The People's Democratic Republic of Algeria
Ministry of Higher Education and Scientific Research
University Center of Mila
Faculty of Natural and Life Sciences
Department of Biological and Agronomic Sciences
DW 02 Correction– Methods And Practices Of Investigation

Exercise 1:

Situation	Method	Justification
1	Observation	Natural monitoring of plant development without variable manipulation
2	Experimentation	Deliberate manipulation of nitrogen doses to test cause–effect
3	Survey	Collection of opinions and behaviors from farmers
4	Observation	Describing field conditions as they occur naturally
5	Survey	Gathering socio-economic data from a target population

Key concept:

Observation = description of reality

Experimentation = testing hypotheses

Survey = understanding behaviors and opinions

Exercise 2:

Situation Correct Type

a 1. Indirect observation

b 2. Participant observation

c 3. Structured observation

d 4. Non-participant observation

e 5. Unstructured observation

Exercise 3:

1. **Appropriate design:**
   Randomized Complete Block Design (RCBD)
   Justification: The slope introduces variability that can be controlled by blocking.
2. Definitions:

- **Independent variable:** Irrigation level
- **Dependent variable:** Tomato yield (kg/ha)
- **Experimental unit:** Plot
- **Control:** Standard irrigation practice (farmer's usual level)

Exercise 4:

1. Sample questions

- Closed-ended:
  - *Which type of fertilizer do you use most frequently?*
    ☐ Organic ☐ Mineral ☐ Both
  - *How often do you apply fertilizer per season?*
    ☐ Once ☐ Twice ☐ More than twice
- Open-ended:
  - *What difficulties do you face when applying fertilizers?*

2. Ethical principles

- Informed consent
- Confidentiality and anonymity
- Voluntary participation

3. Advantages of online tools

Faster data collection

Reduced data entry errors

Automatic coding and easy analysis