

# Mango Growers Guide

New Zealand — Planting, Care & Growing Success

**48 Years** Growing in NZ

**14 Varieties** Selected for NZ

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This guide is drawn from 48 years of growing tropical fruit in New Zealand — starting in Auckland in the 1980s and continuing at the Kaitaia nursery in Northland. It covers everything you need to give your mango tree the best possible start and the conditions it needs to thrive in the New Zealand climate.

The information here is specific to New Zealand conditions — not imported advice from Australian or Indian growers. What works in Rajasthan does not always work in Northland. This guide reflects what actually works here.

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## 1. Choosing Your Site

The single most important decision in mango growing is where you plant your tree. A mango in the right position will outperform the same variety in the wrong position by a wide margin — regardless of how well you water, fertilise or protect it.

### North-facing aspect

In New Zealand, mangoes need maximum sun exposure year-round. A north-facing aspect captures the most sunlight at all times of year. The ideal position faces north with no shade from buildings, trees or fences between 9am and 4pm. A north-facing wall provides both sun exposure and reflected heat — particularly valuable in cooler locations.

### Heat mass

Concrete paths, dark-coloured walls, stone features and paved areas absorb heat during the day and release it at night — raising the effective overnight temperature around your tree. A mango planted in front of a north-facing concrete wall can experience overnight temperatures several degrees warmer than an exposed position.

### Air drainage

Avoid frost pockets — low-lying areas where cold air settles on still nights. Cold air is heavy and flows downhill, pooling in hollows and at the base of slopes. A position on a gentle slope with good air movement is far better than a sheltered hollow, even if the hollow feels warmer during the day.

**Ben says:** Stand in your proposed spot on a clear winter's day — ideally around mid-July. If it gets full sun for most of the day even then, it's a good spot. If it's in shade before 10am or after 2pm, look elsewhere.

## 2. Soil Preparation

Mangoes are adaptable to a range of soil types but they will not tolerate waterlogged roots. Root rot caused by poor drainage kills more mango trees in New Zealand than cold does.

### What mangoes need

Free-draining soil with reasonable organic content. pH between 5.5 and 7.5 — slightly acid to neutral. Good soil structure so roots can develop freely. Not particularly demanding about fertility at planting time.

### Improving heavy soil

If your soil is heavy clay, the single most effective improvement is a raised mound — not just adding compost to the planting hole. Raising the root zone by 30-40cm significantly improves drainage and raises soil temperature. Build your mound well in advance and let it settle before planting.

| Soil Type  | Assessment | Action Required                        |
|------------|------------|----------------------------------------|
| Sandy loam | Excellent  | Add compost, plant directly            |
| Loam       | Good       | Minimal preparation needed             |
| Clay loam  | Fair       | Improve drainage, add grit and compost |

|             |            |                                            |
|-------------|------------|--------------------------------------------|
| Heavy clay  | Poor       | Build raised mound, address drainage first |
| Waterlogged | Unsuitable | Do not plant until drainage is resolved    |

### 3. The Drainage Test

Before you plant — before you buy trees, before you prepare the site — do this test. It takes 24 hours and it could save your tree.

**Step 1:** Dig a hole approximately 60cm deep and 30cm wide in your proposed planting spot.

**Step 2:** Fill it completely with water and let it drain completely.

**Step 3:** Fill it again and mark the water level clearly.

**Step 4:** Return exactly one hour later and measure how far the water has dropped.

**Step 5:** Assess your result using the table below.

| Water Drop in 1 Hour      | Assessment         | Action                                      |
|---------------------------|--------------------|---------------------------------------------|
| More than 25mm            | Excellent drainage | Plant directly                              |
| 10-25mm                   | Adequate drainage  | Add compost, monitor closely                |
| Less than 10mm            | Poor drainage      | Raise planting area, improve drainage first |
| Still full after 24 hours | Unsuitable         | Find another site                           |

### 4. Planting Your Tree

Your trees arrive in November. The preparation you have done in the preceding months determines how well they establish. November planting takes advantage of the warming soil temperature and the six months of summer growth ahead.

#### Step by step

1. Water the tree thoroughly in its pot the day before planting.
2. Dig a hole twice the width of the root ball and the same depth.
3. If building a mound, construct it to at least 30cm above the surrounding level.
4. Mix the removed soil with compost — roughly 30% compost by volume.
5. Place the tree so the top of the root ball sits slightly above the surrounding soil level.
6. Backfill with the compost mix, firming gently as you go.
7. Water thoroughly immediately after planting.
8. Apply a 100mm layer of mulch around the base — keeping it clear of the trunk.
9. Do not fertilise at planting time — wait 6 weeks for roots to establish.

**Ben says:** The most common mistake is planting too deep. The root ball should sit slightly proud of the surrounding soil — roots need oxygen. A tree planted too deep will struggle even in perfect conditions.

**Important:** Do not remove the stake immediately. Young trees need support while the root system establishes. Leave staking in place for the first growing season.

## 5. Watering

Mangoes need consistent moisture during the growing season but prefer a dry rest period in winter. Overwatering — particularly in heavy soils — causes root rot.

| Season            | Frequency                 | Notes                                         |
|-------------------|---------------------------|-----------------------------------------------|
| Spring (Sept-Nov) | Weekly to twice weekly    | Increase as temperature rises                 |
| Summer (Dec-Feb)  | Twice weekly              | More in dry periods or sandy soils            |
| Autumn (Mar-May)  | Weekly                    | Begin reducing as growth slows                |
| Winter (Jun-Aug)  | Minimal — monthly or less | Allow soil to dry — mimics natural dry season |

**Ben says:** To check if watering is needed, push your finger 5cm into the soil near the tree. If it feels moist, do not water yet. If dry at that depth, water thoroughly.

## 6. Fertilising

Mangoes are not heavy feeders but benefit from regular fertilisation during the growing season. Avoid fertilising in winter — it encourages soft growth at the wrong time of year.

- Wait 6 weeks after planting before any fertilising.
- Use a balanced citrus or tropical fruit fertiliser — follow label rates.
- Apply in early spring (September), early summer (December) and February.
- Stop fertilising by the end of March.
- Avoid high-nitrogen fertilisers — they produce soft sappy growth susceptible to cold and disease.

**Ben says:** A light mulch of well-composted material around the base every spring provides slow-release nutrients and improves soil structure. Keep it away from the trunk.

## 7. Wind Protection

Cold southerlies are often more damaging to mangoes in New Zealand than frost. Wind strips heat from leaves and branches, causes moisture loss, and can physically damage young growth. A windbreak on the southern and western sides is one of the highest-value investments you can make.

**Solid fence or wall:** Most effective. Provides immediate protection. North-facing walls also provide heat mass.

**Dense hedge:** Very effective once established. Takes 2-3 years to reach useful height. Pittosporum and griselinia work well in Northland.

**Shade cloth windbreak:** Immediate but less effective than a solid barrier. Useful as a temporary measure while a hedge establishes.

**Important:** A windbreak that is too close can create turbulence. Allow at least the height of the windbreak as distance between it and your tree.

## 8. Frost Protection

Established mango trees in Northland and Auckland can handle light frosts with minimal damage. Young trees in their first two winters are the most vulnerable.

| Temperature        | Risk              | Action                                                 |
|--------------------|-------------------|--------------------------------------------------------|
| Above 8 degrees C  | None              | No action required                                     |
| 3-8 degrees C      | Low (young trees) | Monitor — protect if prolonged or in first two seasons |
| 0-3 degrees C      | Moderate          | Cover young trees with frost cloth                     |
| Below 0 degrees C  | Significant       | All trees should be protected                          |
| Below -3 degrees C | Severe            | Even established trees at risk — cover and add heating |

- Purchase frost cloth from a garden centre — 30g/m<sup>2</sup> or heavier.
- Drape over the entire tree before sunset on nights when frost is forecast.
- Peg or weight it to the ground around the base.
- Remove during the day to allow light and air circulation.
- A simple timber or wire frame makes this easier and prevents cloth sitting on leaves.

**Ben says:** Mulching around the base — 100mm deep — insulates the root zone and raises soil temperature on cold nights. Apply once in autumn and leave it in place.

## 9. Greenhouse Growing

For Himiyat, Banganapalli, Peda Rasalu and Cheruku Rasalu, a greenhouse is necessary in most New Zealand locations. For outside varieties, a greenhouse extends the season and improves yields in marginal locations.

### The overheating problem

Less than 1% of New Zealand greenhouses are properly managed for heat. On a bright sunny day with the greenhouse closed, 52 degrees C inside is common. Even with windows open but poor airflow, 44 degrees C is typical. At these temperatures, mangoes shut down, experience stress, and become vulnerable to disease.

**Important:** If your greenhouse regularly reaches above 38 degrees C, you have a ventilation problem — not a weather problem.

### Ventilation requirements

- Ridge vent running the full length of the greenhouse.
- Roll-up sides or full-height vents at the base.
- Exhaust fan on a thermostat — activate at 28 degrees C.
- Adequate air movement at canopy level — not just at the top.

### Winter management

Greenhouses still require ventilation on clear sunny days in winter. A mango that overheats in July will be stressed and vulnerable when cold returns at night. Keep vents partially open on sunny winter days. Close fully only when temperatures drop below 5 degrees C overnight.

## 10. Flowering & Fruiting

Understanding the mango's seasonal cycle helps you provide the right conditions at the right time.

| Period           | What's Happening                                           | What to Do                                 |
|------------------|------------------------------------------------------------|--------------------------------------------|
| June-August      | Winter rest. Growth paused.                                | Minimal water. No fertiliser.              |
| August-October   | Flower bud initiation. Cooler dry conditions trigger buds. | Do not over-water. Watch for early buds.   |
| October-November | Flowering. Warm dry conditions needed.                     | Minimal water during flowering.            |
| November-January | Fruit set and development.                                 | Resume regular watering. Light fertiliser. |
| February-April   | Fruit maturation.                                          | Maintain watering. Reduce as fruit ripens. |
| April-May        | Harvest and post-harvest flush.                            | New vegetative growth after harvest.       |

**Ben says:** Young trees in their first 2-3 years should not be allowed to fruit. Remove any flower spikes that appear. This encourages the tree to put energy into root and structure development, producing a healthier, more productive tree long term.

11. Common Problems

Yellowing leaves

Often iron or magnesium deficiency, particularly in alkaline soils. Apply chelated iron or magnesium sulphate.

Leaf drop in winter

Normal behaviour — many varieties are semi-deciduous. Not a concern unless accompanied by other symptoms.

No flowering

Usually caused by overwatering in autumn/winter, over-fertilising with nitrogen, or insufficient cold/dry winter rest.

Flowers but no fruit

Poor pollination (insufficient insect activity), rain during flowering washing away pollen, or temperature too low during flowering.

Fruit drop

Small fruit drop is normal. Heavy drop may indicate water stress, nutrient deficiency, or disease.

Powdery mildew on flowers

Common in humid conditions. Spray with sulphur-based fungicide during flowering if severe.

Scale insects

Common on neglected trees. Treat with horticultural oil spray in spring before flowering.

Root rot

Caused by poor drainage. Symptoms: wilting, yellowing, branch dieback. Prevention is the only reliable solution.

12. Variety Growing Notes

Brief growing notes on each BensGarden variety. Full tasting profiles at [bensgarden.co.nz/mangoes/mangotaste](https://bensgarden.co.nz/mangoes/mangotaste)

|              |                  |                                                                                                   |
|--------------|------------------|---------------------------------------------------------------------------------------------------|
| Alphonso     | Can Grow Outside | Benchmark variety. Consistent performer in Northland/Auckland. Buttery, creamy flesh. Small seed. |
| Banganapalli | Greenhouse       | Greenhouse necessary in NZ. Firm, clean flesh. Mild banana-like flavour. Good shelf life.         |
| Chausa       | Can Grow Outside | Extraordinary juiciness. Best eaten over a sink. Super sweet, melon-custard flavour.              |

|                       |                           |                                                                                                             |
|-----------------------|---------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Cheruku Rasalu</b> | <b>Heated GH Required</b> | Heated greenhouse required. Highest Brix. Sugarcane-like sweetness. A luxury variety for dedicated growers. |
| <b>Dasheri</b>        | <b>Can Grow Outside</b>   | Perfumed, peachy flavour. Very sweet. Classic North Indian variety. Grows well in NZ.                       |
| <b>Himiyat</b>        | <b>Greenhouse</b>         | Greenhouse advised. Lychee-honey flavour unlike any other mango. Silky smooth texture.                      |
| <b>Himsagar</b>       | <b>Can Grow Outside</b>   | Dense, intensely perfumed. Very low fibre. Small seed. Premium Bengali variety.                             |
| <b>Kesar</b>          | <b>Can Grow Outside</b>   | Ben's top recommendation for NZ growers. Excellent balance. Saffron-spice flavour. Consistent.              |
| <b>Langra</b>         | <b>Can Grow Outside</b>   | Stays green when ripe. Complex herbal, limey flavour. Loved by experienced mango enthusiasts.               |
| <b>Mallika</b>        | <b>Can Grow Outside</b>   | Hybrid of Neelam x Dasheri. Intense citrus-honey flavour. Exceptional when tree-ripened.                    |
| <b>Neelam</b>         | <b>Can Grow Outside</b>   | Late season variety — extends your harvest. Spicy, aromatic flavour.                                        |
| <b>Payri</b>          | <b>Can Grow Outside</b>   | Balanced sweet-tangy flavour. Reliable performer. Good for first-time growers.                              |
| <b>Peda Rasalu</b>    | <b>Heated GH Required</b> | Heated greenhouse required. Ultimate juice mango. Drinkable flesh. Best eaten outdoors.                     |
| <b>Rajapuri</b>       | <b>Can Grow Outside</b>   | Tropical honey and pineapple flavour. Vigorous and productive tree. Ben's premium outdoor pick.             |

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