

# Climate Change and its Impact on Fruit Production

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**Abstract**—*One of the best-documented effects of climate change is the changing timing of plant growth activity, known as change in phenology. Alteration in between the duration of vegetative and reproductive phase is taking place due to climate change. In most fruit crops, generally higher temperature decreased the days interval required for flowering by reducing the vegetative phase. Mandarin exposed to direct sunlight (35°C) is 2.5 times firmer than those on the shaded side (20°C). Decreased cell wall enzyme activity under higher temperature during growth and development delays ripening. It also affects chemical composition of fruits with variable precipitation and moisture stress trends. The increase in temperature from 0.7-1.0°C may shift the area suitable presently for the quality production of Dashehari and Alphonso varieties of mango. Rise in temperature by 0.2°C may result into dramatic reduction areas suitable for development of red colour on guava. Change in the flowering times in temperate regions leads to ecological consequences such as introduction of new insect-pests, etc. Warming is most deleterious for tropical insects than species at higher latitudes. Despite the rising atmospheric CO<sub>2</sub>, food production in future is uncertain with global warming and altered precipitation. There is limited information regarding realistic impacts of pests and diseases in a changing climate, which otherwise may influence future food security. Loss in plant diversity and area suitability will further increase the problem. Under such threats in global fruit production a plan based on strategic scientific assessment of such impacts should be quantified with adaptation and mitigation approaches.*

**Keywords:** *Climate, phenology, productivity, temperature, ecological, global warming, food security.*