

5.14 Integrated Pest Management

Name: _____ Class: _____ Date: _____ **Total: 11 marks**

KEY WORDS crop rotation 轮作 • integrated pest management 综合虫害治理 • pesticides 农药
• pesticide resistance 抗药性

Objective

Build the skills to answer exam questions on **integrated pest management (IPM)**.

You must be able to:

- describe **integrated pest management** 综合虫害治理
- combine biological, mechanical, and limited chemical control
- explain why IPM reduces pesticide problems

1 Worked examples

Study these first. Each one shows the method for a question type used later — follow the steps and you can do the Practice and Exam-style questions yourself.

■ What IPM is

Integrated pest management (IPM) combines several methods to control pests with **minimal pesticide** use, keeping pests below a damaging level rather than eliminating them.

■ The tools

- **Biological** — natural predators.
- **Mechanical/physical** — traps, barriers, hand-removal.
- **Cultural** — crop rotation, resistant varieties.
- **Chemical** — pesticides only as a **last resort**, sparingly.

■ Why it works better

Using less chemical reduces **resistance**, protects non-target species, and lowers pollution — avoiding the pesticide treadmill.

■ A worked example

A farmer rotates crops, releases ladybugs to eat aphids, and only sprays a small amount if pests still exceed a threshold — that is IPM.

2 Practice

Now apply the methods above.

2.1 What is the goal of IPM regarding pesticide use? [1]

2.2 Name two non-chemical IPM methods. [2]

2.3 When are chemicals used in IPM? [1]

3 Exam-style questions

3.1 In IPM, chemical pesticides are used [1]

A	B
C	D

A first and heavily

B as a last resort, sparingly

C never

D to eliminate every pest

3.2 A farm switches from routine spraying to IPM.

(a) Describe two methods the farm might use. [2]

(b) Explain why IPM reduces pesticide resistance. [2]

3.3 Explain why IPM aims to keep pests below a threshold rather than eliminate them.[2]