**Cultivation.** This fruit-tree is a native of Central America. In Java it thrives best between 200 and 1000 m above sea-level. The best manner of propagation is budding after the Forkert-method with buds of nonpetioled ripe wood on stocks of the same species. The buds which have united grow slowly and very irregularly. It is advisable to use for stocks seedlings which have been planted previously in baskets, because the *Avocado* makes a very long taproot. If the seedlings are pulled out of the ground the taproot is very liable to be damaged and the stocks often die. The bud should be inserted about 20 cm above the crown of the root, after which the stock is cut at about 40 cm above the ground. If one cuts it off lower the stock often dies down so deeply that the grafted buds may die too, especially if their growth sets in late. Young graftings should be sprayed with Bordeaux mixture to protect them from *Diplodia*. As soon as the stock, after union has taken place, is cut off, the wound is tarred for fear of the stock dying down. This tarring is indeed equally necessary for grafted stocks of all kinds of fruit-trees after they have been cut off. The spacing should be 8—10 m.

**Use.** Ripe *Avocado*-fruits possess a finely yellow and very soft pulp. The pulp of the best forms can be very well eaten out of the hand; it distinctly tastes of *walnuts*. The

fruits which are offered for sale in this country, however, are almost insipid, if coffee-essence, džerook neepis, sugar a.s.o. are not added.

In its native country the *Avocado* occupies the same place as the *banana* here. There the fruits are consumed without anything else being added than salt and pepper

**Observations.** One distinguishes two groups of *Avocadoes*, viz. a group whose leaves distinctly smell of anise and another group whose leaves possess no such smell.

To the first group one reckons the so-called Mexican forms with a fruit rind rarely thicker than 0.08 cm. The group is divided into West-Indian forms with a coriaceous fruit-rind, rarely thicker than 0.04 cm and Guatemala-forms with a woody rind of 0.4-0.6 cm thickness.

To my knowledge forms belonging to the first group do not occur here but forms of the second group do. In the latest years several forms have been introduced; partly with very large and savoury fruits. Some of these are beautifully red on the outside when ripe, other ones retain a fine green colour. The fruits may be subglobose, pear-shaped or more elongate and bottle-shaped.

The development of the stamens and pistils of the *Avocado* takes places in such a way that of the expanded flowers of one tree during some hours of the day the stigmas are in a receptive condition and can be pollinated and during other hours the stamens produce pollen. This is repeated daily so very regularly that self-pollination or pollination with other flowers of the same tree is very difficult or almost impossible. Consequently the *Avocado* needs cross pollination which is possible because not all trees behave in the same manner. There are trees whose flowers are in the female state at the same hour that other trees are in the male state, hence possess ripe pollen. From this fact it become evident that it is necessary to judiciously plant together trees of diverse types in order to get a more uniform and at the same time richer harvest, than would be obtained by acting otherwise.

**Diseases and pests.** The caterpillars of *Samia insularis* may eat so much that the trees become practically leafless.

Sometimes the *Avocado* suffers very much from other caterpillars. One should be very cautious with spraying for combating this pest, because the tree very often drops its leaves when it has been sprayed.

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