



TECHNICAL DATA SHEET

AVOCADO

Section A: Information on Avocado Crop Planting

A.1	In Costa Rica, avocado production takes place in the Los Santos region with the Hass variety, and in the lowland - Central Pacific region with the Antillean variety.			
A.2	Main use:	Fresh produce	Production	It is estimated that in the country there are 3,000 hectares dedicated to production and about 800 producers.
A.3	Characteristics of the Hass variety.	<p>Sprout color: reddish-brown</p> <p>Medium canopy height: from 5 to 8 meters and semi-open.</p> <p>Flowering to fruit period: 8 to 10 months</p> <p>Ripening point: when the fruit loses its shine and turns to a dull dark green.</p> <p>Production starts at three years. It has two harvest peaks, the first from May to July and the second from October to December, with the latter being considered the main one due to the volume of production.</p>		
A.4	Soil and climate requirements.			
A.4.1.	Temperature	18-25 ° C recommended	Precipitation	Between 1.200 y 1.500 mm max.
A.4.2.	Relative Humidity	Less than 65% recommended	Wind	Moderate, otherwise it encourages the dropping of flowers, fruits, and the development of wounds. In case of excessive winds, it is advisable to place windbreak barriers in the plantation..
A.5	Soils	The most recommended soils are those of light texture, deep, well-drained with a neutral or slightly acidic pH (5.5 to 7), but it can be cultivated in loamy or clayey soils as long as there is good drainage."		
A.6	Acquisition of trees or vegetative material	<p>To obtain vigorous and fast-growing trees, one should acquire trees from a registered nursery whose graft is on a thick and vigorous rootstock, with a height of 40 to 50 cm from the base.</p> <p>It is recommended to have the land and planting holes ready for immediate planting. The trees should not remain in the field for several days without being planted.</p>		
A.7	Propagation by grafting is the most appropriate method for reproducing the varieties selected for a commercial plantation, as grafted trees are uniform in terms of fruit quality, shape, and size.			
A.8	Crop Management			
A.8.1	Propagation	Avocado can be propagated by seed or by grafting. Propagation by grafting is the most appropriate method for reproducing the varieties selected for a commercial plantation, as grafted trees are uniform in terms of fruit quality, shape, and size.		
A.8.2	Trimming	In the first three years of crop development, pruning requires little attention. From the third year onwards, it is recommended to maintain the shape of the tree to facilitate harvest tasks. Branches with excessive vertical growth, low branches or those close to the ground, and weak or sick stems should be pruned. Four types of pruning are identified: formation, sanitation, thinning, and pruning to lower the tree canopy.		
A.8.3	Crop Length			



DESCUBRE

A.9

Fertilization

It is recommended to perform soil tests before establishing an avocado plantation to determine nutritional requirements. Once the plantation is established, it is advisable to conduct soil and leaf analyses once a year. In general terms, the following suggestions can be used as a basis for avocado fertilization: for each year of the tree's age, one kilo of a fertilizer rich in nitrogen and potassium, such as the 18-5-15-6-2 formula, divided into three applications - one at the onset of the rainy season and the other two every two months. When the tree starts producing, nitrogen fertilization should be increased, as during the period between the start of flowering and fruit ripening, the tree demands the most nitrogen. An additional kilogram of urea is recommended, added to the dose of the complete formula, 40 days after flowering. It is advisable to apply minor elements such as copper, zinc, manganese, and boron one or two times a year through foliar fertilizers.

Section B: Harvest and post-harvest of avocado.

B.1

Harvesting the fruits requires the use of plastic boxes and harvesting rods. These rods come with a bag attached at one end where the avocados are stored when they are detached from the trees. These bags prevent the fruit from falling to the ground.

Freshly harvested fruit should be placed in plastic boxes, and these boxes must be clean.

The boxes with the avocados should be placed in the shade or covered with tarps to protect them from the sun, preventing burns on the skins.

B.2

The post-harvest handling of the avocado begins with the cutting of the peduncle, and this activity should be carried out with clean scissors. Care must be taken with the nipple's fall as it can lead to the entry of fungi or diseases into the fruit.

The recommended weight per avocado box is 15 kg so that when one box is stacked on top of another, it does not damage the fruits.

It is recommended to transport the product to the collection center or sales location on the same day as the harvest. It is important to consider that during the transport of the fruit, it should be secured to avoid rubbing that causes physical and visual damage, and contact with the sun should be avoided.

Section C: Information on production costs

C.1

Total production cost per hectare of Hass avocado

C.2

Operational Cost Per Year

Year 1	¢8 197 769
Year 2	¢3 777 445
Year 3	¢5 548 645
Year 4	¢7 237 077
Year 5	¢24 204 034
Year 6	¢13 994 282
Year 7	¢5 480 585
Year 8	¢14 144 066
Year 9	¢13 398 050
Year 10	¢13 985 785
Year 11	¢13 979 906
Year 12	¢13 979 906

Considerations: the labor tasks include: land clearing, land marking, terrace construction, marking for planting, hole-making, hole preparation, tree planting and replanting, windbreak planting, weeding, herbicide application, fertilizer application, manure application, fungicide application, channel layout and maintenance. Amendment application, paths, formative pruning, harvesting, and transportation.

Also considered were: Inputs, fertilizers, insecticides, fungicides, and avocado trees.