Water Dynamics in Plant Production, 2nd Edition

Multiple Choice Questions

Chapter 10 – Radiation and Dry Matter Production

1. There are differences between C_3 and C_4 plants in terms of carbon dioxide (CO_2) exchange rate at the leaf surface. Which of the following factors is most likely to cause the largest difference between the two types of plants?
(a) temperature
(b) soil water content
(c) incident radiation
(d) leaf angle

2. In terms of the photosynthetic rate per unit ground surface, when an erectophile leaf inclination is compared with planophile inclination in areas of high radiation intensity, erectophile inclination:
(a) is more beneficial
(b) is less beneficial
(c) does not differ

3. In terms of the photosynthetic rate per unit ground surface, when an erectophile leaf inclination is compared with planophile inclination in areas of low radiation intensity, erectophile inclination:
(a) is more beneficial
(b) is less beneficial
(c) does not differ

4. Comparing a plant with erectophile leaf inclination with one with planophyle leaf inclination, in outcompeting local weed species early in its life cycle, the plant having erectophile leaf inclination will be:
(a) more effective
(b) similarly effective
(c) less effective

5. Achieving a leaf area index (LAI) of between 3 and 5 m^2 leaf area per m^2 of soil surface as early as possible for a crop stand, is beneficial because: (There may be more than one correct answer.)
(a) Competitive species will be shaded out.
(b) Crop growth rate will reach the maximum.
(c) 50% of global radiation is intercepted.
(d) All of the above.