



BUSINESS PLAN · INDIA

Pesticide / Agrochemical Manufacturing

Crop protection with the gloves in the box and the label he can read

AGRI-INPUTS

AISEVAK.IN · BY ABL DIGITAL TECHNOLOGIES

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 **Crop-Protection Formulation Business** in India — a formulation plant converting registered technical-grade actives into insecticides, fungicides, herbicides and bio-pesticides in liquid, granular and water-dispersible forms, sold through a dealer network and to institutional buyers, with an in-house analytical laboratory, a field advisory team and a protective-equipment programme.

The agri-inputs vertical's conventions are set in the fertiliser-manufacturing anchor and cross-referenced rather than re-derived: **where the effect is separated from the cause by a season the only honest control is a measurement published at the time of sale; formulate to the declared value rather than the tolerance floor; retain a sample so the buyer can test the seller; report the advice that reduced the sale; and pay field staff on advice quality rather than on tonnage.** What is specific to crop protection is that this is the only product in the vertical that kills people when used exactly as the seller directed.

☐ **THE LABEL ASSUMES A USER WHO DOES NOT EXIST.** Acute pesticide poisoning is a serious and well-documented Indian public-health problem, and the label's answer to it is a paragraph of English text and a row of pictograms instructing a user to wear gloves, boots, a coverall, goggles and a respirator. The man actually spraying is barefoot in a wet field in forty-degree heat with a leaking knapsack, cannot read the label, has never owned any of that equipment and was not offered it at the point of sale. The industry knows this precisely, and the instruction persists because it transfers the liability rather than because anybody expects it to be followed. So this company puts the label AND the safety data in the **LOCAL LANGUAGE** with pictograms validated by comprehension testing rather than by regulation, **SUPPLIES PROTECTIVE EQUIPMENT WITH THE PRODUCT** rather than recommending it on the pack, and states **DOSAGE IN LOCAL MEASURES** — capfuls per knapsack, not millilitres per hectare. The general rule: **WHERE A SAFETY INSTRUCTION ASSUMES A USER WHO DOES NOT EXIST, THE INSTRUCTION IS A LIABILITY TRANSFER RATHER THAN A PRECAUTION.**

☐ **AND SEVERAL MOLECULES REMAIN LEGAL HERE THAT ARE BANNED ELSEWHERE.** India's registered list includes actives withdrawn in other jurisdictions on acute-toxicity and chronic-health grounds, and a formulator may lawfully make and sell them. This company publishes a **REFUSED-MOLECULE LIST** — the actives it will not formulate regardless of registration status — and reports the revenue that decision costs: **₹9.40 crore in Year 3.** A refusal without a number attached is a marketing position; a refusal with the forgone revenue printed beside it is a decision.

☐ **The third finding is the one that costs farmers most money: THE COCKTAIL AND THE RESISTANCE IT BUILDS.** Dealers routinely recommend tank mixes and repeat applications that raise the immediate sale, accelerate resistance and increase the farmer's spend season after season. This company publishes resistance-management guidance by crop and pest, and **REPORTS RECOMMENDATIONS THAT REDUCED THE NUMBER OF APPLICATIONS — 8,600 in Year 3 —** per the anchor's rule that a technical service which never advises less is a marketing instrument wearing a laboratory coat.

This plan models an operator requiring **₹14.80 crore** (₹5.20 crore investor + ₹3.80 crore working-capital facility + ₹3.00 crore promoter + ₹2.80 crore term loan), moving from **₹42.00 crore revenue and a ₹1.18 crore loss** to **₹142.00 crore revenue and ₹8.52 crore profit** by Year 3 — a 6.0% net margin, 33.6% return on capital, and protective equipment supplied with 100% of applicable products. (Crop-protection formulation — figures illustrative.)

2. Business Description, Vision & Legal Structure

Concept: A crop-protection company that puts the gloves in the box.

Vision: To be the brand a sprayer's family has no reason to fear.

Mission: Write the label in his language and test that he understood it; supply the equipment instead of recommending it; give the dose in capfuls per pump; publish the molecules we will not make and what refusing them costs; publish the batch analysis; state the pre-harvest interval in days and in crop stages; and report the advice that reduced the spray.

Legal structure

- **Private Limited** — required in substance. CIB&RC registration, manufacturing and state licences, institutional tenders, product liability and outside capital all assume it.
- **Proprietorship or partnership** — used by small formulators; **the consequence is that a poisoning claim or a spurious-product prosecution attaches to an entity that can close and re-register under another name, which is a substantial part of why this market behaves as it does.**
- **Employed quality and stewardship functions with release and refusal authority**, reporting to the promoter — **because a batch below specification and a molecule the company has declined are both decisions sales must not be able to override.**

Regulatory anchor: among the most heavily regulated manufacturing activities in Indian agriculture, and one where compliance is a floor rather than a standard. **The first exposure is registration and product law: the Insecticides Act 1968 and Insecticides Rules 1971 govern registration through the Central Insecticides Board and Registration Committee, manufacturing and sale licensing, permitted formulations, labelling, packaging and misbranding — and a formulation below its declared active content is a misbranded insecticide attracting penal consequences rather than a commercial dispute. The second is human safety: label and leaflet requirements, prohibitions on sale to minors, restricted-use categories, and the Factories Act and hazardous-process rules covering a plant handling toxic actives — with the honest observation that the statutory label satisfies the law while communicating nothing to most of the people who will handle the product. The third is residue and food safety: FSSAI maximum residue limits are enforced on produce, and the pre-harvest interval on a label is the mechanism by which a farmer avoids breaching them — so a PHI nobody understands is a food-safety failure waiting downstream.** Then: state pollution-control consent for effluent, emissions and hazardous waste; storage, transport and disposal rules for toxic material; container management and the empty-container problem; GST; and EPF/ESI, POSH and occupational-health monitoring.

3. Promoter & Ownership

Led by a promoter with agrochemical formulation, agronomy or crop-protection sales background. Three competences decide outcomes. *Registration and regulatory navigation*, because CIB&RC timelines and data requirements determine what this business can legally sell and when, and they are measured in years rather than months. *Stewardship credibility*, since the only durable differentiation in a market full of identical generics is being the company whose advice reduces a farmer's spend and whose product does not injure the man applying it. And *the willingness to refuse a molecule* — declining a registered, profitable, widely sold active on toxicity grounds that no Indian regulation requires anybody to consider. Ownership, equity & investor terms are editable inputs; **the refused-molecule list and batch release sit with stewardship and quality reporting to the promoter, and cannot be varied by sales or by a distributor's demand.**

4. Market Analysis — India

Indian crop protection is large, generic-dominated, price-driven and structurally indifferent to what happens to the person holding the sprayer.

Demand drivers

- **Crop loss pressure** — pest and disease losses are large and rising with changing weather patterns, which makes crop protection non-optional.
- **Off-patent generic opportunity**, which is where an Indian formulator can compete on formulation quality and service rather than on molecule discovery.
- **Horticulture and high-value crops**, where per-acre spend is far higher and residue compliance matters commercially for export.
- **Export-driven residue requirements**, which are beginning to make pre-harvest intervals a commercial concern rather than a label formality.
- **Bio-pesticide growth**, driven by residue pressure, resistance and organic certification.
- **Herbicide expansion** as rural labour costs rise and manual weeding becomes uneconomic.

Market sizing (illustrative framing)

Layer	Definition	Indicative scale
TAM	Crop-protection consumption across the served states	Large; generic-dominated and price-driven
SAM	Molecules this company holds registrations for and will formulate	Bounded by REGISTRATIONS and the refused list
SOM (Yr 1-3)	Volume sold through dealer, institutional and direct channels	₹42cr → ₹142cr; dealers 340 → 1,180

Who bears the risk, and who decides

Party	What they decide	What they bear
Formulator	Molecule, formulation, label, packaging	Regulatory risk only
Dealer	What the farmer actually buys and how much	Nothing
Farmer	Whether to spray, and when	Cost, crop outcome, some exposure
The hired sprayer	Nothing at all	The acute exposure — he is in the spray drift
The consumer	Nothing	Residue, if the interval was ignored

Read the fourth row, because it is this plan's central concern and it is invisible in every market analysis of this industry. The person who suffers the acute harm — the hired labourer walking through his own spray drift for six hours — has no say in the molecule, the dose, the equipment or the timing, buys nothing, signs nothing, and is not a customer of anybody in the chain. He is the classic third party this library keeps encountering, with the difference that here the harm is measured in hospital admissions rather than in disappointment. Every safety decision in this plan is aimed at that row, and the commercially relevant point is that no competitor is aiming there at all.

Constraints

- **Registration timelines and cost**, which are long, expensive and determine the addressable portfolio.
- **Technical-grade active availability and price**, largely imported and volatile.
- **Extreme price competition** among identical generics, where the only differentiation is service and trust.
- **Spurious product**, which is widespread, damages the category and undercuts everybody who tests.

5. Competition & Position

Competitor type	Strength	Weakness this plan exploits
Multinational innovators	Patented molecules, data, stewardship programmes	Expensive; stewardship rarely reaches the hired sprayer
Large Indian generics	Scale, registrations, distribution depth, price	Label in English; PPE recommended, never supplied
Regional formulators	Cheapest, local dealer relationships, fast credit	Active content shaded; batch analysis never published
Spurious and unregistered material	Cheapest by far; indistinguishable on a shelf	Frequently near-worthless or dangerously wrong
This plan	Local-language label comprehension-tested, PPE in the box, refused-molecule list published with its cost, applications-reduced advice reported	Not the cheapest; declines registered molecules competitors sell freely

The positioning claim is aimed at three buyers who are not the dealer: the horticulture and export farmer who needs residue compliance, the institutional and contract-farming buyer who now audits its supply chain, and — over time — the farmer whose sprayer stopped falling ill. The last is the slowest to convert and the most durable, because a household that has been through an acute poisoning does not forget which product was in the tank. And the export channel is the one that makes the pre-harvest-interval work commercial rather than charitable: a residue rejection at a port costs a consignment, so a supplier whose PHI guidance is actually understood becomes worth paying for.

The cost of the honest position is stated in rupees rather than implied. The refused-molecule list forfeits ₹9.40 crore of Year-3 revenue — these are registered, profitable, high-volume actives that every competitor sells. Supplying protective equipment with applicable products costs ₹2.80 crore a year and is given away rather than sold, because equipment a farmer must choose to buy is equipment the hired sprayer will never see. Advice that reduced applications forfeited ₹3.60 crore of Year-3 sales. Local-language labelling, comprehension testing and stewardship training cost ₹1.90 crore. The offsetting return is horticulture, export and institutional business worth ₹49.70 crore of Year-3 revenue at materially better realisation, and a dealer network that grows because farmers ask for the brand by name rather than because the margin is highest.

6. The Label Assumes a User Who Does Not Exist

Every crop-protection label in India is legally compliant and communicatively useless to most of the people who will handle the product.

What the label says	What is true in the field
"Wear protective clothing, gloves, boots and face shield"	He has none of it and was not offered any
Instructions in English, with Hindi where required	The applicator often reads neither
Pictograms per the statutory schedule	Comprehension has never been tested on him
Dose in ml or g per hectare	He measures in capfuls and knapsack loads
"Do not eat, drink or smoke while handling"	He is working a six-hour shift in the heat
Pre-harvest interval in days	Nobody counts; the market date decides

The left column satisfies the Insecticides Rules completely and the right column describes what actually happens, and the industry is entirely aware of the gap. The instruction to wear a respirator is not written for the applicator; it is written for the file, so that when he is admitted to a district hospital the label can be produced to show he was told. That is what makes it a liability transfer rather than a precaution — it moves the responsibility to the person least equipped to discharge it, and it does so knowingly. WHERE A SAFETY INSTRUCTION ASSUMES A USER WHO DOES NOT EXIST, THE INSTRUCTION IS A LIABILITY TRANSFER RATHER THAN A PRECAUTION.

So four things change, and none of them is expensive. THE LABEL AND LEAFLET ARE IN THE LOCAL LANGUAGE OF THE SELLING TERRITORY, with pictograms VALIDATED BY COMPREHENSION TESTING on actual applicators rather than adopted from a schedule — and the tested comprehension rate is published, at 78%, because a pictogram nobody understands is decoration. PROTECTIVE EQUIPMENT IS SUPPLIED IN THE PACK for every product whose classification warrants it — gloves and a mask at minimum, a coverall on the higher-hazard grades — given away rather than sold, because equipment a farmer must choose to buy is equipment the hired sprayer will never see. DOSAGE IS STATED IN LOCAL MEASURES — capfuls per fifteen-litre knapsack alongside the statutory ml/ha — because a dose expressed in units nobody uses is a dose that will be guessed. And the PRE-HARVEST INTERVAL is stated in days AND in crop-stage terms a farmer actually observes.

7. The Molecule That Is Still Legal Here, and the Cocktail the Dealer Recommends

Two further problems sit above the label, in decisions taken long before the product reaches a field.

□ SEVERAL MOLECULES REMAIN REGISTERED IN INDIA THAT ARE BANNED OR SEVERELY RESTRICTED ELSEWHERE. Some are acutely toxic actives responsible for a substantial share of occupational and intentional poisoning; others carry chronic-health concerns that led to withdrawal in other jurisdictions. A formulator may lawfully make and sell all of them, they are high-volume and profitable, and there is no regulatory reason whatever to decline. So this company publishes a REFUSED-MOLECULE LIST — the actives it will not formulate regardless of registration status, with the reason stated for each — and reports the revenue forgone: ₹9.40 crore in Year 3. The number matters more than the list, because a refusal without a cost attached is a marketing position and a refusal with the forgone revenue printed beside it is a decision somebody had to take.

It is worth stating plainly what this position is not, because overclaiming would undermine it. This is not an assertion that every refused molecule is unsafe in every use, nor that Indian registration is wrong —

regulators weigh evidence this company has not gathered, and reasonable people disagree about several of these actives. It is a narrower judgement: that where a molecule's acute toxicity is high, its safe use depends on protective equipment the actual applicator will not have, and alternatives exist that do the same agronomic job, this company will not be the one that supplies it. That reasoning is published alongside the list, so a customer can disagree with it on the evidence rather than take it on trust.

☐ **AND THE DEALER RECOMMENDS THE COCKTAIL.** A village dealer is the farmer's primary crop-protection adviser and is paid by margin, so the recommendation is systematically more product rather than the right product — tank mixes of three or four actives, repeat sprays on a calendar rather than on scouting, and a fresh molecule when the last one "stopped working". Each of those raises the immediate sale, accelerates resistance, and increases the farmer's spend every subsequent season — so the advice that is most profitable this month is the advice that costs him most over five years. So this company publishes **RESISTANCE-MANAGEMENT GUIDANCE** by crop and pest with mode-of-action rotation, trains field staff to recommend scouting thresholds rather than calendar sprays, **PAYS FIELD AGRONOMISTS ON ADVICE QUALITY RATHER THAN VOLUME**, and **REPORTS RECOMMENDATIONS THAT REDUCED THE NUMBER OF APPLICATIONS** — 2,400 in Year 1 rising to 8,600 in Year 3, worth ₹3.60 crore of forgone sales.

☐ **AND THE ACTIVE CONTENT IS AS INVISIBLE AS THE FERTILISER'S.** The anchor plan's finding applies without modification: a farmer cannot assay a formulation, an under-dosed product looks and smells identical, and when the pest survives he concludes the pest has become resistant — which is a conclusion that sells him a stronger product rather than exposing the shortfall. So every batch analysis is **PUBLISHED AGAINST THE BATCH CODE** with the active content measured, a **SAMPLE IS RETAINED** with farmer re-test honoured, and formulation targets the **DECLARED** content rather than the tolerance floor — with 164 batches rejected in Year 3 and none blended down.

☐ **AND THE EMPTY CONTAINER IS NOBODY'S RESPONSIBILITY.** A used pesticide container is a hazardous item that routinely ends up storing drinking water, feeding a fire or lying in a field. This company operates a triple-rinse instruction in pictograms, a container take-back through its dealer network with a small refundable deposit, and reports containers returned — 61% in Year 3 — because a take-back scheme with no return rate published is an announcement rather than a programme.

8. Operations Plan (register, source, formulate, test, label, steward)

Registration and portfolio

- **Registrations pursued only for molecules the company will actually make**, with the refused list applied at portfolio-planning stage rather than at launch.
- **Refused-molecule list published with reasons** and reviewed annually against new evidence, in either direction.
- **Bio-pesticide and lower-hazard alternatives developed deliberately** for the uses the refused molecules would have served.
- **Label and leaflet designed in the local language from the outset**, not translated after approval.

Sourcing and formulation

- **Technical-grade actives tested on intake for assay and impurity profile**, with the laboratory holding acceptance.
- **Formulation to the DECLARED active content**, held as a system parameter rather than a target.

- **Impurity and by-product profile checked**, since a cheap technical can meet assay while carrying more of what nobody tests for.
- **Closed handling, extraction and operator monitoring** in a plant working with toxic material every day.

Testing, packing and PPE

- **Every batch analysed before release**, with out-of-specification batches rejected and never blended down.
- **Batch results published against the code** and a retained sample stored with re-test honoured.
- **Protective equipment packed with every applicable product**, sized and specified for actual field use rather than for a schedule.
- **Comprehension testing of labels and pictograms on real applicators**, with the rate published and the design revised when it fails.

Stewardship in the field

- **Field agronomists paid on advice quality and follow-up**, never on volume.
- **Scouting thresholds and mode-of-action rotation taught** rather than calendar spraying.
- **Applicator safety training at dealer points and in villages**, aimed at hired sprayers rather than only at farm owners.
- **Container take-back with deposit**, and poisoning incidents reported to authorities and investigated rather than settled quietly.

The operational hinge is the distributor who wants a refused molecule and will take his whole order elsewhere without it. He is not being unreasonable — the molecule is registered, his farmers ask for it, and every competitor supplies it — and the loss is immediate, quantified and attributable to a decision the promoter made. So the refused list is published rather than held internally, which converts a repeated negotiation into a known fact about the company; the forgone revenue is budgeted before the season; and the decision sits with stewardship reporting to the promoter, because a distributor's threat delivered to a regional sales manager at quarter-end is not a decision anybody should be taking alone.

9. Insecticides Act, Residue & Operating Compliance (India)

- **Company & tax** — Private Limited, PAN/TAN, GST, factory licence, product-liability and public-liability insurance.
- **Registration & product law** — Insecticides Act 1968 and Rules 1971 with CIB&RC registration, manufacturing and sale licensing, permitted formulations, labelling and packaging; **a formulation below its declared active content is a misbranded insecticide with penal consequences, not a commercial dispute.**
- **Human safety** — label and leaflet requirements, restricted-use categories, prohibition on sale to minors, Factories Act and hazardous-process rules, occupational-health monitoring of plant workers; **the statutory label satisfies the law while communicating almost nothing to the people who will handle the product.**
- **Residue & food safety** — FSSAI maximum residue limits enforced on produce, with the pre-harvest interval as the farmer's mechanism for compliance; **a PHI nobody understands is a food-safety failure waiting downstream.**
- **Environment & waste** — state pollution-control consent for effluent, emissions and hazardous waste; storage, transport and disposal rules; empty-container management.
- **Advertising & claims** — Insecticides Rules restrictions on advertising, plus Consumer Protection Act and CCPA guidelines on efficacy claims.
- **Workforce** — EPF/ESI, POSH, exposure monitoring, and emergency response with antidote availability at the plant.

10. Organisation & Manpower Plan

Function	Yr 1	Yr 3	Notes
Promoter / managing director	1	1	Owns the refused-molecule list and its cost
Regulatory affairs & registration	4	9	Portfolio filtered by the refused list at planning stage
Quality assurance & laboratory	8	18	Holds intake acceptance and batch release
Production — formulation, filling, packing	32	72	Closed handling; operator exposure monitored
Product stewardship & applicator safety	5	14	Label comprehension testing, PPE, village training
Field agronomy & advisory	14	38	Paid on advice quality and follow-up, never on volume
Sales, dealer network & institutional	16	42	Cannot override a refusal or a batch rejection
Warehousing, logistics, finance & admin	18	42	Hazardous storage and transport compliance
Total	98	236	Laboratory and stewardship salaried without volume-linked pay

Fourteen people in product stewardship and applicator safety is a function most Indian formulators of this size do not have at all, and its output is a list of things that did not happen — poisonings avoided, sprays not sold, labels redesigned because a farmer could not read them. It reports to the promoter and is salaried without any volume-linked component, because a stewardship function paid on sales will discover within two seasons that the current label is adequate. The same logic governs the thirty-eight field agronomists: an adviser compensated on tonnage will recommend the calendar spray, and neither he nor the company will notice the drift.

11. Implementation Timeline & Milestones

Phase	Window	Milestones
Formation & registration	Month 0–14	Incorporation, CIB&RC registrations for the chosen portfolio, manufacturing licence, pollution consent
Plant build & commissioning	Month 8–18	Formulation, filling and packing lines with closed handling; effluent treatment; laboratory
Label & stewardship systems	Month 12–20	Local-language labels with comprehension testing; PPE packing; batch publication; container take-back design
Dealer network	Month 16–26	Appointments with disclosed margins; refused-molecule list published from day one
Field stewardship	Month 20–30	Agronomy team, village applicator-safety training, resistance-management guidance published
Scale & bio range	Month 28–36	Bio-pesticide and lower-hazard alternatives; horticulture and export channels; toll formulation

Training and competence

- **Plant handling and exposure discipline**, with occupational-health monitoring and emergency response practised rather than documented.
- **Label comprehension testing methodology** for stewardship staff, including how to record that a pictogram failed.
- **Applicator safety training delivery** in the local language, aimed at hired sprayers who are not the company's customers.
- **Resistance management and scouting thresholds** for field agronomy, including how to recommend fewer applications.

12. Financial Plan (Illustrative)

All figures are illustrative model assumptions, not forecasts or guarantees. They exist to show the drivers of a crop-protection P&L and how the safety and stewardship controls move them. Every input is editable. **The defining feature of this model is that technical-grade actives are 64% of revenue and largely imported, while registration cost and timeline determine what can be sold at all — so this is a regulatory and procurement business with a formulation plant attached.**

12.1 Project cost & funding

Item	₹ lakh	Notes
Registrations, data generation & regulatory	320	Determines the portfolio; measured in years
Land, civil works & hazardous-process building	280	Segregation, containment, emergency systems
Formulation, filling & packing lines	340	Closed handling; liquid, granular and WDG
Analytical laboratory & retained-sample store	146	Assay and impurity capability held in-house
Effluent treatment, scrubbers & hazardous waste	168	Consent-critical for a toxic-material plant
Hazardous storage, safety & emergency systems	96	Antidotes, showers, containment, fire
PPE programme & stewardship set-up	68	Equipment packed with product from launch
Working capital & contingency	62	Imported actives, seasonal build, dealer credit
Total project cost	1,480	₹520L investor + ₹380L WC facility + ₹300L promoter + ₹280L term loan

12.2 Operating metrics

Metric	Yr 1	Yr 2	Yr 3
Label and leaflet in the local selling language / pictogram comprehension tested on applicators / measured comprehension rate	100% / 100% / 61%	100% / 100% / 71%	100% / 100% / 78%
PPE supplied IN THE PACK on applicable products / dosage stated in local measures / PHI stated in days AND crop stages	100% / 100% / 100%	100% / 100% / 100%	100% / 100% / 100%

Refused-molecule list published with reasons / revenue forgone by refusing (₹cr) / refused molecules formulated under distributor pressure	100% / 2.8 / NIL	100% / 5.6 / NIL	100% / 9.4 / NIL
Recommendations that REDUCED the number of applications / field agronomists paid on volume / resistance guidance published by crop and pest	2,400 / NIL / 100%	5,100 / NIL / 100%	8,600 / NIL / 100%
Batch analysis published against the code / batches REJECTED on assay / rejected batches blended down	100% / 68 / NIL	100% / 112 / NIL	100% / 164 / NIL
Dealers / containers returned under take-back / poisoning incidents reported to authorities / applicators trained	340 / 24% / 100% / 6,200	720 / 44% / 100% / 18,400	1,180 / 61% / 100% / 34,000

Row one's comprehension rate is the number this plan is proudest of and least comfortable with: 78% of tested applicators correctly interpreted the pictograms in Year 3, up from 61% — which also means that more than one in five did not, on a product that can kill them. Publishing a figure that is short of 100% is the honest version of a claim the industry makes implicitly by printing a schedule pictogram and moving on. Row three's ₹9.40 crore of forgone revenue is the refusal expressed as a number, because a refused-molecule list without a cost beside it is a marketing position. And row six's 61% container return is reported precisely because take-back schemes are usually announced and never measured.

12.3 Revenue build

Stream	Yr 1 (₹L)	Yr 2 (₹L)	Yr 3 (₹L)	Driver
Insecticides — registered, non-refused actives	1,600	3,050	5,200	Volume core; where the refused list bites
Fungicides	1,020	1,980	3,400	Horticulture-weighted; residue-sensitive
Herbicides	880	1,720	3,000	Fastest growth as labour costs rise
Bio-pesticides & botanicals	400	780	1,400	Alternatives for refused-molecule uses
PPE, spray equipment & application services	200	400	700	Sold to farms; given free in-pack
Contract formulation & toll manufacturing	100	270	500	Fills capacity between seasons
Total revenue	4,200	8,200	14,200	Illustrative

12.4 P&L summary

Line	Yr 1 (₹L)	Yr 2 (₹L)	Yr 3 (₹L)
Revenue	4,200	8,200	14,200
Technical-grade actives & formulants	(2,772)	(5,330)	(9,088)
Packaging, containers & labels	(248)	(451)	(738)
Gross profit	1,180	2,419	4,374
Production & engineering employee cost	(188)	(296)	(462)
PPE supplied free with product	(84)	(162)	(280)

Stewardship, labelling, comprehension testing & training	(88)	(132)	(190)
Quality laboratory, publication & retained samples	(72)	(98)	(132)
Regulatory affairs & registration maintenance	(96)	(124)	(168)
Field agronomy & advisory	(112)	(198)	(324)
Effluent, hazardous waste, power & utilities	(148)	(226)	(348)
Sales, distribution, container take-back & admin	(492)	(834)	(1,180)
EBITDA	(100)	349	1,290
Depreciation, amortisation & registration write-off	(196)	(224)	(258)
Finance cost	(142)	(186)	(242)
Other income — toll formulation, technical resale, training and advisory (<i>disclosed</i>)	282	279	346
PBT	(156)	218	1,136
Tax	38	(54)	(284)
PAT	(118)	164	852
Net margin	(2.8%)	2.0%	6.0%
ROCE	(10.2%)	14.8%	33.6%

Other income of ₹3.46 crore is disclosed separately per the library's rule and is smaller than PAT, which is unusual in this vertical and worth noting: toll formulation, technical resale and training support the result without carrying it. The four honesty lines — PPE at ₹2.80 crore, stewardship at ₹1.90 crore, quality and publication at ₹1.32 crore, and field agronomy at ₹3.24 crore — total ₹9.26 crore, against ₹8.52 crore of PAT. That is the clearest statement this library can make about what the position costs: the safety and advisory programme is larger than the profit, and the business is still viable because the channels it opens are worth more than the ones it forfeits.

12.5 What the honest position costs and returns

Item (Yr 3)	Cost or forgone revenue	What it buys
Refused-molecule list	₹9.40cr revenue	The hired sprayer is not handling the worst actives
Advice that reduced applications	₹3.60cr revenue	Slower resistance; a farmer whose costs fall
PPE supplied free in-pack	₹2.80cr cost	Equipment reaches the person actually exposed
Stewardship, labels, comprehension testing	₹1.90cr cost	78% comprehension against an industry that never measures
Formulating to declaration, not tolerance	₹2.10cr margin	The product does what the label says
Total	₹19.80cr	Against ₹49.70cr of horticulture, export and institutional revenue

This table is published in the plan rather than summarised because the arithmetic is the argument. ₹19.80 crore of cost and forgone revenue is not a rounding item in a ₹142 crore business — it is the difference between this company and a competitor with identical registrations and a lower price. And the offsetting ₹49.70 crore is not goodwill: it is horticulture growers who need residue compliance for export, institutional buyers who audit their supply chains, and contract-farming operators whose own customers ask what was sprayed. The position is affordable because a specific set of buyers will pay for it — and it would not be affordable if they would not, which is worth saying rather than implying.

12.6 Break-even & sensitivity

Scenario	Yr 3 revenue	Yr 3 PAT	Comment
Base	₹142.0cr	₹8.52cr	As modelled
Refused molecules formulated instead	₹151.4cr	₹12.94cr	The cost of the position, stated as a number
Technical-active cost up 10% unrecovered	₹142.0cr	₹1.71cr	64% of revenue and largely imported
Horticulture and export channel down 30%	₹127.1cr	₹3.86cr	The channel that pays for the position
A registration lapses or is delayed	₹131.4cr	₹5.24cr	Portfolio is bounded by regulatory timelines
Generic price erosion 6%	₹133.5cr	₹4.68cr	Structural in an off-patent market

13. Funding Requirement & Bankability

Source	₹ lakh	Terms (indicative)
Investor equity	520	Registration and plant build; portfolio and stewardship covenants
Working-capital facility	380	Imported actives, seasonal build and dealer credit
Promoter contribution	300	Cash and land
Term loan	280	Plant, effluent treatment and laboratory; 7-8 years
Total	1,480	Illustrative structure

The bankability case has a long pre-revenue period and one unusual protection. Registrations take years and cost real money before a rupee is earned, so a lender must fund a portfolio that does not exist yet — which is why the term loan needs a moratorium matched to CIB&RC timelines rather than to construction. The protection is that this business's principal catastrophic risk — a poisoning incident, a spurious-product prosecution, a residue rejection traced to its guidance — is precisely what the stewardship programme, the published batch analyses and the refused-molecule list are designed to prevent, and all three are auditable. In a category where a single incident can end a brand and suspend a licence, the safety programme is the credit's main covenant rather than an expense against it.

- **Use of funds** — 23% formulation and packing lines, 22% registrations and data, 19% land and building, 11% effluent and hazardous waste, 10% analytical laboratory, 6% hazardous storage and safety, balance PPE programme and working capital.
- **Repayment** — term loan from Year 3 cash flow with a moratorium matched to registration timelines; working-capital facility revolving against the seasonal cycle and dealer receivables.

- **Investor exit** — strategic sale to a national or multinational crop-protection group seeking registrations, formulation capacity and a stewardship franchise, or a promoter buyback once the portfolio matures.

14. Risk Analysis & Mitigation

Risk	Impact	Mitigation
Acute poisoning of an applicator	The one genuinely catastrophic outcome in this vertical — and it falls on a hired labourer who chose nothing, bought nothing, signed nothing and is not a customer of anybody in the chain, while the statutory label was written for a file rather than for him	Label and leaflet in the LOCAL SELLING LANGUAGE with pictograms VALIDATED BY COMPREHENSION TESTING on actual applicators and the rate PUBLISHED (61% → 78%, so more than one in five still does not understand); PROTECTIVE EQUIPMENT SUPPLIED IN THE PACK and given away rather than sold, because equipment a farmer must choose to buy is equipment the hired sprayer will never see; DOSAGE IN CAPFULS PER KNAPSACK alongside the statutory ml/ha, since a dose in units nobody uses will be guessed; village training aimed at hired sprayers rather than only at farm owners; and poisoning incidents reported to authorities and investigated rather than settled quietly
Formulating a molecule that should not be in a knapsack	Several actives banned or restricted elsewhere remain registered in India, are high-volume and profitable, and there is NO regulatory reason to decline — so the decision is entirely voluntary and entirely costly	A REFUSED-MOLECULE LIST PUBLISHED WITH REASONS and reviewed annually against new evidence in either direction, with the revenue forgone REPORTED (₹9.40 crore in Year 3), because a refusal without a cost beside it is a marketing position; the reasoning published so a customer can disagree on the evidence rather than on trust; bio-pesticide and lower-hazard alternatives developed for the uses those molecules would have served; and the list applied at PORTFOLIO-PLANNING stage rather than at launch
The distributor who will take his order elsewhere	He is not being unreasonable — the molecule is registered, his farmers ask for it, every competitor supplies it — and the loss is immediate, quantified and attributable to a decision somebody made	The refused list is PUBLISHED rather than held internally, which converts a repeated negotiation into a known fact about the company; the forgone revenue is BUDGETED BEFORE THE SEASON so nobody is weighing principle against a quarterly number; and the decision sits with stewardship reporting to the promoter, because a distributor's threat delivered to a regional manager at quarter-end is not a decision anybody should take alone
The dealer's cocktail and the resistance it builds	Tank mixes, calendar sprays and a fresh molecule when the last one "stopped working" raise the immediate sale, accelerate resistance, and increase the farmer's spend every subsequent season — so the most profitable advice this month is the advice that costs him most over five years	RESISTANCE-MANAGEMENT GUIDANCE published by crop and pest with mode-of-action rotation; field staff trained to recommend SCOUTING THRESHOLDS rather than calendar sprays; FIELD AGRONOMISTS PAID ON ADVICE QUALITY AND FOLLOW-UP, NEVER ON VOLUME, since one compensated on tonnage will recommend the calendar spray within two seasons without anybody noticing; and RECOMMENDATIONS THAT REDUCED APPLICATIONS REPORTED (2,400 → 8,600, ₹3.60 crore forgone)

Under-dosed formulation the farmer cannot detect	The anchor plan's finding applies unchanged — an under-dosed product looks identical, and when the pest survives the farmer concludes it has become resistant, a conclusion that sells him a stronger product rather than exposing the shortfall	Batch analysis published against the batch code with active content measured; a retained sample with farmer re-test honoured; formulation targeting the DECLARED content held as a system parameter rather than a target; 164 batches rejected in Year 3 with NIL blended down; and intake assay plus impurity profiling, since a cheap technical can meet assay while carrying more of what nobody tests for
Residue breach traced to this company's guidance	An export consignment rejected on residue destroys a grower's season and the supplier's standing simultaneously	Pre-harvest interval stated in DAYS AND IN CROP-STAGE TERMS a farmer actually observes; PHI reinforced in field advisory rather than left on the label; residue-sensitive fungicide and insecticide guidance built for export crops specifically; and the export channel treated as the commercial reason the discipline exists rather than as a compliance burden
Registration delay, lapse or portfolio gap	The portfolio is bounded by CIB&RC timelines measured in years; a lapse costs ₹10.60 crore of revenue and cannot be remedied quickly	Registration maintenance calendar with renewals tracked well ahead; a portfolio deliberately spread across insecticide, fungicide, herbicide and bio segments so no single lapse is existential; data generation planned as a continuing programme rather than a project; and toll formulation capacity to absorb plant time during a gap
Plant exposure, effluent and the empty container	A plant handling toxic actives every day, and a used container that routinely ends up storing drinking water	Closed handling, extraction, occupational-health monitoring and practised emergency response with antidotes on site; effluent treatment and hazardous-waste disposal to consent conditions; triple-rinse instruction in pictograms; container take-back through the dealer network with a refundable deposit and the RETURN RATE PUBLISHED (61%), because a take-back scheme with no return rate is an announcement rather than a programme

15. SWOT Analysis

Strengths - Local-language labels with comprehension tested and published - PPE supplied in the pack, not recommended on it - Refused-molecule list published with the revenue it costs 8,600 recommendations that reduced applications - Batch analysis published; 164 batches rejected, none blended	Weaknesses - Declines registered molecules competitors sell freely - Honesty programme costs more than Year-3 profit - Portfolio bounded by long registration timelines - Technical actives are 64% of revenue and imported
Opportunities - Export and horticulture growers who need residue compliance - Institutional buyers auditing their supply chains - Bio-pesticides as alternatives for refused-molecule uses - Herbicide growth as rural labour costs rise - Toll formulation filling capacity between seasons	Threats - A poisoning incident anywhere in the category - Technical-active price and currency shocks - Generic price erosion in an off-patent market - Spurious product destroying category trust

16. Recommended AiSevak Tools for This Business

- **Registration & portfolio tracker** — CIB&RC status, renewal calendar, and the refused-molecule list applied at planning stage.
- **Batch analysis & publication system** — assay results tied to the batch code, with retained-sample and re-test records.
- **Label comprehension test register** — applicators tested, pictograms passed and failed, redesigns triggered, rate published.
- **PPE fulfilment tracker** — equipment packed per applicable SKU, replacement supply through dealers.
- **Advisory & resistance-management log** — scouting recommendations, applications reduced, agronomist advice quality.
- **Container take-back register** — deposits, returns by dealer, return rate published.
- **Incident & exposure register** — poisoning reports, plant exposure monitoring, investigations and outcomes.

17. Key Assumptions & Notes

- **All financials are illustrative model assumptions, not forecasts, projections or guarantees.** Revenue, portfolio, registration timelines, active costs and headcount are editable inputs; actual outcomes depend on registrations obtained, crop and region mix, and generic price behaviour. Figures are in Indian rupees.
- **The central integrity finding is that the label assumes a user who does not exist.** The statutory label instructs a user to wear gloves, boots, a coverall, goggles and a respirator; the man actually spraying is barefoot in a wet field in forty-degree heat with a leaking knapsack, cannot read the label, has never owned any of that equipment and was not offered it at the point of sale. **The industry knows this precisely. The instruction to wear a respirator is not written for the applicator — it is written for the file, so that when he is admitted to a district hospital the label can be produced to show he was told. WHERE A SAFETY INSTRUCTION ASSUMES A USER WHO DOES NOT EXIST, THE INSTRUCTION IS A LIABILITY TRANSFER RATHER THAN A PRECAUTION.**
- **The person who bears the acute harm decides nothing and buys nothing.** The hired labourer walking through his own spray drift for six hours has no say in the molecule, the dose, the equipment or the timing, is not a customer of the formulator, the dealer or anybody else, and appears in no market analysis of this industry. **He is the third party this library keeps encountering, with the difference that here the harm is measured in hospital admissions. Every safety decision in this plan is aimed at him, and no competitor is aiming there at all.**
- **So four things change, and none is expensive.** The label and leaflet are in the local selling language with pictograms validated by comprehension testing on actual applicators — and the rate is published at 78%, which also means more than one in five still does not understand, on a product that can kill them. Protective equipment is supplied IN THE PACK and given away rather than sold, **because equipment a farmer must choose to buy is equipment the hired sprayer will never see.** Dosage is stated in capfuls per fifteen-litre knapsack alongside the statutory ml/ha, since a dose in units nobody uses will be guessed. And the pre-harvest interval is given in days AND in crop stages a farmer observes.
- **Several molecules remain registered here that are banned or restricted elsewhere, and refusing them is entirely voluntary.** They are high-volume, profitable and lawful, and no Indian regulation requires anybody to consider the question. **So a refused-molecule list is published with reasons and the revenue forgone is reported — ₹9.40 crore in Year 3 — because a refusal without a cost beside it is a marketing position and a refusal with the number printed is a decision somebody had to take.**
- **The position is stated narrowly rather than overclaimed.** This is not an assertion that every refused molecule is unsafe in every use, nor that Indian registration is wrong — regulators weigh evidence this company has not gathered,

and reasonable people disagree about several of these actives. **It is a narrower judgement: where a molecule's acute toxicity is high, its safe use depends on protective equipment the actual applicator will not have, and alternatives exist that do the same agronomic job, this company will not be the one that supplies it. That reasoning is published alongside the list, so a customer can disagree on the evidence rather than take it on trust.**

- **The dealer recommends the cocktail, and the most profitable advice this month is the advice that costs the farmer most over five years.** Tank mixes, calendar sprays and a fresh molecule when the last one "stopped working" raise the immediate sale and accelerate resistance. **So resistance-management guidance is published by crop and pest with mode-of-action rotation, field staff recommend scouting thresholds rather than calendar sprays, agronomists are paid on advice quality and follow-up rather than on volume — since one compensated on tonnage will recommend the calendar spray within two seasons without anybody noticing — and recommendations that reduced applications are reported: 2,400 rising to 8,600, worth ₹3.60 crore of forgone sales.**
- **The anchor plan's findings carry unchanged.** Active content is as invisible as nutrient content: an under-dosed formulation looks identical, and when the pest survives the farmer concludes it has become resistant — **a conclusion that sells him a stronger product rather than exposing the shortfall.** So batch analyses are published against the code, samples retained with re-test honoured, formulation targets the declared content rather than the tolerance floor, and 164 batches were rejected in Year 3 with none blended down. And the empty container — a hazardous item that routinely ends up storing drinking water — is taken back through the dealer network against a refundable deposit, with the return rate published at 61%, **because a take-back scheme with no return rate is an announcement rather than a programme.**
- **The arithmetic is the argument, and it is published rather than implied.** The refused list costs ₹9.40 crore of revenue, reduced-application advice ₹3.60 crore, free in-pack PPE ₹2.80 crore, stewardship and labelling ₹1.90 crore, and formulating to declaration ₹2.10 crore of margin — ₹19.80 crore in total, against Year-3 profit of ₹8.52 crore. **The safety and advisory programme is larger than the profit. It is affordable because ₹49.70 crore of horticulture, export and institutional revenue will pay for it — growers who need residue compliance, buyers who audit their chains, operators whose own customers ask what was sprayed — and it would not be affordable if they would not, which is worth saying rather than implying. In a category where one incident can end a brand and suspend a licence, that programme is also the credit's main covenant rather than an expense against it.**
- **Compliance is heavy and is a floor rather than a standard.** Insecticides Act 1968 and Rules 1971 with CIB&RC registration, manufacturing and sale licensing, permitted formulations, labelling and packaging — where a formulation below its declared active content is a misbranded insecticide with penal consequences; label and leaflet requirements, restricted-use categories and prohibition on sale to minors, alongside Factories Act and hazardous-process rules and occupational-health monitoring; FSSAI maximum residue limits enforced on produce, with the pre-harvest interval as the farmer's compliance mechanism, so a PHI nobody understands is a food-safety failure waiting downstream; state pollution-control consent for effluent, emissions and hazardous waste; storage, transport, disposal and empty-container rules; Insecticides Rules advertising restrictions with Consumer Protection Act and CCPA guidelines on efficacy claims; GST; and EPF/ESI, POSH and exposure monitoring. Professional advice should be taken on the specific registrations, label content and territory requirements.

► **Use these tools now — free on AiSevak**

Every tool referenced in this plan is available on aisevak.in. Open the [Agri-Inputs toolkit](https://aisevak.in/verticals/agriinputs) to browse and use them all at <https://aisevak.in/verticals/agriinputs> — or go straight to any specific tool at <https://aisevak.in/service/<tool-name>>. No signup needed to explore; each tool guides you step by step.

Prepared by AiSevak.in — a product of ABL Digital Technologies. AI-powered business services for India. This is AI-assisted guidance; figures are illustrative and not a guarantee of results. Verify all numbers, licences and regulatory requirements with a qualified professional before relying on this plan for binding decisions. © 2026 ABL Digital Technologies Private Limited.