



BUSINESS PLAN · INDIA

Plant Nursery and Sapling Production

Every plant tagged to its mother and its rootstock

AGRI-INPUTS

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August 2026

This document is confidential and prepared for planning purposes. All financial figures are illustrative model assumptions for an Indian MSME context and must be validated against live quotes, local rates and professional advice before any investment or borrowing decision.

1. Executive Summary

This plan sets out a **Plant Nursery & Sapling Production Business** in India — a registered horticulture nursery producing grafted fruit saplings, protrait vegetable seedlings, plantation and spice material, hardened tissue-culture plants and ornamental stock, supported by its own indexed mother blocks and an orchard-establishment advisory service.

The vertical's conventions are set in the fertiliser-manufacturing anchor and carried through crop protection, seed, retail, bio-inputs, micronutrients and distribution: **publish a measurement at the time of sale where the effect arrives later; make compensation automatic and fast where failure is total; retain proof so the buyer can test the seller; and never sell without a traceable, invoiced identity.** This plan takes those rules to the longest lag in the entire library.

☐ **A GRAFTED FRUIT SAPLING'S VARIETY CANNOT BE VERIFIED UNTIL IT FRUITS — THREE TO SEVEN YEARS AFTER THE ORCHARD WAS PLANTED.** By the time the first fruit appears and proves the label wrong, the farmer has levelled and pitted the land, installed drip and trellis, applied five to seven seasons of fertiliser, labour and interest, and forgone whatever the land would otherwise have produced. None of it is recoverable, and the sapling that caused it cost ₹128. The seed plan established that a total failure inside a closable window demands automatic compensation; this is that logic taken to its limit, because here the window does not merely close — **THE ENTIRE INVESTMENT IS BUILT ON TOP OF THE UNVERIFIED CLAIM**, year after year, by a buyer who cannot check it and will not learn he was wrong until the check is worthless. So every plant leaves here **TAGGED TO ITS MOTHER PLANT AND ITS ROOTSTOCK**, mother-block provenance is **PUBLISHED AND INDEPENDENTLY VERIFIED**, and true-to-type failure is compensated at **ESTABLISHMENT COST AND FORGONE YEARS** — an average settled claim of ₹1.86 lakh per acre, roughly 1,450 times the price of the plant that caused it, paid in 21 days on the orchard record rather than on proof the farmer cannot assemble. **WHERE THE BUYER BUILDS YEARS OF IRREVERSIBLE INVESTMENT ON AN UNVERIFIABLE CLAIM, THE REMEDY MUST BE SIZED TO WHAT HE BUILT, NOT TO WHAT HE PAID.**

☐ **AND THE ROOTSTOCK IS THE HIDDEN HALF OF EVERY GRAFTED PLANT.** A farmer buys "Kesar mango" and receives two organisms joined at a union — the scion decides the fruit and the rootstock decides vigour, tree size, drought and salinity tolerance, nematode resistance and how long the orchard lives. Indian nursery practice names the scion and treats the rootstock as raw material, so a grower on saline water may be sold a rootstock that cannot survive it, correctly labelled as to variety and doomed anyway. Every tag here **NAMES THE ROOTSTOCK** and states its vigour, salinity and drought characteristics.

☐ **AND "HEALTHY-LOOKING" IS NOT "INDEXED".** Citrus greening, banana bunchy top, papaya ringspot and grapevine viruses are invisible in a young plant and lethal to an orchard, and a nursery can propagate an infected mother plant for years while every sapling it sells looks perfect. Mother blocks here are **VIRUS-INDEXED FOR EVERY INDEXABLE SPECIES** with test results published per block and per season — the one thing a buyer can check before he commits the land.

This plan models an operator requiring **₹4.20 crore** (₹1.50 crore investor + ₹1.30 crore term loan + ₹90 lakh promoter + ₹50 lakh working capital), moving from **₹4.60 crore revenue and a ₹72 lakh loss** to **₹21.00 crore revenue and ₹2.73 crore profit** by Year 3 — a 13.0% net margin and 38.6% return on capital. (Horticulture nursery — figures illustrative.)

2. Business Description, Vision & Legal Structure

Concept: A nursery that can name the parent of every plant it sells.

Vision: To be the nursery a farmer chooses when he is committing seven years of his land.

Mission: Tag every plant to its mother and its rootstock; publish and independently verify the mother block; index for virus and publish the result; name the rootstock and what it tolerates; state our registration on every tag; and compensate a true-to-type failure at what the orchard cost, not what the plant cost.

Legal structure

- **Private Limited** — recommended. Nursery accreditation, institutional and government supply, tissue-culture tie-ups and outside capital all assume it.
- **Proprietorship** — the trade's usual form, and the reason a true-to-type liability arising seven years later usually meets a business that no longer exists in the same name.
- **A compensation reserve that survives the promoter — because a guarantee maturing in year five is worth nothing if it depends on the goodwill of whoever owns the nursery then.**

Regulatory anchor: a business whose principal legal exposure matures half a decade after the sale. **Horticulture planting material is regulated more lightly than seed — the Seeds Act and its Control Order reach nursery material unevenly across states, and much of the discipline in this sector is voluntary accreditation rather than statutory licensing. The National Horticulture Board and state horticulture departments operate nursery accreditation and star-rating schemes with model nursery norms covering mother-block maintenance, records, and in some states virus indexing; several states additionally require nursery registration under state nursery Acts with penalties for selling unregistered material. Because the framework is uneven, a stated accreditation and registration number on every tag and invoice is worth more than the framework itself — it converts a voluntary standard into a contractual representation the buyer can rely on and sue upon. The true-to-type commitment is contractual rather than statutory: an express warranty with a stated remedy, and it is enforceable precisely because it is written down, which is why the trade's universal practice is to make no written representation at all.** Then: plant quarantine on imported material; PPV&FRA breeders' rights where a protected variety is propagated, and licence from the rights-holder; GST; land, water and pollution consents; and EPF/ESI and POSH.

3. Promoter & Ownership

Led by a promoter with horticulture, plant propagation or agri-business background. Three competences decide outcomes. *Mother-block discipline*, because everything this business sells for the next decade descends from a few hundred plants whose identity and health must be right, and an error there is not a batch defect but a multi-year one. *Propagation craft*, since graft take, hardening survival and root quality determine both cost and the field failures that follow. And *the temperament to write down a warranty* that will be claimed against long after the revenue has been spent. Ownership, equity & investor terms are editable inputs; **the compensation reserve is held separately, its balance is published, and it is not available for working capital.**

4. Market Analysis — India

Horticulture is India's fastest-growing agricultural segment, and its planting material is the least verified input in the chain.

Demand drivers

- **Orchard and plantation expansion** under MIDH and state horticulture missions.
- **Protected cultivation** creating steady demand for quality protray seedlings.
- **Replanting cycles** in ageing mango, citrus and coconut orchards.
- **High-density plantation**, which multiplies plants per acre and raises the cost of getting them wrong.
- **Export-oriented horticulture**, where variety authenticity is a contractual requirement.
- **Landscape and avenue planting** demand from urban and infrastructure projects.

Market sizing (illustrative framing)

Layer	Definition	Indicative scale
TAM	Planting material demand in served horticulture belts	Large; overwhelmingly unregistered supply
SAM	Buyers committing land for years — orchards, plantations, contract growers	Bounded by MOTHER-BLOCK capacity and the propagation cycle
SOM (Yr 1-3)	Plants and seedlings despatched	₹4.6cr → ₹21cr; 0.29m → 1.35m plants plus 10.9m seedlings

Revenue mix and share (Year 3)

Stream	Share of revenue	Why it is there
Grafted fruit saplings	39.0%	Where the seven-year risk lives
Protray vegetable & horticulture seedlings	21.9%	Fast cycle; funds the long one
Plantation & spice material	14.8%	Coconut, arecanut, pepper, cashew; decade-long commitment
Ornamental, landscape & avenue plants	11.9%	Institutional demand; short receivables cycle
Hardened tissue-culture plants	8.6%	Uniformity; virus status must be certified
Mother-block licensing, indexing & establishment advisory	3.8%	Selling the verification itself

The mix is built around a cash-flow problem that defines this industry: a grafted mango sapling takes eighteen to thirty months from rootstock sowing to saleable plant, and the money is spent throughout. Protray seedlings turn in four to six weeks and ornamentals in three to nine months, and at 33.8% of revenue between them they fund the working capital that the long-cycle products consume. A nursery built only on grafted fruit is a business that borrows for two years before its first honest sale, which is why so many cut the cycle short and sell plants that have not hardened.

Constraints

- **The propagation cycle**, which cannot be compressed without damaging the plant.
- **Mother-block capacity**, which bounds how many true-to-type plants can honestly be produced.
- **Seasonal planting windows** concentrating despatch into short periods.
- **Transport and establishment**, where a good plant is easily killed between nursery and pit.

5. Competition & Position

Competitor type	Strength	Weakness this plan exploits
Unregistered roadside nurseries	Very low price, immediate availability, local presence	No mother block, no traceable parentage, no remedy in year five
Government and university nurseries	Authentic material, low price, credibility	Limited volume and range; long waiting lists
Large accredited private nurseries	Scale, accreditation, range, distribution	Scion named, rootstock rarely; warranty limited to plant price
Tissue-culture laboratories	Uniformity, virus certification, volume	Limited species; hardening quality varies by supplier
This plan	Plant tagged to mother and rootstock, indexing published, remedy sized to the orchard	Costs more per plant; capacity bounded by honest mother-block yield

The positioning rests on a comparison the farmer can make in his own arithmetic. A high-density mango orchard costs ₹4-6 lakh an acre to establish before a single fruit is sold, and the planting material is roughly 6% of that — so the saving available from a cheaper sapling is a few thousand rupees against an exposure of several lakh, extended over seven years. Stated that way the choice is obvious, and the reason it is not obvious in practice is that nobody in the trade puts the numbers side by side, because doing so invites the question of what happens when the plant is wrong. Export-linked growers, contract-farming chains and institutional plantation buyers move first; the smallholder follows the neighbour whose orchard came true.

The cost of the honest position is stated in rupees rather than implied. The true-to-type programme — reserve contribution, claims settled on 34 acres and orchard-record verification — cost ₹94 lakh in Year 3, of which ₹63 lakh was paid out to farmers. Mother-block maintenance and virus indexing cost ₹1.18 crore, against a competitor spend of approximately nothing. Refusing to despatch under-hardened or under-aged plants into a planting window cost ₹86 lakh of Year-3 revenue. Declining to propagate protected varieties without a rights-holder licence cost a further ₹42 lakh. Against that: 84% of grafted-sapling revenue from repeat or referred buyers, an institutional and export book that requires documented provenance, and a warranty that competitors cannot match without first building mother blocks they do not have.

6. The Claim That Cannot Be Checked Until It Is Too Late

This section states the structural problem, because every commitment in the plan follows from it.

Year	What the farmer does	What he can verify
0	Buys 200 grafted saplings per acre at ₹128	That they look healthy. Nothing else.
0-1	Levels, pits, installs drip and trellis, plants	Survival. Not identity, not health status
1-3	Fertiliser, labour, irrigation, pruning, interest	Vigour — which the rootstock decides, unnamed
3-5	Continues; forgoes other use of the land	Still nothing about variety
5-7	First real crop	Finally learns the variety — and that it is wrong

Read the right-hand column downward: for five to seven years the buyer accumulates irreversible cost against a claim he has no means of testing, and the moment he can test it is the moment the information has lost all its value. He cannot mitigate, because mitigation means grubbing out a mature orchard; he cannot sample, because a young grafted plant carries no signal of what it will fruit; and he cannot easily sue, because the nursery is often a proprietorship that has changed its name, the invoice was a scrap of paper without a batch, and no written representation as to variety was ever made. The industry's default position is that the plant cost ₹128, and that is what a court would award.

So the remedy is sized to the exposure rather than to the transaction. True-to-type failure is compensated at **ESTABLISHMENT COST AND FORGONE YEARS** — land preparation, planting material, drip and trellis, and the maintenance and opportunity cost of the years lost — settled on this nursery's own tag record and the farmer's orchard record rather than on evidence he cannot assemble, per the seed plan's rule. Average settled claim in Year 3 was ₹1.86 lakh per acre against a plant price of ₹128 — roughly 1,450 times — paid in 21 days across 34 acres. **WHERE THE BUYER BUILDS YEARS OF IRREVERSIBLE INVESTMENT ON AN UNVERIFIABLE CLAIM, THE REMEDY MUST BE SIZED TO WHAT HE BUILT, NOT TO WHAT HE PAID** — and it must be funded in a reserve that survives the promoter, because a warranty maturing in year five is worthless if it depends on who owns the nursery then.

7. The Mother Block, the Rootstock and the Virus

Three commitments, each addressing something the buyer physically cannot see.

☐ **THE MOTHER BLOCK IS PUBLISHED AND INDEPENDENTLY VERIFIED.** Everything this nursery will sell for a decade descends from a few hundred identified plants, so an error there is not a defective batch but a defective decade. Each mother plant is mapped, numbered, its source documented, and its identity confirmed by an independent horticultural authority — with the block register published, so a buyer can see which parent his sapling came from before he plants it. Every plant despatched carries a **TAG NAMING ITS MOTHER PLANT NUMBER AND ITS ROOTSTOCK**, and that tag number is on the invoice, which is what makes the warranty enforceable at all. Mother-block capacity, honestly counted, is also the ceiling on production — and refusing to exceed it is the discipline that a nursery under seasonal demand pressure most often abandons.

☐ **THE ROOTSTOCK IS NAMED AND ITS TOLERANCES STATED.** A grafted plant is two organisms: the scion determines the fruit and the rootstock determines vigour, tree size, orchard life, nematode resistance and — decisively in much of India — tolerance of saline water and drought. Trade practice names the scion and treats the rootstock as anonymous raw material, so a grower irrigating with borewell water at high salinity may receive a perfectly authentic variety on a rootstock that cannot survive his water, and lose the orchard to a component nobody mentioned. Every tag here names the rootstock and states its vigour class and its salinity and drought characteristics, and the establishment advisory asks for the buyer's water analysis **BEFORE** recommending a combination.

☐ **"HEALTHY-LOOKING" IS NOT "INDEXED", AND THE DIFFERENCE IS INVISIBLE.** Citrus greening and tristeza, banana bunchy top, papaya ringspot and grapevine leafroll are systemic, symptomless in young plants and fatal to an orchard — and a nursery propagating from an infected mother can produce perfect-looking saplings for years while distributing the disease across a district. This is the vertical's recurring problem in its most damaging form: the defect is undetectable at sale, the failure is total, and it is contagious. So mother blocks are **VIRUS-INDEXED** for every indexable species, re-tested each season, and the **RESULTS ARE PUBLISHED PER BLOCK** — with an infected mother destroyed rather than isolated, and the plants already propagated from it

traced through the tag record and recalled. Two mother plants were destroyed in Year 3 and 640 saplings recalled and replaced.

□ **AND A PROTECTED VARIETY IS NOT PROPAGATED WITHOUT A LICENCE.** Registered varieties under the Protection of Plant Varieties and Farmers' Rights Act carry propagation rights, and the trade's ordinary practice is to take budwood from a neighbour's tree and sell the variety under its market name. This nursery propagates protected varieties only under licence from the rights-holder, which costs ₹42 lakh a year of forgone revenue in the fastest-moving varieties and is stated here because it is the least visible of the four commitments and the easiest to abandon quietly.

8. Operations Plan (mother block, propagate, harden, tag, despatch, follow)

Mother block and source material

- **Every mother plant mapped, numbered, sourced and independently identity-verified**, with the register published.
- **Virus indexing each season for every indexable species**, with results published per block.
- **Infected mothers destroyed rather than isolated**, and progeny traced and recalled through the tag record.
- **Production capped at honest mother-block yield**, whatever the season's demand.

Propagation and rootstock

- **Rootstock raised from identified seed sources** and selected for the buyer's water and soil, not for availability.
- **Grafting, budding and layering to the species' own schedule**, with graft-take recorded by batch and operator.
- **Tissue-culture material hardened to a stated protocol** with virus certification from the laboratory carried through.
- **Protray seedlings raised on a documented media and nutrition schedule** for contract and open sale.

Hardening, grading and despatch

- **Minimum age and hardening standard per species**, enforced by system rather than by planting-window pressure.
- **Under-aged or under-hardened plants held back**, at a cost of ₹86 lakh of Year-3 revenue.
- **Every plant tagged to mother plant and rootstock**, with the tag number on the invoice.
- **Root and graft-union inspection at grading**, with rejects composted rather than sold as seconds.

Establishment and follow-up

- **Water analysis requested before recommending a rootstock-scion combination.**
- **Planting and establishment guidance** at the pit, since a good plant is easily killed in its first fortnight.
- **Orchard record maintained jointly**, which is what makes a year-five claim assessable without the farmer proving anything.
- **Survival and true-to-type outcomes followed on a sample of orchards** and published.

The operational hinge is the planting window, which is short, and the plant that is three weeks under-hardened. It looks identical, the buyer wants it now, the season will not wait, and holding it back means the revenue moves to next year or disappears — so every nursery in India despatches it, and a proportion of the field failures the trade attributes to "farmer handling" begins here. So minimum age and hardening are enforced by the despatch system rather than by the nursery manager's judgement during the one month of the year when his judgement is under most pressure, and the ₹86 lakh of held-back revenue is reported rather

than quietly recovered by relaxing the standard.

9. Accreditation, Rights & Operating Compliance (India)

- **Company & tax** — Private Limited, PAN/TAN, GST, land and water use, trade licence.
- **Nursery registration & accreditation** — NHB and state horticulture accreditation and star-rating against model nursery norms covering mother blocks, records and indexing; several states require registration under state nursery Acts with penalties for unregistered material. **Because the framework is uneven and largely voluntary, this business states its accreditation and registration number on EVERY TAG AND INVOICE — which converts a voluntary standard into a contractual representation the buyer can rely on.**
- **True-to-type warranty** — contractual rather than statutory: an express written warranty with a stated remedy, enforceable precisely because it is written down, which is why the trade's universal practice is to make no written representation as to variety at all.
- **Plant variety rights** — PPV&FRA registration and rights-holder licence before propagating a protected variety; **taking budwood from a neighbour's tree and selling under the market name is ordinary trade practice and is infringement.**
- **Quarantine** — plant quarantine requirements on any imported mother material or tissue-culture stock.
- **Seeds framework** — where the Seeds Act and Control Order reach nursery material in the operating state, including record and invoice obligations.
- **Environment & workforce** — water use, media and pesticide handling, EPF/ESI and POSH.

10. Organisation & Manpower Plan

Function	Yr 1	Yr 3	Notes
Promoter / managing director	1	1	Owens the warranty and the reserve
Mother block & identity management	3	8	Register published; capacity is the production ceiling
Propagation — grafting, budding, layering	14	42	Graft take recorded by batch and operator
Protray, tissue-culture hardening & polyhouse	8	24	Fast cycle; funds the long one
Plant health & virus indexing	2	6	Results published per block; destroys mothers
Tagging, grading & despatch control	3	9	Holds back under-aged plants in the window
Establishment advisory & orchard follow-up	3	11	Water analysis before recommendation
Finance, accreditation & admin	3	9	Reserve held separately and published
Total	37	110	Seasonal labour additional in the propagation peak

Two roles here exist to say no during the four weeks when saying no is most expensive. Despatch control holds back under-aged plants in the planting window, and mother-block management caps production at honest parent-plant yield when demand is at its peak — and in a conventional nursery both decisions belong to the person carrying the season's sales. Neither reports to sales here, for the same reason the distribution plan removed the quarter-end allocation decision from the person under the quarter-end pressure: the control has to sit with somebody the pressure does not reach.

11. Implementation Timeline & Milestones

Phase	Window	Milestones
Formation & land	Month 0-5	Incorporation, land and water, polyhouse and shadenet structures
Mother block establishment	Month 2-14	Sourcing, mapping, independent identity verification, first indexing
Fast-cycle production	Month 4-12	Protray seedlings and ornamentals generating cash through the graft cycle
Grafted sapling cycle	Month 6-30	Rootstock raising, grafting, hardening; first true despatch at month 24
Warranty & reserve	Month 10-20	Written true-to-type warranty, reserve funded and published, claims process live
Scale & accreditation	Month 24-36	1.35m plants and 10.9m seedlings; accreditation rating; licensing income

Training and competence

- **Grafting and budding craft** with take rates measured by operator, since skill here is the largest single cost driver.
- **Mother-block record discipline** — the register is the warranty's evidentiary base.
- **Indexing and sampling technique** for plant health staff, with independent laboratory confirmation.
- **Establishment advisory**, including reading a water analysis and refusing an unsuitable combination.

12. Financial Plan (Illustrative)

All figures are illustrative model assumptions, not forecasts or guarantees. They exist to show the drivers of a nursery P&L and how mother-block, indexing and warranty disciplines move them. Every input is editable. **The defining feature is the cycle: eighteen to thirty months of cost before a grafted sapling is saleable, funded by products that turn in weeks — and a warranty liability that matures three to seven years after the revenue was banked, which is why the reserve is held outside working capital.**

12.1 Project cost & funding

Item	₹ lakh	Notes
Land development, water & irrigation	96	Levelling, borewell, storage, drip
Polyhouse, shadenet & hardening structures	112	Partly subsidy-supported under MIDH
Mother block establishment & identity verification	68	Everything sold for a decade descends from this
Plant health & indexing facility	34	Published per block, per season
Propagation infrastructure, media & containers	42	Protray, potting, grafting areas
Tagging, traceability & orchard-record systems	16	What makes the warranty enforceable
Vehicles, handling & despatch	22	Plants are easily killed in transit
Working capital & contingency	30	The 18-30 month cycle is the requirement
Total project cost	420	₹150L investor + ₹130L term loan + ₹90L promoter + ₹50L WC

12.2 Operating metrics

Metric	Yr 1	Yr 2	Yr 3
Plants tagged to mother plant AND rootstock, tag number on the invoice / mother-block register published and independently identity-verified / plants sold without traceable parentage	100% / 100% / NIL	100% / 100% / NIL	100% / 100% / NIL
True-to-type claims settled (acres) / average settlement per acre / days to settle / claims requiring the farmer to prove causation	6 / ₹1.74L / 45 / NIL	19 / ₹1.80L / 30 / NIL	34 / ₹1.86L / 21 / NIL
Mother blocks virus-indexed each season for indexable species, results published / infected mothers DESTROYED / progeny traced and recalled	100% / 1 / 210	100% / 3 / 880	100% / 2 / 640
Rootstock named on the tag with vigour, salinity and drought characteristics / water analysis requested before recommending a combination / rootstock left unnamed	100% / 100% / NIL	100% / 100% / NIL	100% / 100% / NIL
Under-aged or under-hardened plants HELD BACK in the planting window (₹L of revenue) / protected varieties propagated without a rights-holder licence / accreditation number stated on tag and invoice	28 / NIL / 100%	54 / NIL / 100%	86 / NIL / 100%
Plants despatched / protrait seedlings / survival to despatch / blended realisation per plant	0.29m / 2.49m / 82% / ₹116	0.69m / 5.69m / 88% / ₹116	1.35m / 10.9m / 91% / ₹116

Row two is the row that carries this plan, and the comparison in it is the whole argument: an average settlement of ₹1.86 lakh per acre against a plant price of ₹128, roughly 1,450 times, settled in 21 days with NIL claims requiring the farmer to prove causation. Row three's second figure must not read zero — two mother plants were destroyed in Year 3 and 640 saplings recalled, because an indexing programme that never finds an infection is not indexing, per the library's rule that a gate with no rejections is not a gate. Row five's ₹86 lakh of held-back revenue is the planting-window discipline stated as a number rather than claimed as a policy. The blended realisation of ₹116 in row six carries its underlying figures per the library's rule — grafted fruit ₹128, plantation and spice ₹142, ornamental ₹96, hardened tissue-culture ₹78 — with protrait seedlings at ₹4.22 reported separately, since including them would make the blend meaningless.

12.3 Revenue build

Stream	Yr 1 (₹L)	Yr 2 (₹L)	Yr 3 (₹L)	Driver
Grafted fruit saplings	175	420	820	₹128 each; 18-30 month cycle
Protrait vegetable & horticulture seedlings	105	240	460	₹4.22 each; 4-6 week cycle
Plantation & spice material	70	160	310	₹142 each; decade-long commitment
Ornamental, landscape & avenue plants	55	130	250	₹96 each; institutional demand
Hardened tissue-culture plants	40	90	180	₹78 each; virus status certified through
Mother-block licensing, indexing & advisory	15	40	80	Selling the verification itself
Total revenue	460	1,080	2,100	Illustrative

12.4 P&L summary

Line	Yr 1 (₹L)	Yr 2 (₹L)	Yr 3 (₹L)
Revenue	460	1,080	2,100
Cost of production (media, containers, rootstock, seasonal labour)	(258)	(562)	(1,008)
Gross profit	202	518	1,092
Nursery operations & permanent labour	(92)	(158)	(216)
Mother block maintenance & virus indexing	(52)	(86)	(118)
True-to-type reserve & claims paid	(22)	(52)	(94)
Plant health, testing & recall	(30)	(48)	(68)
Marketing & farmer outreach	(26)	(44)	(62)
Transport, despatch & establishment support	(20)	(38)	(56)
Admin, accreditation, insurance & other	(46)	(72)	(98)
EBITDA	(86)	20	380
Depreciation & amortisation	(48)	(62)	(78)
Finance cost	(34)	(48)	(62)
Other income — MIDH/NHB structure subsidy on completion, mother-block licensing royalty & interest (<i>disclosed</i>)	80	140	124
PBT	(88)	50	364
Tax	16	(12)	(91)
PAT	(72)	38	273
Net margin	(15.7%)	3.5%	13.0%
ROCE	(14.8%)	4.2%	38.6%

Two things about this P&L should be read carefully rather than skimmed. First, the true-to-type line at ₹94 lakh is not an expense in the ordinary sense — it is a provision against a liability created by revenue booked one to three years earlier and maturing three to seven years later, and it is held in a reserve outside working capital because a nursery that funds this season's growth from next decade's warranty has already defaulted, it simply does not know yet. Second, the structure subsidy peaks in Year 2 on completion and then falls, and it is disclosed separately so that Year-3 profit is visibly a trading result: ₹2.73 crore of PAT against ₹1.24 crore of other income means the business earns before support, which is the test that matters. Mother block, indexing, health and warranty together cost ₹2.80 crore — 25.6% of gross profit — against a roadside competitor's spend of approximately nothing.

12.5 Break-even & sensitivity

Scenario	Yr 3 revenue	Yr 3 PAT	Comment
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Base	₹21.0cr	₹2.73cr	As modelled
No mother block, indexing or warranty	₹21.9cr	₹4.86cr	The roadside nursery's economics, stated
Under-aged plants despatched in the window	₹21.9cr	₹3.38cr	The ₹86L held back, taken instead
Graft take 78% → 64%	₹17.2cr	₹1.14cr	Craft quality is the largest cost driver
A true-to-type failure across 300 acres	₹21.0cr	(₹2.85cr)	Why the reserve exists and is held apart
A season's planting window lost to drought	₹14.7cr	(₹18L)	Stock ages; the cycle cannot be paused

13. Funding Requirement & Bankability

Source	₹ lakh	Terms (indicative)
Investor equity	150	Growth capital; mother-block and reserve covenants
Term loan	130	Structures, land development, mother block; 6–7 years
Promoter contribution	90	Cash and land
Working capital facility	50	The 18–30 month propagation cycle
Total	420	Illustrative structure

A lender should treat the mother block and the warranty reserve as the two assets that matter and neither appears usefully on a balance sheet. The mother block is a decade of production capacity whose identity has been independently verified — a competitor entering this market must establish and index one before he can honestly sell a single grafted plant, which is a three-year barrier rather than a capital one. The reserve is the reason a year-five claim does not become a solvency event, and it should be covenanted to remain outside working capital, since the characteristic failure in this trade is a nursery funding growth from a liability it has not yet recognised. The genuine risks are craft-dependent: graft take falling from 78% to 64% takes Year-3 profit from ₹2.73 crore to ₹1.14 crore, and a lost planting window strands stock in a cycle that cannot be paused.

- **Use of funds** — 27% polyhouse and hardening structures, 23% land, water and irrigation, 16% mother block and identity verification, 10% propagation infrastructure, 8% plant health facility, 7% working capital, balance systems and vehicles.
- **Repayment** — term loan from Year 3 cash flow with a moratorium through the first grafted cycle; working capital revolving against the propagation and planting calendar.
- **Investor exit** — strategic sale to a horticulture input group, a tissue-culture company integrating forward, or a plantation corporate securing its own planting material; or promoter buyback.

14. Risk Analysis & Mitigation

Risk	Impact	Mitigation
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The variety cannot be verified until it fruits	Three to seven years after planting, by which time the farmer has levelled and pitted the land, installed drip and trellis, applied five to seven seasons of fertiliser, labour and interest, and forgone the land's alternative use — none of it recoverable, all of it caused by a ₹128 plant. He cannot mitigate (mitigation means grubbing out a mature orchard), cannot sample (a young graft carries no signal), and cannot easily sue (proprietorship renamed, invoice without a batch, no written representation as to variety ever made). The industry's default is that the plant cost ₹128, and that is what a court would award	Every plant TAGGED TO ITS MOTHER PLANT AND ROOTSTOCK with the tag number ON THE INVOICE, which is what makes any warranty enforceable at all; mother-block register PUBLISHED AND INDEPENDENTLY IDENTITY-VERIFIED; and true-to-type failure compensated at ESTABLISHMENT COST AND FORGONE YEARS — average ₹1.86 lakh per acre, roughly 1,450× the plant price — settled in 21 DAYS on our tag record and the joint orchard record, with NIL claims requiring the farmer to prove causation. WHERE THE BUYER BUILDS YEARS OF IRREVERSIBLE INVESTMENT ON AN UNVERIFIABLE CLAIM, THE REMEDY MUST BE SIZED TO WHAT HE BUILT, NOT TO WHAT HE PAID
A warranty maturing after the business has changed hands	A liability arising in year five ordinarily meets a proprietorship trading under a different name, with no reserve, no records and no successor obligation — which is why the trade's warranties are worthless even when offered	Private Limited structure so the obligation survives a change of ownership; a COMPENSATION RESERVE HELD SEPARATELY FROM WORKING CAPITAL with its balance PUBLISHED and covenanted not to be drawn for operations; the tag and mother-block registers retained as the evidentiary base for the full warranty period; and the warranty written as an EXPRESS TERM with a stated remedy rather than left as an informal assurance
The rootstock nobody names	A grafted plant is two organisms — the scion decides the fruit, the rootstock decides vigour, tree size, orchard life, nematode resistance and tolerance of saline water and drought. Trade practice names the scion and treats the rootstock as anonymous raw material, so a grower on high-salinity borewell water can receive a perfectly authentic variety on a rootstock that cannot survive his water and lose the orchard to a component nobody mentioned	Every tag NAMES THE ROOTSTOCK and states its VIGOUR CLASS AND ITS SALINITY AND DROUGHT CHARACTERISTICS; rootstock raised from identified seed sources and selected for the buyer's conditions rather than for availability; and the establishment advisory REQUESTS THE BUYER'S WATER ANALYSIS BEFORE recommending a rootstock-scion combination, declining the combination where the water will not support it
"Healthy-looking" sold as indexed	Citrus greening and tristeza, banana bunchy top, papaya ringspot and grapevine leafroll are systemic, symptomless in young plants and fatal to an orchard — a nursery propagating from an infected mother produces perfect-looking saplings for years while distributing the disease across a district. Undetectable at sale, total in failure, and contagious	Mother blocks VIRUS-INDEXED EACH SEASON for every indexable species with RESULTS PUBLISHED PER BLOCK; an infected mother DESTROYED rather than isolated — 2 in Year 3 — and its progeny TRACED THROUGH THE TAG RECORD AND RECALLED, 640 saplings replaced; tissue-culture material accepted only with laboratory virus certification carried through to the buyer; and an indexing programme that finds nothing treated as a failed programme, per the rule that a gate with no rejections is not a gate

The planting window and the under-hardened plant	The window is short, the plant three weeks under-aged looks identical, the buyer wants it now, and holding it back moves the revenue to next year or loses it — so every nursery despatches it, and a share of the field failures the trade attributes to "farmer handling" begins here	Minimum age and hardening standard per species ENFORCED BY THE DESPATCH SYSTEM rather than by the nursery manager's judgement during the one month of the year when his judgement is under most pressure; ₹86 lakh of Year-3 revenue HELD BACK AND REPORTED rather than quietly recovered by relaxing the standard; and grading rejects composted rather than sold as seconds
Propagating a protected variety without a licence	Registered varieties carry propagation rights under PPV&FRA, and taking budwood from a neighbour's tree to sell under the market name is ordinary trade practice and is infringement — exposing both this nursery and the orchards planted from it	Protected varieties propagated ONLY under licence from the rights-holder, at ₹42 lakh a year of forgone revenue in the fastest-moving varieties; the licence position recorded per variety and stated to the buyer; and the commitment reported here because it is the least visible of the four and the easiest to abandon quietly
Graft take and craft quality	Take falling from 78% to 64% takes Year-3 profit from ₹2.73cr to ₹1.14cr — the largest single cost driver in the business	Graft take recorded by batch AND by operator so training reaches the individual rather than the average; species-specific grafting calendars followed rather than compressed; rootstock quality controlled at raising rather than corrected at grafting; and seasonal labour retained across years so skill accumulates instead of being rehired each season
A lost planting window or drought season	Revenue to ₹14.7cr and a small loss; stock ages in a cycle that cannot be paused, and a grafted plant held over a year is worth less, not more	Product mix spanning 4-week protrait cycles to 30-month grafted cycles so cash does not depend on one window; ornamental and landscape lines with institutional demand insensitive to monsoon; despatch geography across more than one agro-climatic belt; and holding capacity sized so a deferred season ages stock rather than forcing distress despatch

15. SWOT Analysis

Strengths • Every plant tagged to mother and rootstock, tag on the invoice • Remedy sized to the orchard — ₹1.86 lakh per acre, 21 days • Mother block published and independently identity-verified • Virus indexing published; infected mothers destroyed • Rootstock named with its salinity and drought tolerance	Weaknesses • Costs more per plant than an unregistered nursery • Capacity capped by honest mother-block yield • 18-30 month cycle before a grafted sapling earns • A warranty liability maturing years after the revenue
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Opportunities • Orchard expansion and replanting under MIDH and state missions • Export-linked growers requiring documented provenance • High-density planting raising the cost of getting it wrong • Mother-block licensing and indexing as a service • Institutional landscape and avenue demand	Threats • Unregistered nurseries competing on price with no liability • A district-wide virus outbreak • A lost planting window or drought season • Craft labour scarcity in the grafting peak
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16. Recommended AiSevak Tools for This Business

- **Mother-block register** — plant number, source, identity verification and indexing history, published.
- **Plant tag & traceability** — mother plant and rootstock on every tag, tag number on every invoice.
- **Virus indexing log** — results per block per season, with destruction and progeny-recall records.
- **True-to-type claims & reserve** — orchard record, settlement calculation, days-to-settle and reserve balance.
- **Despatch age & hardening gate** — minimum age per species enforced by system, with held-back revenue reported.
- **Graft-take tracker** — by batch and operator, feeding training rather than averages.
- **Contribution per plant dashboard** — by species and cycle length, never blended alone.

17. Key Assumptions & Notes

- **All financials are illustrative model assumptions, not forecasts, projections or guarantees.** Revenue, plant volumes, realisation, graft take, survival, claims and headcount are editable inputs; actual outcomes depend on species mix, craft quality, season and mother-block capacity. Figures are in Indian rupees.
- **The central integrity finding is that a grafted fruit sapling's variety cannot be verified until it fruits — three to seven years after the orchard was planted.** By then the farmer has levelled and pitted the land, installed drip and trellis, applied five to seven seasons of fertiliser, labour and interest, and forgone whatever else the land could have grown. **None of it is recoverable and the sapling that caused it cost ₹128. He cannot mitigate, because mitigation means grubbing out a mature orchard; he cannot sample, because a young graft carries no signal of what it will fruit; and he cannot easily sue, because the nursery is often a proprietorship trading under a different name, the invoice was a scrap of paper without a batch number, and no written representation as to variety was ever made. The industry's default position is that the plant cost ₹128, and that is what a court would award. This is the seed plan's total-failure logic taken to its limit: the window does not merely close — THE ENTIRE INVESTMENT IS BUILT ON TOP OF THE UNVERIFIED CLAIM, year after year, by a buyer who will not learn he was wrong until the knowledge is worthless.**
- **So the remedy is sized to the exposure rather than to the transaction.** Every plant leaves tagged to its mother plant and its rootstock with the tag number on the invoice; the mother-block register is published and independently identity-verified; and true-to-type failure is compensated at establishment cost and forgone years — land preparation, planting material, drip and trellis, maintenance and the opportunity cost of the lost seasons. **Average settled claim in Year 3 was ₹1.86 lakh per acre against a plant price of ₹128, roughly 1,450 times, paid in 21 days across 34 acres with nil claims requiring the farmer to prove causation. WHERE THE BUYER BUILDS YEARS OF IRREVERSIBLE INVESTMENT ON AN UNVERIFIABLE CLAIM, THE REMEDY MUST BE SIZED TO WHAT HE BUILT, NOT TO WHAT HE PAID — and it must be funded in a reserve held outside working capital, because a warranty maturing in year five is worthless if it depends on who owns the nursery then. A nursery funding this season's growth from next decade's warranty has already defaulted; it simply does not know yet.**

- **The rootstock is the hidden half of every grafted plant and it is named here.** A grafted sapling is two organisms joined at a union: the scion decides the fruit, and the rootstock decides vigour, tree size, orchard life, nematode resistance and — decisively across much of India — tolerance of saline water and drought. **Trade practice names the scion and treats the rootstock as anonymous raw material, so a grower irrigating from a high-salinity borewell may receive a perfectly authentic variety on a rootstock that cannot survive his water and lose the orchard to a component nobody mentioned. Every tag states the rootstock with its vigour class and its salinity and drought characteristics, and the establishment advisory asks for the buyer's water analysis before recommending a combination — and declines the combination where the water will not support it.**
- **"Healthy-looking" is not "indexed", and the difference is invisible until it is fatal.** Citrus greening and tristeza, banana bunchy top, papaya ringspot and grapevine leafroll are systemic, symptomless in young plants and lethal to an orchard, and a nursery propagating from an infected mother can produce perfect-looking saplings for years while seeding the disease across a district. **This is the vertical's recurring problem in its most damaging form — undetectable at sale, total in failure, and contagious. So mother blocks are virus-indexed each season for every indexable species with the results published per block, an infected mother is destroyed rather than isolated, and its progeny is traced through the tag record and recalled: two mothers destroyed and 640 saplings replaced in Year 3. An indexing programme that never finds an infection is not an indexing programme.**
- **Two operating disciplines are stated as numbers rather than claimed as policy.** The planting window is short and a three-week under-hardened plant looks identical to a ready one — the buyer wants it, the season will not wait, and holding it back moves the revenue to next year or loses it, which is why every nursery in India despatches it and a share of the field failures the trade blames on "farmer handling" actually begins here. **So minimum age and hardening are enforced by the despatch system rather than by the nursery manager's judgement during the single month when his judgement is under most pressure, and ₹86 lakh of Year-3 revenue was held back and reported. And protected varieties are propagated only under rights-holder licence, at ₹42 lakh a year of forgone revenue — the least visible of the commitments and the easiest to abandon quietly, which is why it is reported.**
- **The economics are shaped by a cycle and a liability that do not align.** A grafted mango sapling takes eighteen to thirty months from rootstock sowing to saleable plant with money spent throughout, funded by protrait seedlings turning in four to six weeks and ornamentals in three to nine months — 33.8% of revenue between them. **Mother block, indexing, plant health and the warranty together cost ₹2.80 crore, 25.6% of gross profit, against a roadside competitor's spend of approximately nothing; the true-to-type line is a provision against a liability created by revenue booked one to three years earlier and maturing three to seven years later, held in a reserve outside working capital. Structure subsidy peaks in Year 2 on completion and is disclosed separately, so Year-3 PAT of ₹2.73 crore against ₹1.24 crore of other income shows the business earning before support.** Contribution is reported per species and the blended realisation of ₹116 carries its underlying figures — grafted fruit ₹128, plantation and spice ₹142, ornamental ₹96, tissue-culture ₹78 — with protrait seedlings at ₹4.22 reported separately, since including them would make the blend meaningless.
- **Compliance sits in an unusually light framework, which is why the contract matters more than the code.** Horticulture planting material is reached unevenly by the Seeds Act and Control Order across states; NHB and state horticulture accreditation and star-rating operate against model nursery norms covering mother blocks, records and indexing; several states require registration under state nursery Acts with penalties for unregistered material. **Because the framework is voluntary and uneven, this business states its accreditation and registration number on every tag and invoice, which converts a voluntary standard into a contractual representation the buyer can rely on and sue upon — and writes the true-to-type warranty as an express term with a stated remedy, enforceable precisely because it is written down, which is exactly why the trade's universal practice is to make no written representation as to variety at all.** Then PPV&FRA rights and licensing; plant quarantine on

imported material; GST; land, water and pollution consents; and EPF/ESI and POSH. Professional advice should be taken on the warranty terms, the reserve structure, variety licences and state nursery registration.

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