International Journal of Environmental Engineering and Management.
ISSN 2231-1319, Volume 4, Number 6 (2013), pp. 629-630

http://www.ripublication.com/ ijeem.htm

Climate Change and Indian Horticulture: Opportunities, Challenges and Mitigation Strategies

T.K. Hazarika

Dept. of Horticulture, Aromatic and Medicinal Plants, School of Earth Sciences and Natural Resources Management, Mizoram University, Aizawl, MIZORAM.

Abstract

Climate change has emerged as a serious global environmental issue having impact on all forms of life. It increases the green house gases like carbon dioxide, nitrous oxide, ozone and methane which may cause impact in terms of increased temperature, more demand for water and increase in biotic and abiotic stresses. It has direct impact on agriculture and horticulture. Due to climate change, low production of horticultural crops is featured. Due to severe cold wave, horticultural crops suffer a yield loss of 10-100 % depending upon crop and variety. Production of apple in Himachal Pradesh in last two decades showed a decreasing trend. The global warming has caused loss of vigour, fruit bearing ability, reduction in size of fruits, less juice content, low colour, reduced shelf life and increasing attack of pests resulting low production and quality of apples. In mango, unusual or very early flowering is experienced. However, there was no fruit set due to this flowering. Leaf scorching, twig dying are common symptoms of heat stroke in bearing and non-bearing mango plants. In guava, there is severe increase in pests and diseases due to climate change. Fruit fly in guava is becoming alarming due to hot and humid conditions. The crops like peach, plum, which requires low chilling temperature also showing sign of decline in productivity. Abnormal high temperature during winter cause poor flowering, irregularity in flowering duration, pattern of flowering and poor yield in pear due to non-availability of sufficient chilling hours during winter months. The horticulturists will have to play a significant role in the climate change scenario and proper strategies have to be envisaged for saving horticultural crops for further turmoil. Developing of new cultivars tolerant to high

temperature and producing good yield under stress conditions will be the main strategies to meet these challenges.