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metabolism photosynthesis; 2.3.4 Photosynthetic acclimation to rising CO₂; 2.4 Cellular processes: photosynthetic carbon oxidation (PCO) and carbon dioxide; 2.5 Single leaf response to CO₂; 2.5.1 Leaf carbon dynamics; 2.5.2 Inhibition of dark respiration; 2.5.3 Leaf chemistry; 2.5.4 Stomatal response and CO₂; 2.6 Whole plant responses to rising CO₂; 2.6.1 Plant development; 2.6.2 Carbon dynamics 2.6.3 Stomatal regulation and water use2.7 Plant-to-plant interactions; 2.7.1 Plant competition: managed systems; 2.7.2 Plant competition: unmanaged systems; 2.7.3 How does CO₂ alter plant-to-plant interactions?; 2.8 Plant communities and ecosystem responses to CO₂; 2.8.1 Managed plant systems; 2.8.2 Water use in managed systems; 2.8.3 Unmanaged plant systems; 2.8.4 Water use in unmanaged plant systems; 2.8.5 Other trophic levels; 2.9 Global and evolutionary scales; 2.9.1 Rising CO₂ as a selection factor; 2.9.2 Global impacts; 2.10 Uncertainties and limitations; References

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Sommario/riassunto

Evidence grows daily of the changing climate and its impact on plants and animals. Plant function is inextricably linked to climate and atmospheric carbon dioxide concentration. On the shortest and smallest scales, the climate affects the plant's immediate environment and so directly influences physiological processes. At larger scales, the climate influences species distribution and community composition, as well as the viability of different crops in managed ecosystems. Plant growth also influences the local, regional and global climate, through the exchanges of energy and gases between the
