



Bangkok Santol

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Bangkok Santol Research

Bangkok Santol (*Sandoricum koetjape*)

A popular cultivar known for its **large fruit**, **thick sweet-sour flesh**, and **high market demand** in Mindanao and Luzon fruit markets.

Bangkok Santol is a high-value tropical fruit known for its large size, thick sweet-sour flesh, and excellent market appeal. The tree grows vigorously in Mindanao's upland conditions, offering strong yields and resilience to drought and wind. With its versatile culinary uses, long shelf life, and suitability for mixed orchards, Bangkok Santol is an ideal addition to diversified fruit farms.

Culinary Use of Bangkok Santol

Bangkok Santol is prized for both **fresh eating** and **cooking**, especially due to its mild sweetness, thick pericarp, and large edible portion.

1. Fresh Consumption

- Eaten raw when ripe.
- Often dipped in salt, chili, sugar, or bagoong.

2. Sinigang Substitute

- Adds natural sourness and a fruity aroma.
- Softens nicely without becoming mushy.

3. Pickles & Preserves

- Santol Pickles (*atsarang santol*)
- Candied santol
- Santol jam or marmalade

4. Thai and Filipino Dishes

- **Thai "Som Tam Krathon" (Santol Salad)** – spicy, sweet, sour.
- **Thai Santol Curry**
- **Ginataang Santol** – popular Bicol dish (santol cooked in coconut milk).

5. Fermented or Processed

- Santol wine
- Santol juice concentrate
- Dried santol snacks

6. Commercial Potential Uses

- High-value fruit for processing plants.



- Good for farm tourism “pick-and-eat” due to large fruit size.

Nutritional Profile (Approximate per 100 g edible portion)

- **Calories:** 88
- **Carbohydrates:** 22 g
- **Fiber:** 3–5 g
- **Vitamin C:** 20–30 mg
- **Calcium:** ~40 mg
- **Potassium:** ~260 mg
- **Iron:** small amounts
- **Phytonutrients:** flavonoids, polyphenols, antiviral and antioxidant compounds



Note: Bangkok type's thicker flesh means **more usable edible portion** than native Santol.

Health Benefits

Bangkok Santol provides several nutritional and medicinal advantages:

1. Rich in Antioxidants

- Polyphenols help reduce inflammation and protect cells from oxidative stress.

2. High in Dietary Fiber

- Supports digestion
- Helps prevent constipation
- Promotes gut health

3. Immune System Support

- Good Vitamin C content boosts immunity.
- Supports skin repair and collagen formation.

4. Heart and Blood Pressure Support

- Potassium helps regulate blood pressure.



5. *Anti-inflammatory & Antimicrobial Properties*

- Traditional medicine uses santol bark and fruit for:
- gastrointestinal issues
- swelling
- minor infections

6. *Weight Management*

- Low-fat, high-fiber snack that enhances satiety.

7. *Skin and Tissue Repair*

- Vitamin C + antioxidants support collagen and wound healing.

Summary

Bangkok Santol is a vigorous, productive variety with superior fruit size and quality. It thrives in Mindanao, fits well in diversified orchards, and has strong culinary and processing value. Its sweet-sour profile works in Filipino and Thai dishes, while its



nutrient profile offers multiple health benefits. It is a good candidate for **value-added products**, **farm tourism**, and **market-focused fruit production**.



Tree Characteristics

Bangkok Santol shares the general traits of santol trees but is known for having more vigorous growth and superior fruit size.

1. Growth Habit

- Medium to large-sized tropical fruit tree.
- Height: **8–15 meters** at maturity (can reach 20 m if unmanaged).
- Broad, rounded crown with dense branching.

2. Leaves

- Large, glossy, dark green.
- Compound leaves usually with **3 leaflets**, leathery texture.
- Provides moderate shade—good for mixed orchard designs.

3. Flowers

- Small, yellowish to pinkish-white.
- Fragrant, appearing before the rainy season.
- Pollinated by insects; generally flowers abundantly once mature.

4. Fruit Characteristics (Bangkok Type)

- Very large fruit, often **300–600 g**, with some reaching 800 g.
- Thick, creamy-white flesh (aril), less fibrous than native santol.
- Flavor: **Sweet-sour**, refreshing when fully ripe; mild acidity.
- Skin is thick and firm, ideal for processing.

5. Root System & Growing Implications

- Good drought tolerance once established.
- Not sensitive to wind, but young trees benefit from staking.
- Suitable for Mindanao's rainfall pattern and elevation zones of **300–900 m**.





Root System & Growing Implications

Root System

Bangkok Santol has a **strong, deep root system** characteristic of mature santol trees, making it resilient and adaptable in Mindanao's terrain.

Key Root Traits

- **Deep Taproot:** Establishes early, allowing excellent drought tolerance.
- **Wide Lateral Roots:** Spreads several meters, improving tree stability and nutrient foraging.
- **Fibrous Feeder Roots:** Dense clusters near the soil surface help nutrient uptake and support heavy fruiting.
- **Strong Anchorage:** Highly resistant to wind—important in elevated areas of Bukidnon.
- **Good Water Access:** Performs well even in the drier months due to deep penetration.

Sunshine or Shade Requirements

1. Sunlight Requirements

Bangkok Santol is a full-sun tree.

- **Ideal:** At least **6–8 hours** of direct sunlight daily.
- Needs strong sunlight to produce large, sweet fruit.
- Shade-grown trees become tall, thin, with fewer fruits.

2. Shade Tolerance

- Young seedlings tolerate **partial shade** (30–40%) for the first 6 months.
- Mature trees **should not be shaded** by taller canopy species.

3. Interaction with Other Trees

- Under coconuts: works well because young santol gets filtered light, and mature coconut canopies are high enough not to block full sunlight.
- Under durian or Marang: not ideal—too much shade.
- As a mid-canopy species: Santol can serve as a shade provider for herbs and shallow-root crops.



Root System & Growing Implications (Table Version)

Category	Details Comments
Root System Type	Deep taproot with wide lateral roots; strong anchorage; fibrous feeder roots near surface.
Root System Strength	Very strong and wind-resistant; suitable for hilly upland terrain.
Soil Preference	Well-drained clay loam or sandy loam; avoids waterlogged heavy clay.
Moisture Needs	Moderate; drought-tolerant once mature; sensitive to waterlogging.
Best Terrain (Mindanao)	Rolling hills, terraces, elevated plains (300–900 m); stable on slopes.
Spacing	8 × 8 m standard; 9 × 9 m for large Bangkok types (120–156 trees/ha).
Performance in Dry Season	Strong – deep roots access deeper moisture layers; ideal for Jan–April dry months.
Performance in Rainy Season	Good, provided drainage is adequate; roots dislike standing water.
Wind Resistance	Excellent; deep anchorage makes it typhoon-resilient.
Compatibility With Coconuts	Very good. Coconut canopy is high, allowing santol full sun. Roots occupy different levels, reducing competition.
Coconut Interaction	Coconut = shallow roots; Santol = deeper roots. Good complement in mixed orchards.
Shade Requirement (Seedlings)	Tolerates 30–40% shade for first 6 months.
Shade Requirement (Mature Trees)	Requires full sun (6–8 hours/day) for fruiting; poor fruiting in shade.
Under Coconut Canopy?	Yes—ideal. Coconut canopy height allows light penetration; santol thrives beneath.
Under Durian/Marang Canopy?	Not recommended—too much shade reduces yield.
Water Management	Light irrigation for young trees; mature trees fine with natural rainfall. Avoid stagnant water.
Intercropping Compatibility	Good with ginger, turmeric, legumes, pineapple, coconuts. Avoid bananas too close.
Disease Risk	Low if soil is well-drained; root rot possible in sealed, wet soils.

Summary (Mindanao-Oriented)

Bangkok Santol's **deep, extensive root system** makes it highly suitable for Mindanao's upland soils, sloped terrain, and seasonal dry periods. It thrives best in **full sunlight**, with only young plants benefiting from temporary partial shade. With proper spacing and water management, it integrates well into mixed orchards and is resilient to wind, drought, and varied soil types.



Varieties of Bangkok Santol in the Philippines

Variety	Skin Color	Fruit Size (g)	Flesh Characteristics	Flavor	Best Use	Remarks / Adaptation
Bangkok Red	Reddish–orange	300–500	Thick, moderately juicy	Sweet–sour	Fresh eating, cooking (<i>ginataang santol</i>)	Popular variety, aromatic, widely available
Bangkok Yellow	Yellow–gold	350–600	Very thick, less fibrous	Sweeter than Red	Fresh market, preserves	High market demand for sweetness
Giant Bangkok	Yellowish	500–800	Thick, crunchy, mild acidity	Mildly sweet–sour	Jam, candies, pickles, farm tourism	Vigorous tree, very high yield
Bangkok Sweet	Light yellow	300–550	Soft, juicy	Sweet, low acidity	Fresh fruit, child-friendly	Preferred for tourist picking and fresh consumption
Bangkok Hybrid	Yellow to orange	350–600	Thick, slightly fibrous	Balanced sweet–sour	Fresh and processed products	Adapted to local climate, reliable yield

Visitors

Bangkok Santol Variety for Commercial Use

Criterion	Best Choice	Reasoning
Fruit Size & Yield	Giant Bangkok (Jumbo Type)	Produces very large fruits (500–800 g) with thick flesh, giving higher marketable weight per tree.
Market Acceptance	Giant Bangkok / Bangkok Yellow	Consumers prefer large, sweet–sour fruits; Jumbo and Yellow types fetch premium prices.
Adaptation to Mindanao Climate	Bangkok Hybrid / Local-Improved	Trees are hardy, well-adapted to upland soils, and tolerate seasonal dry periods in Southern Bukidnon.
Intercropping with Coconuts	Giant Bangkok / Hybrid	Deep roots complement shallow-rooted coconuts; canopy height allows coconuts to receive sunlight.
Processing & Versatility	Giant Bangkok	Thick flesh is ideal for jams, pickles, preserves, and farm-tourism pick-and-eat programs.
Ease of Cultivation	Bangkok Hybrid / Local-Improved	Resistant to local pests and diseases; reliable bearing and faster establishment.

Summary Recommendation

For **commercial production in the Philippines**, especially in **Mindanao or Southern Bukidnon**, the **Giant Bangkok Santol (Jumbo Type)** is widely considered the best choice.



Reasons:

1. **Fruit Size & Market Appeal** – Large fruits (500–800 g) attract premium pricing.
2. **Thick, Sweet-Sour Flesh** – High edible portion, ideal for fresh consumption, processing (jam, candies, pickles), and farm tourism “pick-and-eat.”
3. **Vigorous Tree Growth** – Strong root system, wind-resistant, and well-adapted to upland soils.
4. **High Yield** – Consistent fruit production with proper care.
5. **Processing Versatility** – Suitable for value-added products, increasing profitability.

Takeaway: For a commercial orchard, prioritize **Giant Bangkok Santol** for high market demand, processing potential, and farm-to-market profitability.

Intercropping Varieties for Bangkok Santol

Category	Good for Intercropping	Reason / Advantage	Not Recommended	Reason / Disadvantage
Coconut (Tall or Dwarf)	✓	High canopy, roots shallow; allows full sun for santol; complementary root zones	–	–
Durian	–	–	✗	Dense canopy shades santol, competing for sunlight
Pomelo	✓	Similar height, complementary root systems; marketable fruit	–	–
Rambutan	✓	Medium canopy; overlapping harvest windows; high market value	–	–
Mangosteen	✓	Mid-canopy, tolerant of partial shade during early growth	–	–
Banana	–	–	✗	High water and nutrient demand; shallow roots compete; may shade young Santol
Lanzones	✓	Mid-canopy, complementary root structure; high value fruit	–	–
Cacao / Coffee	✓	Shade-tolerant under young Santol; high-value cash crops	–	–
Calamansi / Citrus	✓	Small trees, high market demand, minimal canopy conflict	–	–
Papaya	✓	Fast-growing, short-term income while Santol matures	–	–



Summary

- **Best companions:** Coconut, pomelo, Rambutan, Lanzones, Mangosteen, cacao/coffee, Calamansi, papaya.
- **Avoid planting:** Banana or other high water-demand, dense canopy trees near young or mature Bangkok Santol, because they **compete for light, nutrients, and water**.
- Intercropping can generate **early income** before Santol matures (usually 5–6 years) and **diversifies farm risk**.

Bangkok Santol – Market Demand & Acceptance

Market Demand

- Growing demand in **local wet markets, supermarkets, and fruit stalls** in Mindanao, Visayas, and Luzon.
- Increasing **export potential** to Middle East, Asia, and other tropical fruit-importing countries.
- Preferred by consumers for **large fruit size, sweet-sour flavor, and thick edible flesh**.
- **Farm tourism pick-and-eat programs** are driving additional local interest.

Market Acceptance

- Generally **high acceptance**, especially among urban buyers.
- Popular for **fresh consumption and culinary uses** (sinigang, jams, candies, pickles).
- Bangkok type is favored over native santol due to **larger fruit and thicker pulp**.
- Retailers and processors prefer it for **longer shelf life and transport resilience**.

Risks & Challenges

Category	Details
Climatic Risks	Typhoons or strong winds may damage fruits; prolonged dry spells affect flowering.
Pests & Diseases	Fruit flies, stem borers, and root rot in poorly drained soils.
Market Risks	Price fluctuations depending on seasonal availability; competition from other tropical fruits.
Maturity Delay	Trees take 5–6 years to start fruiting , requiring long-term investment, and interim income sources.
Post-Harvest Handling	Improper handling can cause bruising; thick skin reduces but does not eliminate spoilage.



Opportunities

Category	Details
Value-Added Products	Santol candies, jams, pickles, preserves, and juice concentrate.
Intercropping Revenue	Coconut, Rambutan, Lanzones, papaya, and citrus provide income during early Santol establishment.
Farm Tourism	“Pick-and-eat” programs attract local and foreign tourists, increasing farm visibility and income.
Export Potential	Large, premium-quality Bangkok Santol can enter export markets (Middle East, Asia).
Processing Industry	Growing demand from jam, puree, and canned fruit processors.
Health Market	Positioning as high-fiber, antioxidant-rich tropical fruit can appeal to wellness-oriented consumers.

Summary

Bangkok Santol is **highly accepted** in the domestic market and has **strong potential for value-added products and farm tourism**. Key challenges include long maturity, pest management, and market price fluctuations, but these can be mitigated through intercropping, careful farm planning, and processing initiatives. Its large fruit, thick pulp, and culinary versatility make it a promising commercial crop for Southern Bukidnon.