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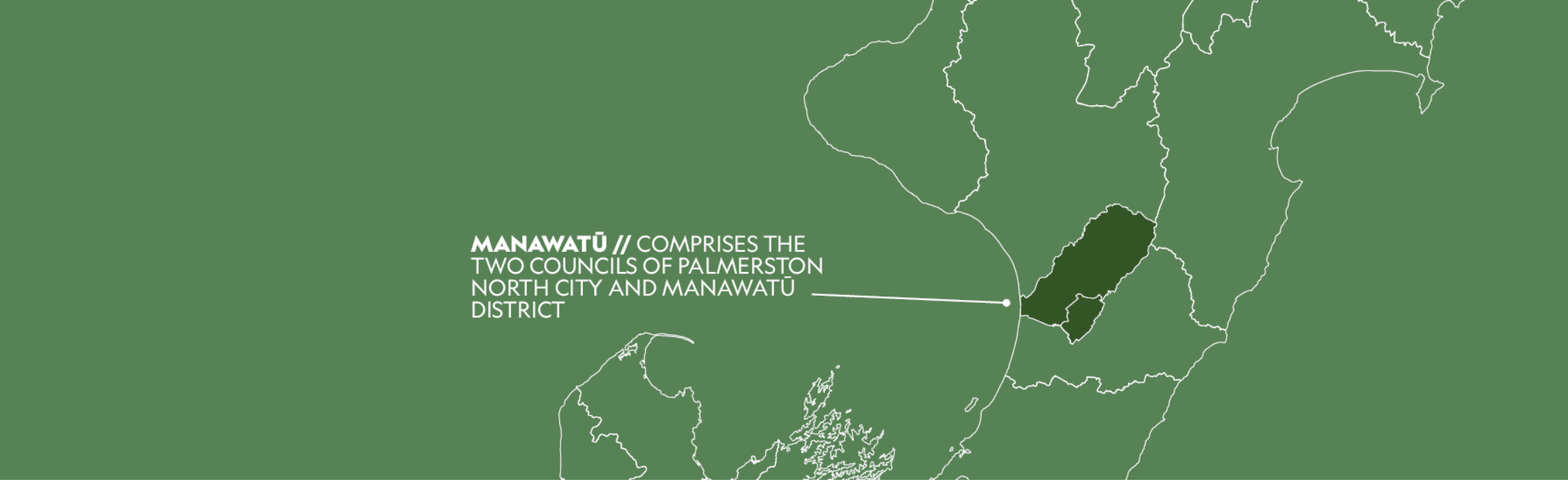
MANAWATŪ

GREEN BEANS IN MANAWATŪ

A GROWERS' GUIDE

PUBLISHED: SEPTEMBER 2025



GREEN BEANS // A RELIABLE, SHORT SEASON CROP THAT IS QUICK TO MATURE

Green beans are a reliable crop well suited to Manawatū's temperate climate. With quick maturity times and variety of crops to choose from, green beans production provides a manageable diversification opportunity for farmers.

This guide supports landowners and growers interested in diversifying into commercial green bean production in Manawatū. Developed by the Central Economic Development Agency, this guide was created as part of the Manawatū Regional Food Strategy.

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SUITABLE GREEN BEAN VARIETIES + CHARACTERISTICS

Manawatū's temperate climate, with moderate rainfall and relatively warm summers, provides favourable conditions for commercial green bean cropping. While green beans are frost-sensitive, the region's defined spring and summer seasons support successful field production.

Climate considerations for the region are further outlined in the Diversification of Farm Systems report.

Choosing the variety of green bean you wish to grow is vitally important as each has different characteristics that will have an impact on yield, disease resistance, and market viability.

CHARACTERISTICS OF GREEN BEANS

> **Disease resistance:** Varieties with tolerance to rust, halo blight, and mosaic virus are preferred for consistent cropping.
> **Uniformity:** Straight, stringless pods of consistent size improve harvest efficiency and market presentation.
> **Tenderness and flavour:** Soft texture and sweet taste are ideal for fresh consumption and freezing.
> **Colour retention:** Important for processing and export markets where visual quality is critical.

There are two main types of green beans, each offering their own advantages:

> **Bush Beans:** Compact plants (approx. 40–60 cm tall) mature early (50–60 days) and are suitable for mechanical harvesting. Their tidy growth habit means they do not require much support to grow.
> **Pole Beans:** Tall, climbing plants (up to 2 m), require a longer growing period (60–75 days) but will produce a higher yield per plant. These plants require trellising or support to grow.

While some varieties may exhibit multiple of these traits, growers should also consider factors such as fruit cracking, storage, and market timing when selecting cultivars.

Green bean varieties likely to suit the Manawatū region include:

CONTENDER:
Bush – Early Maturing – Heat Tolerant

Contender is a bush-type green bean known for its early maturity and excellent flavour. It performs well in warm conditions and is suitable for mechanical harvesting due to its compact growth habit.

PROVIDER:
Bush – Cold Soil Germination – High Yield

Provider is a bush bean that tolerates cooler soil temperatures during germination. It produces purple seeds and is favoured for its high yield and uniform pod development.

BLUE LAKE:
Pole – Stringless Pods – Prolific Harvest

Blue Lake is a classic pole bean variety producing stringless pods with a reputation for flavour and productivity. It requires trellising but offers a high yield per plant.

FORTEX:
Pole – Gourmet Quality – Extra-Long Pods

Fortex is a pole bean variety producing extra-long, gourmet-quality pods. It is ideal for fresh market sales and known for its tender texture and sweet flavour.

SELECTING A SITE

Prior to selecting the site where you wish to grow green beans, it is important to understand what will produce the best results for both yield and crop quality.

Green beans require a well-drained soil with full sun exposure. The ideal soil conditions are loamy or sandy loam with a neutral pH range of 6.0–6.8. Avoid heavy clay soils that retain water and poorly aerated sites, as these increase the risk of disease and reduce plant vigour. Soil testing is strongly recommended prior to planting, and resources such as Ballance's soil testing guide can assist in this process.

Beans prefer consistent moisture throughout the growing season but are intolerant to waterlogged conditions — particularly during germination. Raised beds or well-shaped rows can improve drainage and support healthy root development. It is critical to avoid frost-prone areas, as beans are extremely frost-sensitive at all stages of growth.

Green beans are a short-season crop, typically maturing within 50–75 days depending on the variety. However, site history plays a key role in disease management. Selecting a field that has not grown legumes in the past two seasons is recommended to reduce the risk of soil-borne diseases and pests, supporting a more viable and productive cropping cycle.

PLANTING INSTRUCTIONS

Ideally, soil preparation for green beans should begin prior to the sowing window, with a focus on achieving a fine tilth and incorporating organic matter or compost. Avoid high nitrogen levels, as these promote excessive leaf growth at the expense of pod production.

Green beans require soil temperatures of at least 15°C to germinate successfully. In the Manawatū region, sowing typically occurs between late October and early January, aligning with seasonal warmth and reduced frost risk.

Spacing is vitally important when planting green beans. As a general rule, the more space that can be given between plants, the better. This allows for maximum exposure to sunlight, root development, and air circulation.

The planting process itself is straightforward but must be done with care:

Bush beans:

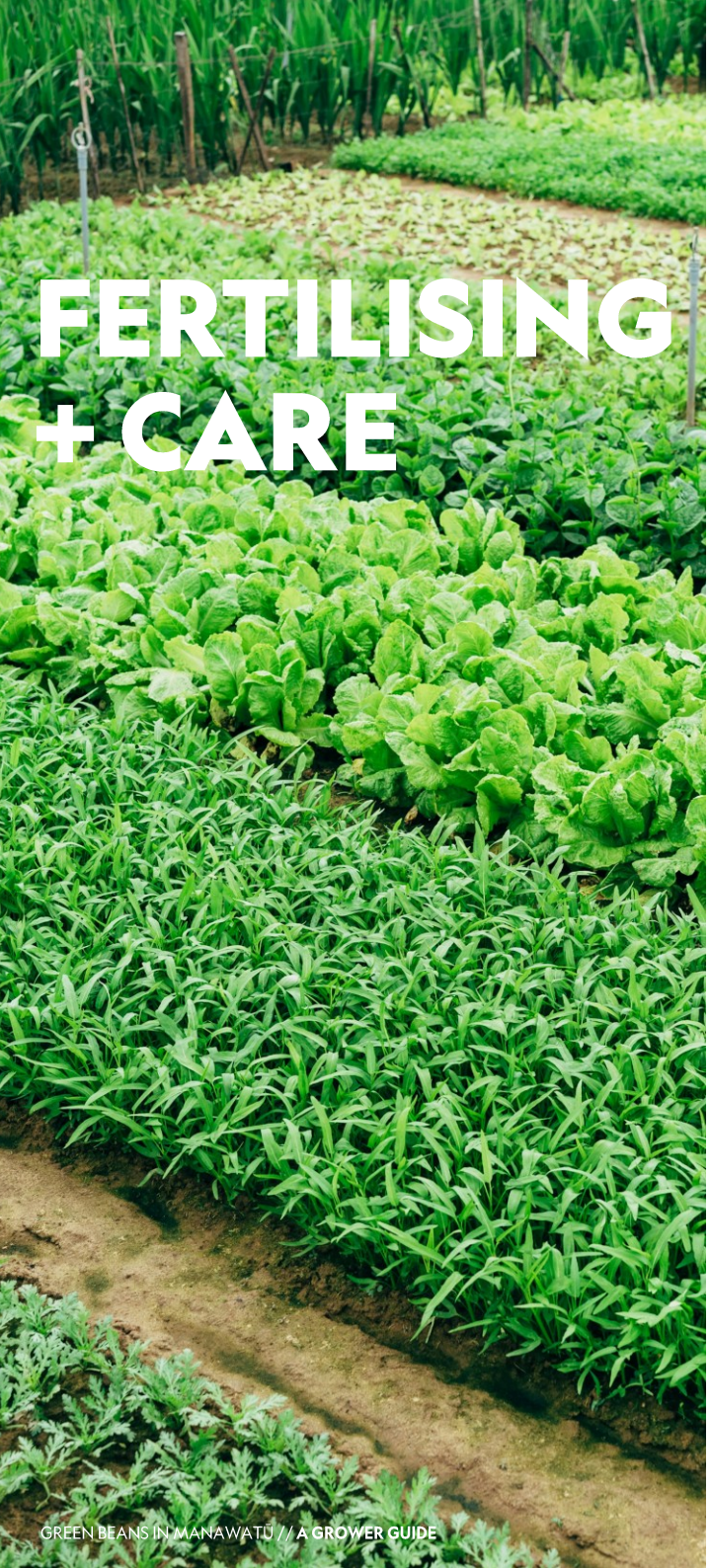
> Sow directly into the ground at a depth of 2–3 cm
> Spaced 8–10 cm apart
> Space the rows 40–60 cm apart.

Pole beans:

> Sow 3–5 seeds around each pole or trellis at a depth of 2–3 cm
> Space supports approximately 60 cm apart.

While the process of planting is relatively simple, care should be taken to avoid watering immediately after sowing unless the soil is dry. Excess moisture at this stage may cause seed rot. Germination typically occurs within 7–10 days, depending on soil conditions and variety.

Green beans are a short-season crop, but their sensitivity to frost and waterlogging means that timing and site preparation are critical to ensure healthy establishment and optimal yield.



FERTILISING + CARE

Green beans are considered light feeders and, as legumes, they naturally fix their own nitrogen through root nodules.

However, to support optimal root development and flower formation, a light application of phosphorus and potassium at planting is recommended.

Growers may consider a two-phase fertilising approach depending on soil quality and crop performance:

Pre-plant phase:

Incorporate compost or aged manure to boost organic matter and improve soil structure. If soil fertility is low, apply a balanced fertiliser such as 5-10-10 (NPK) at planting to support early growth.

Pod development phase:

Side dressing with potassium during pod formation can enhance root strength and improve pod quality.

It is important to avoid excessive nitrogen application, as this can lead to vigorous leaf growth at the expense of pod production.

Green beans are self-pollinating, meaning insect activity is not required for fruit set. However, the presence of bees and other pollinators can slightly improve yields by encouraging full flower set and enhancing overall plant health.

WEED, PEST + DISEASE MANAGEMENT

Green beans are particularly vulnerable to weed competition during the early stages of growth due to their shallow root systems and rapid but delicate establishment.

Weeds not only compete for nutrients and moisture but can also harbour pests and diseases that impact plant health and fruit quality.

Weeds not only compete for nutrients and moisture but can also overshadow young bean plants, reducing yield potential. Once planted, growers may consider implementing a combination of weed control strategies to support early crop development.

These include:

> **Pre-plant cultivation:** To reduce the initial weed seed bank.
> **Mulching:** To suppress weed emergence and retain soil moisture (particularly for bush beans).
> **Hand weeding**: Between rows to protect shallow roots.
> **Inter-row cultivation:** For larger plantings to manage weed pressure mechanically.

Regardless of the method used, regular monitoring and timely intervention are essential to give green beans the best chance to thrive. In addition to weed pressure, green beans are susceptible to a range of pests and diseases common to the Manawatū region.

These include common pests such as:

- **Aphids:** Can transmit viruses; manage with insecticidal soap or introduce beneficial insects.
- **Thrips:** Cause pod scarring; monitor populations and treat if thresholds are exceeded.
- **Cutworms and leaf miners:** Use bait stations or row covers early in the season to prevent damage.
- **Slugs and snails:** Particularly problematic in moist areas; control with traps or slug bait.

The most common diseases affecting green beans in the Manawatū region include:

- **Rust:** Appears as reddish-brown pustules on leaves and pods. It thrives in warm, humid conditions. Control involves crop rotation, resistant cultivars, and timely application of fungicides when symptoms first appear.
- **Powdery mildew:** Presents as white, powdery growth on leaves, stems, and pods. It can reduce photosynthesis and pod quality. Manage through resistant varieties, good air circulation, and sulphur-based fungicides if needed.
- **Bacterial blight:** Symptoms include water-soaked lesions on leaves that turn brown and necrotic. Spread is favoured by wet conditions and overhead irrigation. Control with copper-based sprays, seed sanitation, and avoiding field work when plants are wet.
- **Mosaic virus:** Transmitted by aphids, this virus causes mottled, distorted leaves and stunted growth. There is no cure once infected. Prevention includes using virus-free seed, controlling aphid populations, and removing infected plants promptly.

COMPLIANCE

Green bean growers in the Manawatū region who are considering commercial supply, whether to domestic markets, processors, or export channels, must be aware of the compliance requirements

These standards ensure food safety, traceability, and market access, and are often a prerequisite for entering commercial supply chains.

While green beans are not currently subject to the same level of regulation as some export horticultural crops, growers entering commercial channels should still follow best practice standards.

Key compliance considerations include:

- **Certification:** Most commercial buyers require growers to be certified under NZGAP or GLOBALG.A.P. These programmes verify that good agricultural practices are being followed, including environmental management, worker welfare, and food safety.
- **Spray diaries and chemical usage:** If pest or disease control products are applied, full records of application timing, rates, and withholding periods should be kept. This is essential for NZGAP certification and market assurance.
- **Seed source and input records:** Maintain documentation of seed provenance, planting dates, and any agrichemical inputs used throughout the growing season. This supports traceability and aligns with MPI's food safety protocols.
- **Post-harvest hygiene protocols:** Green beans intended for sale should be handled in clean environments with minimal contamination risk. This includes proper washing, cooling, and packing procedures to meet Fresh Vegetable Export Standards
- **Traceability systems:** Even for domestic supply, being able to trace green beans from paddock to packhouse is increasingly expected. Labelling by batch or harvest date can support this and is especially important for processors and retailers.

Export considerations:

Green beans destined for export markets—such as Singapore or other Asia-Pacific nations—may be subject to additional requirements:

Key compliance considerations include:

> **Phytosanitary clearance:** Beans must be free of soil, pests, and diseases. Inspections may be required prior to export.
> **Residue testing:** If agrichemicals are used, testing may be needed to confirm compliance with importing country standards.
> **Cultivar identification:** Some markets may require confirmation of bean type or origin, particularly for premium or processed products.

Growers are encouraged to engage with industry bodies and market partners to stay informed of evolving compliance expectations. As demand for locally grown green beans increases, maintaining high standards will support both market access and consumer trust.

HARVESTING + STORAGE

Growing green beans commercially in the Manawatū region presents a viable opportunity for growers seeking to diversify their operations. While green beans are a short-season crop, careful planning around variety selection, harvesting labour, and market access can support strong returns.

Yields and production: Green bean yield is influenced by variety, soil health, trellising, and seasonal conditions.

While exact figures vary, well managed crops can produce:

> **Bush beans:** 6–8 tonnes per hectare
> **Pole beans:** 12–14 tonnes per hectare (with proper support and maintenance)

Pod uniformity and quality play a critical role in profitability. Straight, stringless pods with bright colour and tender texture attract premium prices, especially in fresh retail channels.

FINANCIAL INFORMATION

Indicative market prices (2024-25):

Green beans are generally sold by weight, with prices varying based on grade, market channel, and presentation. While prices fluctuate seasonally, the following ranges offer a general guide:

> **Fresh retail grade:** $3.00–$6.00/kg
> **Processing grade:** $1.50–$3.50/kg

Factors influencing profitability:

> Labour requirements for harvesting, particularly for pole beans
> Disease and pest management costs
> Uniformity and visual quality of pods
> Access to consistent market channels (e.g., processors, retailers, export buyers)

Gross margins for green beans are competitive with other summer vegetables and may be further increased through value-add options such as organic certification, branded packaging, or pre-packed retail formats.

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