

Water Dynamics in Plant Production, 2nd Edition

Multiple Choice Questions

Chapter 1 – The Role of Water in Plant Life

1. Water is required in photosynthesis to:
 - (a) dissolve products
 - (b) provide oxygen
 - (c) provide hydrogen atoms
 - (d) cool the plant

2. Stomates in a leaf allow the exchange of CO₂ with:
 - (a) oxygen
 - (b) water vapour
 - (c) air

3. In plants, water:
 - (a) acts as a solvent
 - (b) acts as a coolant
 - (c) gives strength to tissues
 - (d) all of the above
 - (e) none of the above

4. Plants can be divided into (a) hygrophytes, (b) mesophytes and (c) xerophytes. Answer the following using a, b or c:
 - (i) ... are adapted to water shortage.
 - (ii) ... are commonly found in humid environments.
 - (iii) ... can establish an internal store of water to use if there is a dry period.
 - (iv) ... is the group to which most of the common crop plants belong.

5. Common traits allowing plants to escape drought are:
 - (a) dormant seeds that only germinate when water is plentiful
 - (b) a short life cycle
 - (c) they develop characteristics of water savers, including internal water storage
 - (d) none of the above
 - (e) all of the above

6. Maize leaves roll up under drought conditions. This is a sign of being:
 - (a) susceptible to drought
 - (b) a water saver
 - (c) a drought avoider
 - (d) nutrient deficient

7. On a daily basis, transpiring crops typically take up what proportion of the volume of water they contain in their tissues?
 - (a) 0.1 times
 - (b) 20 times
 - (c) 100 times
 - (d) none of the above

8. Net primary production can be limited by: (There may be more than one correct answer.)

- (a) radiation
- (b) temperature
- (c) water
- (d) mineral ions
- (e) herbivores

9. Parenchyma cells are:

- (a) specially designed for water storage
- (b) undifferentiated cells found in many plant structures
- (c) only found in succulents
- (d) the only cells that fix CO₂

10. Water savers *only* exist among: (There may be more than one correct answer.)

- (a) C₃ plants
- (b) C₄ plants
- (c) CAM plants
- (d) desert flora
- (e) none of the above