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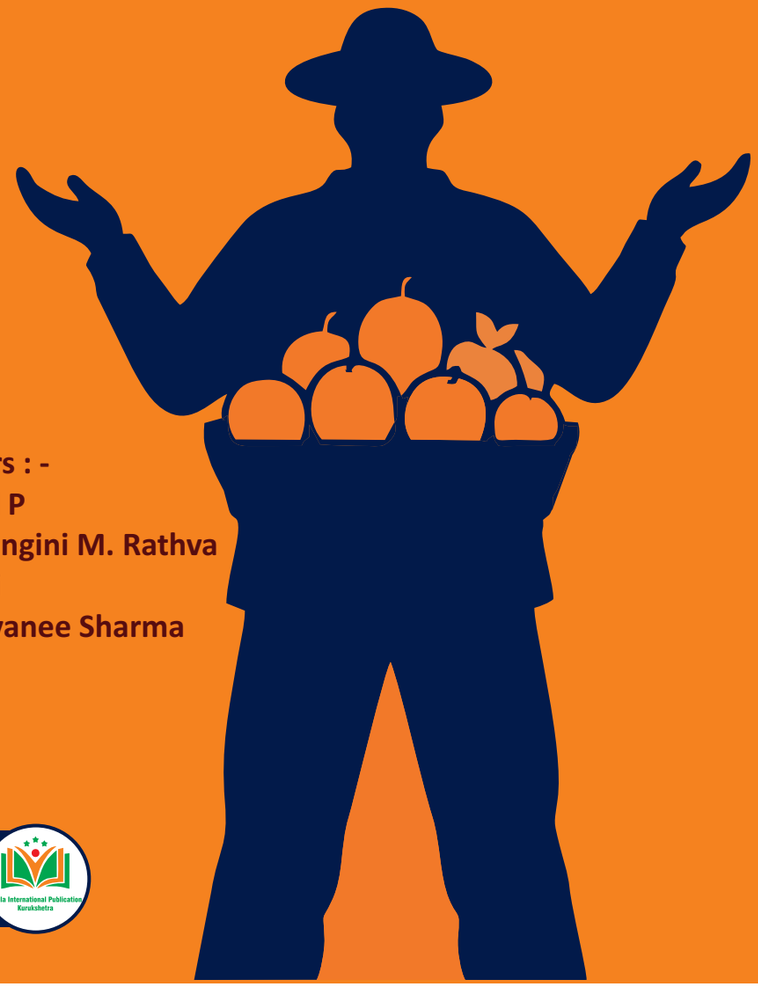

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Contents

CHAPTER-14

CLIMATE CHANGE AND ITS IMPACT ON FRUIT PRODUCTION: ADAPTATION STRATEGIES

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Abstract

Climate change poses a significant threat to global fruit production, with rising temperatures, altered precipitation patterns, and increased frequency of extreme weather events disrupting physiological processes, phenological cycles, and pest dynamics. These changes can adversely affect fruit yield, quality, and geographic suitability, challenging food security and agricultural sustainability. This chapter explores the multifaceted impacts of climate change on major fruit crops, focusing on shifts in flowering and fruiting times, increased vulnerability to pests and diseases, and water stress. Furthermore, it highlights a range of adaptation strategies employed across different agro-climatic zones, including the development of climate-resilient cultivars, advanced irrigation techniques, agroforestry integration, and changes in agronomic practices. Policy interventions and research priorities are also discussed to support farmers in navigating an increasingly unpredictable climate. This chapter provides an integrative overview essential for researchers, policymakers, and growers aiming to mitigate climate-related risks and ensure resilient fruit production systems.

Keywords: Climate Change, Fruit Production, Adaptation Strategies, Phenology, Abiotic Stress, Pest Dynamics, Climate-Resilient Cultivars, Irrigation Management, Agricultural Sustainability.