

ORCHARD MAINTENANCE PROGRAM

Five-Year Plan — Newly Planted Mixed Orchard

Apple • Pear • Stone Fruit • Citrus

This five-year program establishes a structured care calendar for a newly planted mixed orchard comprising apple, pear, stone fruit (peach, cherry, plum) and citrus varieties. The early years focus on root establishment, correct training, and pest/disease prevention. Later years shift toward yield optimisation and long-term canopy health.

Programme Overview

Year	Theme	Key Focus Areas
Year 1	Establishment	Soil prep, irrigation, staking, formative pruning, pest monitoring
Year 2	Root & Canopy Growth	Structural pruning, fertilisation, irrigation refinement, weed management
Year 3	Canopy Development	Crown shaping, thinning, expanded pest program, first light cropping
Year 4	Productive Maturity	Yield management, full fertilisation, disease prevention, harvest planning
Year 5	Optimisation	Review, renovation pruning, soil health audit, long-term strategy

Year 1 | Establishment & Root Development

Winter / Dormant

- Carry out deep soil preparation; incorporate organic compost (5-10 cm) across all beds.
- Test soil pH: target 6.0-6.8 for apple/pear/stone fruit; 6.0-7.0 for citrus.
- Install permanent irrigation lines (drip preferred) before planting.
- Plant bare-root stock for apple, pear and stone fruit varieties during dormancy.
- Stake all trees immediately after planting; use soft ties to avoid bark damage.
- Apply initial formative pruning: remove crossing branches, establish leader.

Spring

- Plant containerised citrus once frost risk passes (soil temp above 10 C).
- Apply balanced slow-release fertiliser (NPK 10-10-10) at half-rate for new trees.
- Mulch 5-8 cm deep around each tree, keeping mulch 10 cm clear of trunk.
- Begin weekly irrigation monitoring; adjust to 20-30 L per tree per week in dry spells.
- Set up monitoring traps for codling moth (apple/pear) and aphids.
- Hand-remove any blossom from year-1 trees to redirect energy into roots.

Summer

- Irrigate consistently; do not allow soil to dry to depth of 30 cm.
- Scout weekly for spider mites, aphids, powdery mildew and brown rot.
- Apply kaolin clay spray to stone fruit if fruit fly pressure is noted.
- Keep weed-free circle of 1 m radius around each tree.
- Tie in leaders and train lateral branches on apple/pear to 45-degree angles.

Autumn / Harvest

- No harvest expected Year 1 (all blossom removed).
- Apply potassium-rich fertiliser (e.g. potassium sulphate) to aid winter hardening.
- Inspect ties and stakes; re-secure any loose trees before winter winds.

- Remove fallen leaves and mummified fruit to reduce overwintering disease inoculum.
- Apply dormant copper spray to stone fruit after leaf drop (fire blight / shot hole prevention).

Note: Citrus trees are frost sensitive; fleece or protect if temperature falls below 2 C in Year 1.

Year 2 | Structural Growth & System Refinement

Winter / Dormant

- Carry out first structural pruning: continue central leader on apple/pear; open-centre (vase) on stone fruit.
- Apply dormant oil spray to all trees to smother overwintering scale and mite eggs.
- Check irrigation emitters; clean or replace blocked drippers.
- Top-dress with aged compost; lightly fork into surface without disturbing roots.

Spring

- Apply nitrogen-led fertiliser (e.g. blood and bone) as growth begins.
- Citrus: apply specialised citrus fertiliser with chelated iron and magnesium.
- Thin flower clusters on stone fruit to 1 per spur if heavy blossom; remove 50% on pear.
- Spray copper + lime sulphur before bud burst for brown rot and leaf curl prevention.
- Confirm pollination coverage; introduce portable hive if bee activity is low.

Summer

- Begin summer pruning on stone fruit after harvest of early varieties (cherry/peach).
- Maintain irrigation; citrus may need 30-40 L per week in peak heat.
- Monitor for fire blight (apple/pear); prune out infected wood 30 cm below lesion; sterilise tools.
- Apply pheromone mating disruption ties for codling moth if traps show high catch.
- Thin developing fruit on apple to 1 per cluster and 15 cm spacing on branches.

Autumn / Harvest

- First light harvest expected: early plum and peach may crop modestly.
- Record harvest weight, size and taste per variety — baseline data for future planning.
- Apply autumn potassium and phosphorus feed to all trees.
- Rake and dispose of leaf litter; do not compost diseased material.
- Re-mulch 5 cm depth to protect roots from winter freeze-thaw cycles.

Year 3 | Canopy Development & First Significant Crops

Winter / Dormant

- Full spur-pruning on apple and pear: remove weak, crowded and downward-growing spurs.
- On stone fruit, shorten previous year's laterals by one-third.
- Apply dormant oil spray to all trees including citrus.
- Soil test: adjust pH if needed; apply lime to raise or sulphur to lower.

Spring

- Full fertilisation program: nitrogen-rich in early spring for vegetative growth.
- Foliar micronutrient spray (zinc, manganese, boron) at petal fall on apple/pear.
- Citrus: second fertiliser application with iron chelate if leaf yellowing noted.
- Fruit thinning: apple to 1 fruit per cluster, stone fruit to 8-10 cm spacing.
- Hang pheromone traps; begin fortnightly spray program if pest thresholds exceeded.

Summer

- Summer prune to maintain light penetration into canopy (target 30% light at centre).
- Bird-net stone fruit and early apple varieties as fruit colours.
- Monitor irrigation and fruit size weekly; reduce water stress during cell expansion.
- Inspect for bitter pit (apple): apply calcium sprays fortnightly from June.

Autumn / Harvest

- Harvest apple and pear varieties in sequence by maturity (starch-iodine test).
- Harvest stone fruit when fully ripe on tree; handle carefully to avoid bruising.
- Citrus may begin to colour; do not harvest until full sugar development.
- Post-harvest: apply nitrogen to replenish reserves for next year's bud development.
- Order any new replacement or gap-fill trees for Year 4 planting.

Year 4 | Productive Maturity & Yield Management

Winter / Dormant

- Renovation pruning on any overcrowded canopies; remove crossing main branches.
- Apply dormant oil and copper spray across all varieties.
- Review irrigation schedule against tree water demand charts; upgrade emitters if needed.
- Evaluate rootstock vigour; record trunk circumference as growth indicator.

Spring

- Full NPK fertilisation at recommended mature-tree rates.
- Implement a 6-8 spray disease program for apple/pear scab and powdery mildew.
- Brown rot spray program on stone fruit from pink bud through to harvest.
- Thin fruit aggressively to achieve target pack size (70-80 mm diameter apple/pear).
- Consider reflective mulch under canopy to improve fruit colour.

Summer

- Fruit load management: support heavily laden branches with props or cables.
- Confirm netting in place before stone fruit colour break.
- Water stress management: maintain consistent soil moisture; avoid wet-dry cycles.
- Begin pre-harvest interval calculations for any spray programs.

Autumn / Harvest

- Full commercial-scale harvest across all varieties.
- Grading and storage: apple and pear into cool store at 0-2 C and 90% humidity.
- Stone fruit to fresh market or processing within 2-3 days of harvest.
- Citrus: begin harvest from late autumn through winter as varieties ripen.
- Post-harvest: full fertilisation and lime sulphur cleanup spray.

Year 5 | Optimisation, Audit & Long-Term Planning

Winter / Dormant

- Full orchard audit: tree health rating, canopy volume, yield history per variety.
- Identify underperforming trees for potential topworking or removal.
- Soil and leaf tissue test: comprehensive micronutrient and organic matter analysis.
- Prune to rejuvenate over-vigorous trees; restore fruit wood where depleted.

Spring

- Apply corrective nutrition based on leaf tissue test results.
- Review and update pest and disease program; retire ineffective products.
- Assess irrigation efficiency; consider upgrading to soil-moisture sensor control.
- Trial new varieties or rootstocks in any identified gaps.

Summer

- Continue established summer pruning and pest management program.
- Photograph and document canopy architecture for ongoing records.
- Trial any new thinning or harvest aids to improve labour efficiency.

Autumn / Harvest

- Record full yield, grade-out and market return per variety: Year 5 benchmark report.
- Develop Years 6-10 management plan based on five-year performance data.
- Renew mulch, replace worn stakes/ties, and service all irrigation infrastructure.
- Celebrate five years of orchard establishment — the foundation is built.

Note: By Year 5 the orchard should be operating at near-full productive capacity. The data gathered over these five years forms the basis of all future management decisions.

Seasonal Quick-Reference by Tree Type

Task	Apple / Pear	Stone Fruit	Citrus
Pruning	Winter (dormant) Summer (light)	Winter + post-harvest summer	Late winter / early spring
Fertilising	Spring (N-led) Autumn (K/P)	Spring + post-harvest	3x per year (spring, summer, autumn)
Irrigation	20-40 L/wk (seasonal)	25-35 L/wk	30-50 L/wk in heat
Disease spray	Copper (dormant) Fungicide (spring)	Copper + lime sulphur Brown rot program	Copper (winter) Oil spray (scale)
Pest monitoring	Codling moth traps (spring-summer)	Fruit fly traps (summer)	Scale, mites (spring-summer)
Harvest	Late summer - autumn (variety dependent)	Summer (cherry earliest)	Autumn - winter (variety dependent)

Key Success Factors

- Record keeping: maintain a dated orchard diary of all sprays, fertiliser applications, rainfall and yields.
- Water is critical in Years 1-2: do not allow new trees to suffer drought stress — root loss at this stage permanently limits productivity.
- Correct pruning timing is variety-specific: stone fruit must only be pruned in dry weather to avoid silver leaf disease.
- Citrus is not frost-tolerant: have frost cloth available for the first three winters.
- Soil health underpins everything: a well-structured, biology-rich soil reduces fertiliser and pest inputs over time.
- Involve a local horticultural advisor at least annually for on-site assessment — regional pest pressure varies significantly.

This plan is a framework — adjust timing based on your local climate, variety performance and seasonal conditions.