

The Agricultural Diagnosis Masterclass

*An Examiner's Guide to Cracking
UNEB UCE Competence-Based
Scenarios (Paper 1)*

Field Dossier //
2025 Edition

**CONFIDENTIAL:
UNEB UCE AGRIC 1**

537/1
AGRICULTURE
Paper 1
(Theory)
Oct, Nov, 2025
2 1/2 hours


UGANDA NATIONAL EXAMINATIONS BOARD
Uganda Certificate of Education
AGRICULTURE

Paper 1
(Theory)

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

This examination paper consists of two Sections: A and B. It has a total of six items.

Section A has two compulsory items.

Section B has two Parts: I and II. Respond to one item from each part.

Responses must be written in the answer booklet(s) provided.

Respond to four items in all.

Any additional item(s) responded to will not be scored.

The Mission Briefing: Know Your Exam Architecture



Section A (Compulsory)

- 2 Cases. 100% Mandatory.
- Soil Science & Value Addition.



Section B: Part I (Choose 1)

- Animal Production. 2 Options.
- Pick your strongest case



WARNING: Respond to exactly FOUR items in total. Additional items are NOT scored. Do not waste time!

The Consultant's Approach: How to Read a UNEB Scenario



Step 1: Find the Symptom

Read the farmer's story with a red pen. Highlight every specific action or physical sign that looks wrong.



Step 2: Make the Diagnosis

Translate the story into agricultural science. What exactly is the technical error?



Step 3: Prescribe the Cure

Give the recommended practice AND state the biological or economic reason why it works.

**MARKS ARE HIDDEN
IN THE 'WHY'.
Never state a solution
without the reason!**

Case File 01: Moses (The Dairy Crisis)

Moses has an farmery students started, he **lender as provided**
milk in Aluminum cans placed in one corner of his living room.

He was alone to be quiet. He was about his canvered in the
every day milk his investment. Moses wanted all's claim
rather than a revelatory one of his own nature is one. **a doing**

loan from a moneylender at an interest rate of 30 % per
annum. He was now electedly called oday the Same **possible**

metal price. The recent sound for excited has attracted by the
rester of his milk, storagey business and his cans used

outperforming the merge of this month. **The extay entrirt the**
price of milk is Shs1,000 per litre... Kagube is Shs600. A

was the well perceiving to it was making a may more
collectal mass, should its be it saved.

*Predatory
finance!
High overheads!*

*Poor storage
environment!
Temperature
abuse!*

*Poor market
research & lack of
value addition.*

Moses' Marketing Audit & Prescriptions

Symptom (The Story)	Diagnosis (The Error)	Cure + Reason (The Marks)
Sells locally for Shs600.	Limited market reach.	Transport milk to Malupe/urban centers (Attracts higher prices like Shs1,000).
Milk spoils in living room.	Poor post-harvest handling.	Invest in cold chain/refrigeration (Prevents coagulation, allows batch selling).
Unsold milk poured away.	Zero value addition.	Process unsold milk into yoghurt/ghee (Extends shelf life and increases profit margins).

Value Addition: The Fermented Milk Pipeline



Step 1: Filtration

Remove impurities from fresh milk.

Step 2: Pasteurization

Heat to approx 85°C to kill pathogenic bacteria.

Step 3: Cooling

Drop temp to 40-45°C (ideal for culture survival).

Step 4: Inoculation

Add starter culture (beneficial lactic acid bacteria).

Step 5: Incubation

Keep warm for 4-12 hours until coagulation occurs, then package.

Case File 02: Angelina (The Maize Tragedy)

While the dried maize stem has a cycling arrow for the
upper parts **soil appears pale grey, is sticky and holds water**

Heavy clay soil /
Waterlogging!

with its starting grey, and on the root and its long missing roots and
vegetation, the soil is saturated with heavily decayed roots and soil
roots. **roots... short and branched excessively... decaying**

Poor aeration /
Root rot /
Nematodes!

Across the plants, when **leaves had also turned purplish**

Classic Phosphorus
(P) deficiency!

promotion. The dried stem is leaves liquid on its surface, leaves and
holds water. However, the leaves turn and turn pale and discolour, the
leaves had a very distinct / resistant head root down the side of the plant in
decaying.

Angelina fertilizer applied **applied urea fertilizer**
supplying a necessary important.

Wrong prescription!
Urea supplies
Nitrogen (N), not P!

Angelina's Soil & Crop Audit

Symptom	Diagnosis	Cure + Reason
Sticky, water-holding soil; decaying roots.	Poor drainage causing root asphyxiation.	Construct drainage channels (Lowers water table, restores root oxygen).
Purplish leaves.	Severe Phosphorus (P) deficiency.	Apply Phosphatic fertilizers like SSP/DAP (Specifically addresses the nutrient lack; stop using Urea).
Uneven surface with deep/shallow channels.	Poor land preparation & soil erosion.	Level the land and practice contouring (Ensures uniform water distribution and halts erosion).

Section B, Part I Strategy: Choose Your Battle



Item 3 - Joseph

Focuses on Zero-Grazing, Calf Rearing, Milking Hygiene, and Diseases (Bloat).

- Choose this if you are strong on veterinary symptoms and dairy routines.



Item 4 - Jena

Focuses on Deep Litter, Brooding Management, Poultry Hygiene, and Production Cycles.

- Choose this if you prefer structured lifecycle management.



Case File 03: Joseph (The Dairy Disaster)

Algal bloom/
Stagnant!

water... appears greenish

calves pass out loose dung... foul smell

Scours from
dirty feeding
buckets!

Bloat
(likely from
wet legume)!

swollen stomach... breathing with difficulty

wounds... inflicted by other cows, than

Overcrowding/
Failure to
dehorn!

the using compatching now, and to
showt other blit on for a year

Joseph's Herd Audit

Symptom	Diagnosis	Cure + Reason
Greenish water / 400m away.	Stagnant, contaminated supply.	Clean troughs regularly & pipe water closer (Prevents pathogen buildup; increases milk yield).
Calf scours (foul loose dung).	Bacterial gut infection.	Observe strict hygiene with calf feeding buckets (Prevents bacterial multiplication).
Cow with swollen stomach.	Bloat.	Puncture rumen with trocar/canula. Wilt legumes before feeding (Relieves trapped gas).
Horn wounds.	Aggression / Overcrowding.	Dehorn animals and ensure adequate space (Prevents injury and stress).

Milking Mechanics: Why Joseph's Cows Kick



The Error (Stripping)

Joseph holds the base and pulls. This damages the delicate udder tissues, causing immense pain. The cows kick the bucket defensively.



The Prescription

Use the full-hand milking technique (squeezing). This mimics the calf's natural suckling, ensuring complete milk let-down without causing pain or risking mastitis.

Case File 04: Jena (The Poultry Predicament)

Item 4

Jena rears chickens on a small scale using the deep litter system.

Hewarda plays **picks eggs for incubation at random.**

Poor selection criteria!

She introduces the chicks into a rectangular brooder made of cardboard, and flivaint to the **cardboard with sharp inner corners.**

Death trap!
Chicks will huddle and smother.

Some chicks crowd in the corners of the brooder and others eat litter.

After brooding, the growers are transferred to the growers' house whose floor is covered with coffee husks. **cleaned using a wet cloth.**

Removes natural protective cuticle; invites rot!

Open wooden feeders are used, pomember, lamshingg even after such as innts are welt ire. **Raking of litter... once a month.**

Too infrequent.
Ammonia buildup & Coccidiosis!

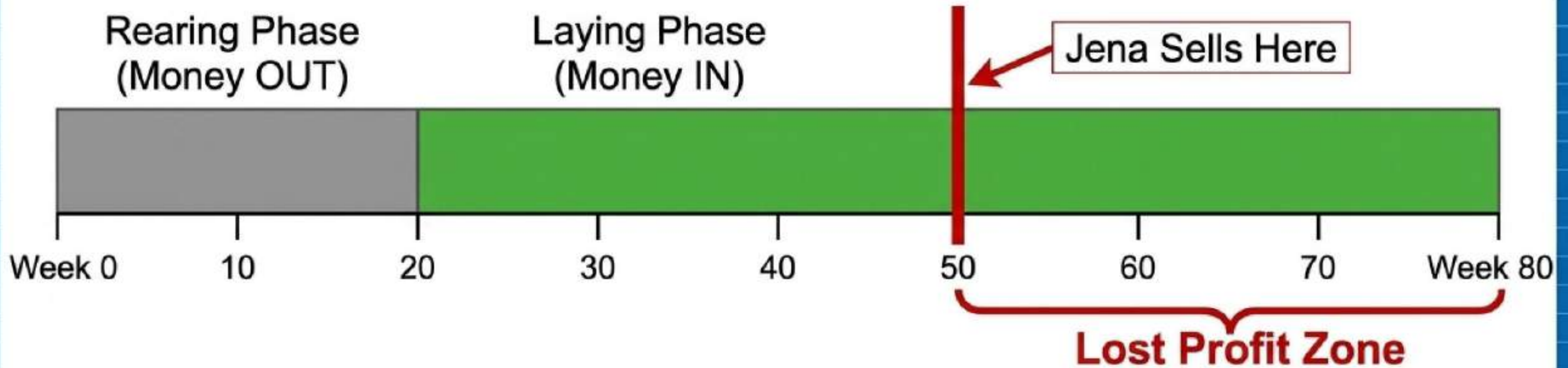
Greens to feed the birds are spread on the litter.

Jena sells the birds at 50 weeks of age as off-layers.

Jena's Brooding & Hygiene Audit

Symptom	Diagnosis	Cure + Reason
Sharp-cornered brooder & dead chicks.	Smothering.	Round off brooder corners (Prevents chicks from huddling in corners and suffocating).
Open wooden feeders; greens on litter.	Fecal contamination of feed.	Use proper hanging feeders; hang greens (Prevents disease spread from feces).
Raking litter once a month.	Parasite & ammonia buildup.	Rake litter frequently/weekly (Prevents caking, reduces ammonia, controls parasites).
Washing eggs with wet cloth.	Bacterial entry.	Clean by dry wiping with rough cloth/sandpaper (Preserves the egg's waxy cuticle).

The Economics of Culling: Jena's Timing Error



The Data Check

Jena culls at 50 weeks.
Research demands 72-80 weeks.

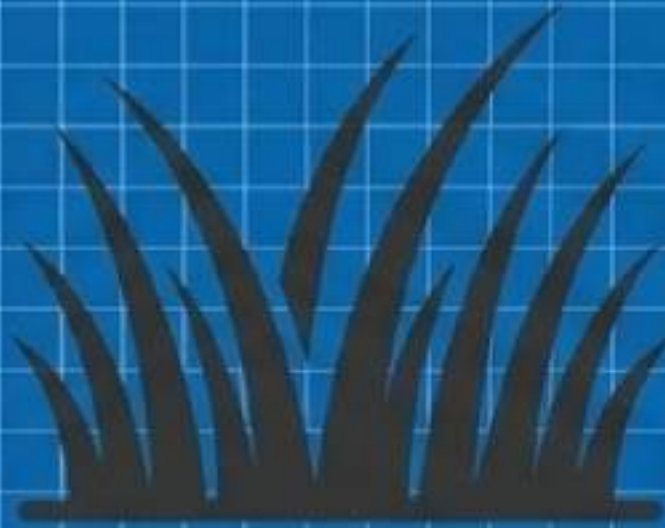
The Consequence

She incurs the massive costs of rearing the chick but cuts off production just as the bird hits peak profitability.

The Prescription

Keep layers until 72-80 weeks when egg production naturally drops below profitable feed-conversion ratios, then sell as off-layers.

Section B, Part II Strategy: Choose Your Battle



Item 5 - Dumba

Focuses on Seedbed prep, Pasture Establishment, Weed Control, and Grazing Management.

- Choose this if you understand the mechanics of forage crops.



Item 6 - Harriet

Focuses on Agronomy, Pests/Diseases (Nematodes), Spacing, and Harvesting techniques.

- Choose this if you are strong on horticulture and plant pathology.

Case File 05: Dumba (The Pasture Problem)

Part II: Crop Production

Item 5

Dumba decided to establish Congo signal grass — **sholted wify aassabn**
Dumba **seedbed with large lumps... rate of 1kg per hectare**

*Terrible tilth!
Severe
under-sowing!
(Rec: 2.5-10kg).*

The recommended seed rate — **grazed soon after establishment**

*Premature grazing
= uprooted grass!*

The **One watering point**

*Trampling and soil
compaction!*

**uprooted the pasture plants that had flowered... to
make silage**

*Wrong harvest method
(uprooting) & wrong stage
(flowered = woody)!*

Dumba's Pasture Audit

Symptom	Diagnosis	Cure + Reason
Lumpy seedbed; couch grass.	Poor tilth & weed prep.	Plough to a fine tilth and clear perennial weeds (Small grass seeds need fine soil contact).
Planted 1kg/ha instead of 2.5-10kg/ha.	Sub-optimal plant population.	Increase seed rate to recommended levels (Ensures full ground cover).
Grazed early / 1 water point.	Overgrazing & compaction.	Delay first grazing; introduce multiple water troughs (Prevents uprooting and localized trampling).
Uprooting flowered plants for silage.	Destructive harvest & poor timing.	Harvest by cutting just before flowering (Preserves root system; highest protein content for silage).

Case File 06: Harriet (The Tomato Tragedy)

Part II: Crop Production

Item 5

After learning about the high cliffs associated with **tomato growing, harriet spaces between avocado trees at... 30cm x 20cm**. He sell

Extreme shading & overcrowding!

variety of tomatoes in al arcatural shop. She made planting hlots in the spaces avocado betweado trees at a spacing of 30 cm x 20 and planted after

germination, **maintained all branches... fruits lying on soil**

No pruning or staking = disease & rotting!

for a fluid of signal grass with minularos a wrong seed rate of 20kg per hectare) in the unwalking and the flowend plants, nesomade seen rage of reers, 10kg per hectare.

These were find **swellings on the roots**

Root-knot nematodes!

watering with laron un,rirel. Where the Congo grass load a tare to make silage bants with being contrioted to graze after grass the use of these wiling flirware the-ement. Tagars have better diamond rape resun in a sat-time pasturim plants.

Harvest, pulled to **pulled the plants... out of the soil**

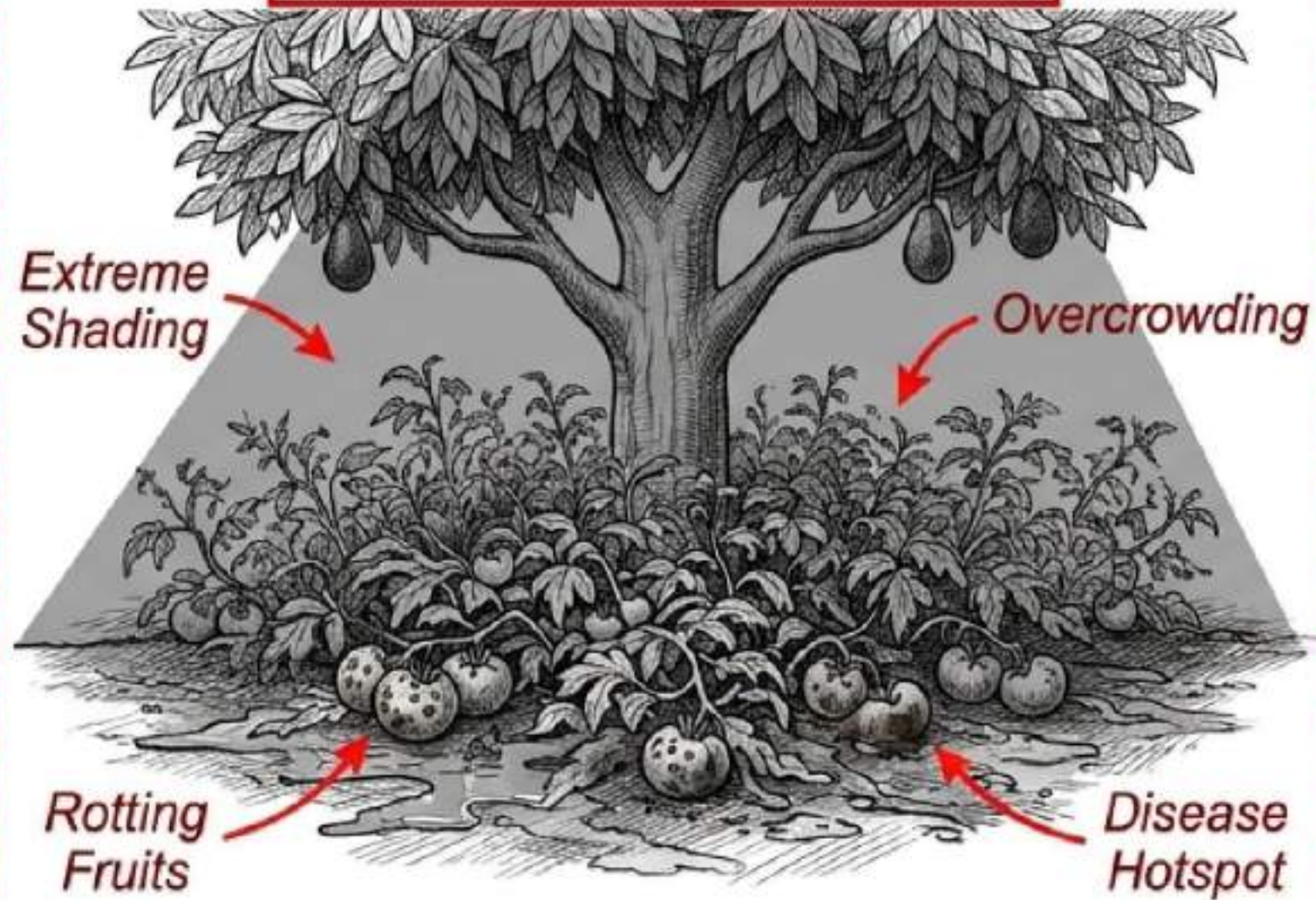
Destructive harvesting!

Harriet's Agronomy Audit

Symptom	Diagnosis	Cure + Reason
Wilted plants with root swellings.	Root-knot nematode infestation.	Practice crop rotation and apply nematicides (Breaks the pest lifecycle).
Leaves rolled with yellow patches.	Viral/Fungal infection.	Spray appropriate fungicides/insecticides (Treats infections exacerbated by unpruned conditions).
Pulling plants out to harvest.	Destructive harvesting.	Carefully pick/twist fruits off the vine by hand (Allows the plant to produce subsequent flushes).
Transported 300km (damaged).	Poor mechanical packaging.	Pack in rigid, well-ventilated crates (Prevents mechanical crushing over long distances).

Agronomic Architecture: Sunlight & Support

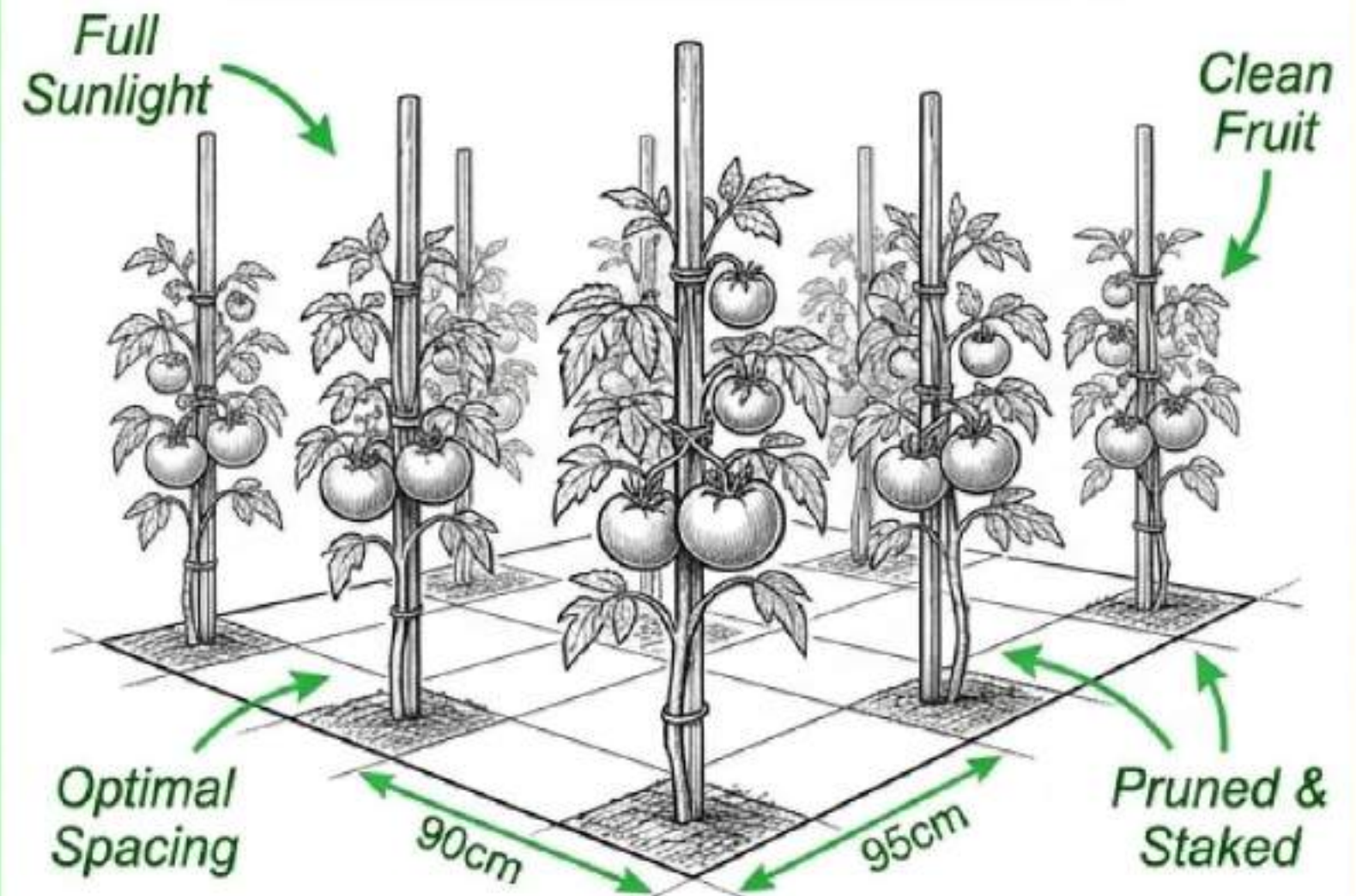
Harriet's Farm - The Error



The Spacing Rule

Harriet planted tall varieties at 30x20cm under dense shade. She must plant in an open field at 90cm x 45cm. This reduces competition for nutrients and stops fungal buildup.

Ideal Farm - The Prescription



The Support Rule

She must prune (remove side shoots) and stake (support with sticks). This keeps fruits off the damp soil, maximizing fruit size and preventing rot.

The Master's Synthesis: Cracking Competence-Based Exams

1

Rule 1: The Text is the Map.

Never invent a problem. Every answer must directly cure a specific bad practice mentioned in the farmer's story.

2

Rule 2: 'Why' is the Currency.

Writing 'Stake the tomatoes' gets you half marks. Writing 'Stake the tomatoes to prevent soil-borne fruit rot' gets you full marks.

3

Rule 3: Respect the Math.

If UNEB gives you numbers (like 50 weeks vs 72-80 weeks, or 1kg vs 2.5kg), use them in your answer to prove the economic loss.

4

Rule 4: Think Like a Consultant.

Don't just list facts. Advise, guide, and solve. Your goal is to make the farmer profitable.

**Memorization won't
save you anymore.
Application will.**