

AMAZON EXOTIC FRUITS

TECHNICAL SHEETS

DRAGON FRUIT¹

Scientific name: *Hylocereus* spp

The pitahaya or dragon fruit is an exotic fruit, the climatic and edaphic characteristics of Ecuador affect the quality of the fruit, which develop an intense aroma, as well as a very refreshing and sweet pulp.

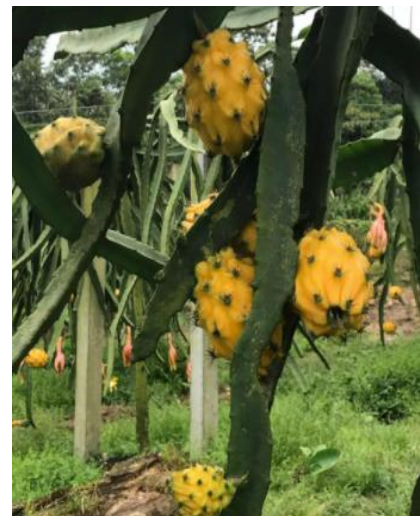
In Ecuador, producers are committed to the responsibility and need to preserve natural resources: soil, water, vegetation and wildlife, not yet intervened by man.

"The plant is a climbing cactus with long triangular stems. Its flower has a spectacular beauty. The fruit is ovoid, green at first and yellow when ripe, its pulp is white with multiple small seeds. The pitahaya is almost a portion of deliciously sweetened water, it also has phosphorus, calcium and vitamin C. Its flavor is exquisite and with a faint sweet taste" (INEC, 2022).

Varieties:

Gold dragon fruit / Pitahaya: it is characterized by having a spiny skin, it has a size between 8 and 10 centimeters, its pulp is white with small black seeds, with a sweet and juicy flavor.

Red: it is characterized by having a thick rind, its size is greater than the yellow one (12 cm), its pulp is white with small black seeds, juicy and sweet.



¹¹ Proecuador

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Web: <https://www.thani.ec/>

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Packaging: Boxes of 2.5 kilos net. 144 boxes per pallet

This fruit is produced in Ecuador in the provinces of Pichincha, Manabí, Bolívar, Guayas, Pastaza and Morona Santiago.

Certifications: Global GAP

Production and export volume: It is estimated that there are approx. 2000 hectares of production between red and Golden Dragon Fruit-Ppitahaya. The sector exported 7,500 tons and 44 million USD FOB of pitahaya in 2019.

Palora has 600 hectares in pitahaya production and produces 2,000,000 kg. annual fruit for export

Product presentation: The fruit is packed in resistant cardboard boxes. Each piece is protected by a foam mesh.

The largest amount of pitahaya is consumed fresh, dehydrated, wine, pulp, yogurt.

The pitahaya is used as an ingredient in colorants for the food industry and also for cosmetics.

Nutritional data sheet:

COMPONENTES	VALOR MEDIO
Energía (kcal)	50
Proteína (g)	0.50
Grasa (g)	0.1
Calcio (mg)	6
Hierro (mg)	0.4
Fósforo (mg)	19
Fibra (g)	0.3
Carbohidratos (g)	9.2
Niacina (mg)	0.2
Vitamina C (mg)	25

Fuente: <http://www.fao.org>



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Sasha Trade Company Ecuador
"Consume sano con propósito"



Productive forecast - Palora

JANUARY	High	365.000 kg
FEBRUARY	Medium	140.000 kg
MARCH	High	365.000 kg
APRIL	Low	40.000 kg
MAY	Low	40.000 kg
JUNE	High	365.000 kg
JULY	High	365.000 kg
AUGUST	Low	40.000 kg
SEPTEMBER	Zero	
OCTOBER	Medium	140.000 kg
NOVEMBER	Zero	
DECEMBER	Medium	140.000 kg

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QUITO ECUADOR

MARACUYÁ – PASSION FRUIT

Antecedentes

Maracuyá, passion fruit, belongs to the Passiflora edulis Sims family, originally from the Amazon, commonly found in all tropical areas of Ecuador, it grows in areas with a temperature between 20 ° C and 30 °C.

Pasion Fruit "Passion Fruit"

It has a very rich, acidic "fresh" flavor, much appreciated in North America, Europe and Asia. It is an oval greenish-yellow fruit with a smooth-textured skin. Orange pulp with black edible seeds with a sweet and sour taste.



It is a fruit rich in provitamin A, vitamin C and minerals such as potassium, phosphorus and magnesium. It is the perfect food to recover energy after an effort.

It contains tryptophan, an amino acid that is involved in the synthesis of melatonin and serotonin, related to falling asleep. It has relaxing effects, so it can be good if consumed at night.

Commercial presentation

As raw fruit, its shelf life is a minimum of 10 days. Rotation every 3 days is recommended.

Bulk product is required per kilogram

In fruit pulp without seeds, it is demanded per kilogram, in plastic bags according to the quantity requested. The weight ranges between 2.0, 5.0 and 20 Kg, although it is also sold in 200 kg drums.

Storage

Fruit should be stored at room temperature no higher than 15°C

In the case of passion fruit pulp, it must be stored in refrigeration between 1°C and 4°C applying pre-setting techniques. The storage room must be aseptic and

prevent other products from causing cross contamination of any kind and aeration

The product must be stored in clean, dry and resistant cardboard boxes for proper stacking.

Nutritional Characteristics of the Fruit

The general composition of the passion fruit is as follows: peel 50–60%, juice 30–40%, seed 10–15%, with the juice being the most important product.

Chemical composition of the edible part of the fruit (100 grams)

Valor Energético 78 calorías	
Humedad	85%
Proteínas	0.8 gr
Grasas	0.6 gr
Hidratos de Carbono	2.4 gr
Fibra	0.2 gr
Cenizas	Trazas
Calcio	5.0 mg
Fósforo	18.0 mg
Hierro	0.3 mg
Vitamina A Activada	684 mg
Tiamina	Trazas
Riboflavina	0.1 mg
Niacina	2.24 mg
Ácido Ascórbico	20 mg

Form of consumption

It is consumed directly as fresh fruit or in culinary preparations

Product Handling

Packaging: The product must be delivered in dry boxes or packed in plastic bags of up to 20 Kg.

Passion fruit as fresh fruit for export requires refrigeration in the case of long periods and in the event that the fruit is intended for transformation into pulp, it does not require much care.

The product, as pulp, cannot lose the cold chain.

Organoleptic characteristics

The fruit must be whole, with the characteristic shape of the variety, clean, without unusual external moisture. The pendulum must be cut at the root, free from damage, or affected by insects, bruises that prevent consumption

It is the degree of development and state of the fruit, it must allow transport and handling in order for it to arrive satisfactorily at the place of destination.

Physicochemical characteristics

External color yellow, seeds black to dark purple. Acid taste, fresh appearance, hard, smooth and silky consistency.

Packaging in plastic bags or clean and dry cardboard boxes

MANGO

Scientific name. Fresh mango *Mangifera*

Physical description. Healthy and clean fresh mangoes of the species *Mangifera indica* L for the fresh consumer market, or raw material for the production of nectars, juices, jams and other uses of food interest

Varieties: Tommy Atkins, Haden, Kent

Production dates: Seasonal production in Ecuador from September to January



Forms of Consumption and potential consumers: The product is for consumption at home or in the culinary area, either as whole fruit or in homemade preparations of juices, jams, etc. and is intended for the general public.

The refrigerated product is very susceptible to changes in temperature in the stages of storage, distribution and marketing. Must be stored at a temperature of 9°C to 10°C for Haden, Tommy and Kent varieties

Packaging characteristics. Packed in corrugated cardboard boxes and waxed with the brand specified by the client. The presentation in terms of weight is 4 kg. per box palletized in pallets of 240 boxes (standard).

Size and weight: The size of each fruit can be determined by its weight and there are the following weights by caliber:

- Caliber 6: of 630 to 720 gr.
- Caliber 7: of 555 to 620 gr.
- Caliber 8: of 488 to 555 gr.
- Caliber 9: of 425 to 488 gr.
- Caliber 10: of 380 to 425 gr.
- Caliber 12: of 320 to 380 gr.
- Caliber 14: of 280 to 320 gr.

Shelf life: The shelf life of the product is based on the physiological

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maturity of the fruit and is on average:

Between 7-8° Brix: 30-50 days

Between 8-9° Brix: 20-35 days

Labeling: It will include the following information: variety, weight, production date, batch, supplier code, product name, supplier name and address, health authorization, peeling method, nutritional value, storage temperature. Likewise, it can also include other labeling specifications by the client.

Controls during marketing and distribution: Monitoring of product and storage chamber temperatures, temperature control in product shipment and refrigerated container. Careful handling of unit loads, pallets and boxes.

Sensory characteristics for the consumer:

- Colour: Green skin with orange for the Kent variety.
- Yellow skin with red veneer for the Haden variety Pink skin with red veneer for the Tommy Atkins variety
- Smell: Characteristic of the fruit, free of foreign smells and flavors.
- Texture: green: Hard to the touch /
- Ripe: sensitive, ready for consumption
- Taste: Characteristic of fresh fruit

Nutritional characteristics: The fruits of the mango are therefore a valuable dietary supplement, as they are very rich in vitamins A and C, minerals, fibers and anti-oxidants; being low in calories, fat and sodium. Its caloric value is 62-64 calories/100g of pulp. The following table shows the nutritional value of mango 100 g of edible part.

TOMATO TREE

Background

This exotic fruit is native to the eastern slopes of the Andes, specifically Peru, Ecuador and Colombia. Belonging to the group of semi-acid fruits, it has been known by various names in different regions, until around 1970 in New Zealand it was assigned the name "tamarillo", positioning itself as the general commercial designation for tree tomato in the world. World Market.



Tree Tomato

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This aromatic, ovoid-shaped berry, dotted at its lower end and with a conical calyx, is covered by a thick, smooth, shiny and waxy shell, with a bitter taste, in brick, red, orange and yellow tones depending on the variety. Inside, the colors of the pulp vary between orange, red and yellow; it is slightly firm, soft and juicy, with a sweet and sour taste. In the center of the fruit, surrounded by pulp softer than the outer layer, are between 200 and 400 small edible seeds, flat and circular in shape.

Uses and Chemical Composition ²

The tree tomato has excellent nutritional qualities that have been little known. It is served fresh without using the rind, and is used to prepare jellies, juices, ice creams, sweets, jams and salads. Industrially, jams, nectars, cloudy juices, and preserves have been manufactured with very satisfactory results, offering a yield of 83 to 86% in pulp, compared to other fruits such as prickly pear, mango and melon that offer yields of 45%. 64% and 59% respectively.

Nutritional Composition of Tree Tomato (per 100 g of edible part)

² <http://www.sica.gov.ec/agronegocios/productos%20para%20invertir/frutas/tomate%20arbol/epftomarbol.pdf>; Pág. 5

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COMPUESTO	CANTIDAD
Calorías	80 Ca
Agua	87.9 g
Proteína	1.9 g
Grasa	0.16 g
Cenizas	0.7g
Carbohidratos	11.6 mg
Fibra	1.1 g
Calcio	2.0 mg
Hierro	2.0 mg
Fósforo	36.0 mg
Vitamina C	20%

Health benefits ³

As its main component is water, we can also find carbohydrates in it in addition to different vitamins such as vitamin B6, pyridoxine (improves the nervous system) together with vitamin C or provitamin A, both of which have a high antioxidant level.

Characteristics and Conditions for Export ⁴

Presentation. The optimum quality tamarillo is recognized by the healthy appearance of its skin without spots, bruises or bites, it has an intense and bright color, a suitable shape, without flattening that indicates virus attacks. The fruit should be firm and look fresh; it is usually presented with the peduncle.

Maturity index. Depending on the variety, the tree tomato is harvested when it is yellow with red hues and a firm texture.

Size and weight per unit. This fruit can measure between 5 and 10 cm long and 4 to 5 cm wide. It is recommended to market fruits around 8 cm long and 5 cm in diameter. Ecuadorian exporters consider that the ideal weight range is between 100 and 125 g per fruit.

Number of fruits per box. Boxes with 18 to 24 fruits are sold.

³ <http://www.nutricion.pro/09-04-2008/alimentos/tamarillo-o-tomate-de-arbol-la-fruta-sensible-rica-en-fibras>

⁴http://www.sica.gov.ec/agronegocios/productos%20para%20invertir/frutas/tomate%20arbol/tomate_arbol_mag.pdf; Págs. 9, 10, 11.

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Total weight of the box. For the caliber mentioned, the box will have a net weight of around 3 kilos. The use of boxes between 3 to 5 kilos is recommended. Occasionally, Colombian exports to Denmark and Spain of boxes with a caliber of 27 fruits, and exports to the United Kingdom of boxes with 30 fruits, are registered.

Packaging characteristics. The fruits are placed loosely on chopped paper inside cardboard boxes with breathing holes, and covered with another layer of chopped paper. For certain markets / customers, each fruit is covered with lycopor mesh, or placed in plastic trays with cells for each fruit.

SOURSOP

Background

It is a native tree of tropical America, it reaches a maximum of 12 meters in height and 20 cm in diameter. It has a wide crown of up to 14 meters and a high density of foliage, its flower measures up to 15 cm long by 6 cm wide. Its fruit can measure up to 30 cm long and up to 20 cm in diameter with an ovate shape and spike-shaped extensions throughout the fruit shell..

Its scientific name is *Annona muricata* which means rough and with many points, as can be seen in its fruit. It grows in warm areas with temperatures ranging between 20°C and 30°C.

The fruit has a very rich "fresh" flavor, somewhat acidic, but also sweet, much appreciated in the northern hemisphere.

Specifications

The soursop is similar to the cherimoya, as they belong to the same family. Its weight ranges between 1 Kg and 10 Kg. The shell is a shiny dark green color, which turns to a dull green color when the fruit ripens and is covered with thorns.

The flesh is soft, slightly cream in color, with a meaty and juicy texture and a somewhat acid taste.

The fruit contains numerous black seeds that are easily detached.

Soursop is also used to make desserts, such as ice creams, meringues and mousses. It is highly appreciated by exotic fruit tasters, especially in the culinary field.

Characteristics

The fruit has a homogeneous white color inside with a possible cream tint, typical of its natural oxidation.

Soursop
"Manjar Blanco"



It has a unique smell and flavor characteristic of soursop. Its typical acidity makes its pH even reach 3.0 and a maximum of 4.0; although its Brix degree is high, ranging between 15 and 17 °Bx.

Agroecological conditions

Climatic and edaphic requirements:

- a) Zones: The subtropical zones are ideal for the cultivation of soursop.
- b) Altitude: 300 to 700 meters above sea level
- c) Temperature: 20°C to 32°C. during the day and from 13°C to 19°C at night
- d) Precipitation: 1200 mm to 1500 mm / year.
- e) Relative humidity: 60 to 90%
- f) Soil: This species adapts to a wide range of soils, with different levels of depth and texture; from the loams, clay loam, silt loam and sandy loam.
- g) pH: From neutral to slightly acid pH 5.5 to 7.0

Nutritional Characteristics of the Fruit

Nutritional composition: In 100 grams of edible part they have the following composition:

COMPUESTO	CANTIDAD
Calorías	53.1 – 61.3
Agua	82.8 g
Carbohidratos	14.63 g
Grasas	0.97 g
Proteínas	1.0 g
Fibra	0.79 g
Cenizas	0.6 g
Calcio	10.3 mg
Fósforo	27.7 mg
Hierro	0.64 mg
Tiamina	0.11 mg
Riboflavina	0.05 mg
Niacina	1.28 mg
Acido ascórbico	29.6 mg

Fuente: Purdue University (USA). Fruits of warm climates. Julia F. Morton, Miami, FL.

Soursop is considered the miraculous fruit in the treatment of cancer cure. Scientifically, and thanks to its properties, its effectiveness has been proven in the treatment of lung, breast, prostate and colon cancer, as it prevents cell oxidation, hydrates, oxygenates and reduces predisposition to carcinogenic risk factors.

Commercial presentation

Unlike many exotic fruits, it is successfully marketed as raw fruit because it can withstand long journeys, although it is also marketed in pulp and its leaves are sold as medicinal tea.

As whole and fresh fruit within the marketing process, the following packaging is considered:

Packaging: It depends on the size and weight of the fruit and the most used packaging for soursop:

- a) Medium wooden crates with a maximum capacity of 20 kg,
- b) Plastic baskets of 35 cm X 40 cm X 60 cm or 44 cm X 34 cm X 24 cm corrugated cardboard or pressed fiberboard boxes with single or double walls that are made up of three layers.
- c) Perforated polyethylene plastic bags or foam mesh in such a way that it can protect the product for 12 days.
- d) Temperatures of 0°C cause damage to the product in just 3 days.
- e) The optimal relative humidity for soursop storage is 90%.

Storage

Soursop is a climacteric fruit that is very susceptible to sudden changes in temperature, relative humidity and air composition.

- a) It is stored in warehouses without refrigeration for short periods and for fresh consumption, the fruit at temperatures of 25 to 27°C, the soursop has a shelf life of 5 to 6 days with optimal quality.
- b) Refrigerated storage is carried out at 13°C, which allows the product to be preserved for 12 days without physical-chemical damage that alters its quality.
- c) Temperatures of 0°C cause damage to the product in just 3 days.
- d) The optimum relative humidity for soursop storage is 90%.
- e) It can be stored in modified and controlled atmospheres.

In the case of soursop pulp, it cannot lose the cold chain, although as a fresh fruit it cannot require as much care if its post-treatment includes its transformation into pulp, otherwise if it is destined for export as a whole fruit, it is required refrigeration.

Transport

When it is a domestic market with little demand, the fruit is transported in bulk in trucks without refrigeration. It must be transported in plastic baskets or cardboard boxes to protect the fruit. For more demanding markets, it must be transported in refrigerated vehicles and depending on the distances it can be transported by land, river, sea or air.

FINE AROMA COCOA

Scientific Name: Theobroma Cacao

Origin: Fine aroma cocoa is native to and endemic to the Republic of Ecuador. It is the variety that confers high quality to the most exquisite chocolates on the planet.



Certifications: Variety, Traceability, Fermentation, Humidity and Quality, are the most important primary factors of certification, with which the high quality of cocoa can be validated.

Other documents: Cocoa can also include fair trade certifications, zero child labor, environmental certification, among others.

Characteristics:

PROCESOS Y TECNOLOGÍAS DE SECADO	
Características	
Aroma	Agradable
	Desagradable
	Mohoso
Sabor	Medianamente amargo
	Astringente
Forma	Hinchada
	Aplanada
	Indefinida
Color interno	Café oscuro
	Café violáceo
	Violeta
	De color
Textura	Quebradiza
	Compacta
	Flexible
Separación de la testa	Fácil
	Difícil

Cocoa bean quality requirements

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REQUISITOS	UNIDAD	ARRIBA					CCN51
		A.S.S.P.S	A.S.S.S	A.S.S	A.S.N.	A.S.E.	
Cien granos pesan	g	135-140	130-135	120-125	110-115	105-110	135-140
Buena fermentación (mín.)	%	75	65	60	44	26	***65
Ligera fermentación* (mín.)	%	10	10	5	10	27	11
Violeta (máx.)	%	10	15	21	25	25	18
Pizarroso (pastoso) (máx.)	%	4	9	12	18	18	5
Moho (máx.)	%	1	1	2	3	4	1
TOTALES (sobre 100 pepas)	%	100	100	100	100	100	100
Defectuosos (sobre 500 gr) (máx.)	%	0	0	1	3	**4	1
TOTAL FERMENTADO (mín.)	%	85	75	65	54	53	76

A.S.S.P.S Arriba Superior Summer Plantación selecta

A.S.S.S Arriba Superior Summer Selecto

A.S.S. Arriba Superior Selecto

A.S.N. Arriba Superior Navidad

A.S.E. Arriba superior Época

* Coloración marrón violeta

** Se permite la presencia de granza solamente para el tipo A.S.E.

*** La coloración varía de marrón a violeta

Storage conditions: Store in a dry and ventilated environment (not greater than 80% RH). The storage warehouse must be clean, disinfested both internally and externally, and protected against the attack of rodents and any type of pest.

Identification of the production batch:

TE – B – #1 – #2 – #3

Where:

TE = Transmar Commodity Group of Ecuador S.A. B
= (bean)

#1 = Quality /(ASN, ASE, ASS, ASS, CCN51)

#2 = Production sequential number

#3 = 2 digits corresponding to the YEAR of production

Packaging: Jute or rope covers**Risks:** Contains no additives.

Instructions for handling and intended use: Product for the production of cocoa liquor. The product must be used before the expiration date, taking all hygiene measures for its handling.

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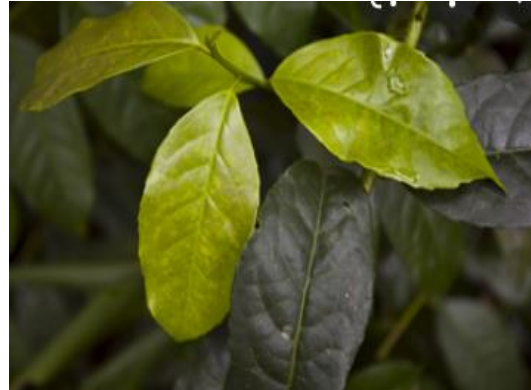
Distribution method: It is distributed in clean containers, unbroken, papered, free of bad odors and without any danger that puts the safety of the product at risk.

Descriptive report of the process: "Input and Output of Grain for Warehouse, Plant or Export."

GUAYUSA – TEA

Background

Guayusa is an endemic plant of the Ecuadorian Amazon that has more antioxidants than Tea. It has been used for thousands of years to provide energy due to its high content of caffeine and antioxidants. Its bitterness blends perfectly with the chocolate, becoming a different source of health and energy..



General conditions

The guayusa leaf, selected and dehydrated, for subsequent sterilization and packaging.

It has the product's own aroma, light brown in color, without the presence of other inappropriate colorations. It has no foreign flavors of the declared substances.

Specific conditions

The aromatic herbs, correspond taxonomically to the declared species, that meet hygienic conditions and present the macroscopic and microscopic characteristics that are their own

The aromatic herbs are clean and free of foreign matter.

The aromatic herbs are processed under the conditions established in the Health Code and its Regulations that allow reducing contamination.

No dyes added

The aromatic herbs, destined to prepare infusions, on the label of their container do not declare therapeutic properties to prevent or cure diseases.

Packing

The material of the filter bag is suitable for the use for which it is intended and meets the specifications, for these purposes, established by national legislation, the Codex Alimentarius, the FDA, and other similar bodies.

The container material is resistant and inert to the action of the product and does not alter its characteristics.

Packaging is carried out in conditions that maintain the characteristics of the product during storage, transport and sale.

Labeling complies with the requirements established in the Health Code, in the Food Regulations, the Organic Law of Consumer Protection, in the NTE INEN 1 334-1 and 1 334-2.

Presentation

Boxes of 37.5 grams x 25 bags

General benefits of the product

Digestive.

- ✓ ☐ Expectorant.
- ✓ ☐ Antioxidant.
- ✓ ☐ Strengthens the immune system.
- ✓ ☐ Prevents infections of the reproductive system.
- ✓ ☐ Deflates the urinary tract, ovaries, prostate, etc.
- ✓ ☐ Regulates menstruation.
- ✓ ☐ Help with infertility problems.
- ✓ ☐ Reduces blood glucose level in diabetics.
- ✓ ☐ Activates and develops physical and mental strength and agility.
- ✓ ☐ Diuretic
- ✓ ☐ Depurative
- ✓ ☐ Lipolytic