FARMER'S PRIDE INTERNATIONAL

Milestone 2

Farm and Production Systems

Plan a crop cycle around water, labour, quality and evidence



Illustrative learning scene. Image credits are on the references page.

PRACTICAL STUDY MANUAL

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HOW TO USE THIS MANUAL

Learn, practise, record, improve

Use this practical manual alongside your enrolled lessons and tutor instructions. It supports the milestone theme; it does not replace the complete Academy curriculum.

Work through one lesson at a time. Complete the activity using your own enterprise or the clearly labelled teaching example. Keep dated notes and discuss uncertain technical decisions with a suitable local adviser.

By the end, you should be able to:

- Prepare a practical field and crop calendar.

- Record irrigation and crop observations consistently.

- Use prevention and observation in pest decisions.

- Track harvest quantities and learn from a production cycle.

The self-check is for practice. Your programme's official assessment and certificate requirements remain separate from these exercises.

LESSON 1 OF 6

Build a field baseline

Give each field or production block a clear name. Record its area, previous crops, drainage, slope, soil observations, access and water source. Keep different soil or management zones separate in your notes. A field sketch can be more useful than an impressive map with no reliable measurements.

Confirm the intended crop and product before planning the cycle. Seed source, variety, planting method and expected harvest pattern affect labour and handling needs. Obtain locally appropriate agronomic guidance rather than treating a generic timetable as a prescription for every field.

Try it in practice

Draw your field and mark water points, access routes, storage, difficult areas and sample locations. Record the date and the information still missing.

LESSON 2 OF 6

Make a realistic crop calendar

List the work from preparation to the final sale. For each task, record the week, people, materials and equipment required. Include nursery work, transplanting or sowing, irrigation checks, scouting, harvesting, cleaning and record keeping.

Identify weeks when several tasks compete for the same labour or equipment. Stagger activities where practical. Add a fallback for late inputs, extreme weather or a delayed buyer. Revisit the calendar during the season; it is a working plan rather than proof that the original dates will be achieved.

Try it in practice

Create an eight-week calendar. Highlight the busiest week and explain how the team will complete the work safely.

LESSON 3 OF 6

Manage water with observations

Irrigation decisions depend on the crop, growth stage, root zone, soil, weather and water quality. Check soil moisture and crop condition rather than watering only because a fixed number of days has passed. Record rainfall and irrigation events separately.

Inspect filters, leaks, pressure and whether water reaches the intended area evenly. A pump running does not prove that each plant receives enough water. Ask a competent local adviser to interpret water quality and design requirements. Do not guess a chemical treatment or irrigation depth from a photograph of a stressed crop.

Try it in practice

Walk the irrigation system. Record a visible leak, blocked outlet or uneven area, assign a repair and check whether the problem is resolved.

LESSON 4 OF 6

Observe before responding to pests

Use regular field walks to record crop condition, symptoms, weeds, insects and beneficial organisms. Note where a problem occurs and whether it is spreading. Similar-looking symptoms may have different causes, including water stress, nutrient imbalance, injury or disease.

Integrated pest management combines prevention, monitoring and suitable management choices. Seek a reliable diagnosis when the cause is uncertain. If a pesticide is needed, use only a locally authorised product for the intended use, follow its label and obtain appropriate training. This manual does not set pesticide doses or withholding periods.

Try it in practice

Complete one scouting record: field, date, crop stage, observation, distribution, likely cause, uncertainty, action and follow-up date.

LESSON 5 OF 6

Plan harvest before the crop is ready

Agree the buyer's quality requirements and the handling route before harvest. Prepare clean containers, shade, labour, transport and a place for rejected material. Avoid mixing lots when traceability matters. Separate clean product handling from soil, waste and dirty equipment.

Measure total harvested quantity and saleable quantity separately. Record the reason for rejection or loss. Where drying or processing is planned, use a process suitable for the product and verify the required quality and food-safety controls. Do not assume a universal drying temperature or moisture target for every crop and buyer.

Try it in practice

Draw a harvest-day route from field to storage or buyer. Mark where produce waits, where contamination could occur and who records each handover.

LESSON 6 OF 6

Review the cycle with the team

At the end of a cycle, compare the plan with actual results. Review saleable yield, labour, inputs, water records, losses, customer feedback and cash timing. Use the same area and units when comparing blocks or seasons.

A high harvested yield can still produce a poor business result if rejection, handling costs or payment delays are high. Choose one or two improvements supported by the records. Keep photographs and dated observations so that future staff understand why a decision was made.

Try it in practice

Hold a short team review. Write one thing to keep, one thing to change and one measurement to improve next cycle.

WORKED EXAMPLE - ILLUSTRATIVE ONLY

Harvested quantity is not saleable quantity

A hypothetical 0.25-hectare trial harvests 600 kg. After sorting, 510 kg is accepted as saleable. The team records the rejected 90 kg by reason.

1. Saleable share = 510 / 600 x 100 = 85%.

2. Recorded loss or rejection share = 90 / 600 x 100 = 15%.

3. Saleable yield per hectare = 510 / 0.25 = 2,040 kg per hectare for this trial period.

4. Do not treat this illustrative result as a yield forecast for another crop, field or season.

What to take into your own plan

Use saleable yield, quality evidence and actual costs together. A single successful harvest does not establish an annual production rate.

PRINT AND COMPLETE - WORKSHEET 1

Crop cycle and field record

Name: _____ Date: _____

1. Field, measured area and crop

2. Seed or seedling source

3. Soil and water information

4. Tasks, weeks and labour

PRINT AND COMPLETE - WORKSHEET 2

Crop cycle and field record

Name: _____ Date: _____

5. Scouting observations and follow-up

6. Irrigation and rainfall events

7. Harvested, accepted and rejected quantities

8. Next-cycle improvement and evidence

YOUR NEXT 30 DAYS

Turn learning into a small, useful result

Week 1 - establish the starting point

Complete the worksheet using dated observations and records. Mark facts, estimates and unanswered questions separately.

Week 2 - test one improvement

Choose one feasible action from the lessons. Name an owner, a completion date and the evidence you will collect.

Week 3 - check the result

Compare the result with your starting assumption. Record what changed, what did not and what else may have influenced the outcome.

Week 4 - share and decide

Discuss the evidence with your team. Keep, change or stop the action and record the next step.

Keep an evidence folder: completed worksheets, dated records, relevant photographs, calculations and a short reflection. Use permission before recording or sharing another person's information.

SELF-CHECK

Test your understanding

1. Why name each field or block?

2. Does a running pump prove uniform irrigation?

3. Why record symptoms before treatment?

4. What is saleable yield?

5. What should a cycle review produce?

Write your own answer before reading the next page. Use the lesson activities to explain how you would apply the idea in a real enterprise.

SELF-CHECK ANSWERS

Compare and improve your reasoning

1. Why name each field or block?

It connects observations, inputs and harvest records to the correct place.

2. Does a running pump prove uniform irrigation?

No. Check delivery, leaks, blockage and field conditions.

3. Why record symptoms before treatment?

Good observations support diagnosis and avoid treating the wrong cause.

4. What is saleable yield?

The quantity meeting the intended sale requirement, reported for a defined area and period.

5. What should a cycle review produce?

A small set of evidence-based improvements with owners and follow-up dates.

SOURCES AND IMAGE CREDITS

Continue learning from reliable references

These references support the concepts used in the manual. Follow local requirements, product-specific guidance and the instructions of the relevant laboratory, authority or qualified adviser when applying technical practices.

FAO: Integrated pest management and farmer field schools

Open reference: www.fao.org

FAO: Irrigation Water Management Training Manual

Open reference: www.fao.org

FAO: Small-Scale Postharvest Handling Practices

Open reference: www.fao.org

Image credit

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