InkBiology

QUESTION WORKBOOK

Plant responses: tropisms, auxins and the classic experiments

Hormonal communication, plant responses and homeostasis · Unit B15

AQA 3.6.1.1 · OCR A 5.1.5 · CAIE 15.3, 14.2

6 questions · 20 marks

PRINT EDITION

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SECTION A · Short, 1 to 2 marks

A1 Give the name of the tropism shown by a shoot growing towards light from one side, and give the name of the plant growth substance responsible for the bending. [2]

SECTION B · Standard, 3 to 5 marks

B1 Describe the experiment carried out by Boysen-Jensen on coleoptiles, and describe what its result establishes about the signal that passes from the tip. [4]

B2 Explain how auxin arriving at a cell in the growing region of a shoot causes that cell to become longer. [4]

B3 A germinating seedling is laid on its side in complete darkness. Explain why its shoot grows upwards and its root grows downwards, even though auxin collects on the lower side of both. [4]

B4 Explain how a synthetic auxin sprayed over a field can kill broad-leaved weeds without seriously harming the cereal crop growing among them. [3]

B5 Maltsters soak barley grains in water and add gibberellin to the steeping tank. Suggest why this makes the starch in the grains turn into sugars sooner and more evenly across the batch. [3]