

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