



Research Paper

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Effect of climate on vegetative, flowering and fruiting behaviour of hard pear (*Pyrus pyrifolia*) under Amritsar conditions

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ABSTRACT : The present investigation effect of climate on vegetative and fruiting behaviour of hard pear (*Pyrus pyrifolia*) under Amritsar conditions was carried out by collecting the data of vegetative characters, flowering and fruiting behaviour from 10 orchards in two blocks i.e. Verka and Ajnala of Amritsar district during 2009 and 2010. From the collected data it is concluded that leaf emergence started earlier in 2009 i.e. in first week of February as compared to 2010 in which leaf emergence occurred in third week of February. Effect of climate on flowering and fruiting was very pronounced and the flowering started in second week of February in 2009 and in first week of March in 2010. Very low fruit set about 7.19 % was recorded during 2009 and very good fruit set 11.24 % was recorded in the year 2010. The 25.09 per cent fruit drop was recorded during 2009 and 17.52 per cent was noticed during the year 2010. The mean fruit yield was higher 77.35kg/tree in year 2010 as compared to 34.96 kg/tree in year 2009.

KEY WORDS : Climate, Fruiting, Leaf emergence, Fruit set, Fruit drop

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Pear is one of the important temperate fruits of the world. All pear cultivars belong to genus *Pyrus* which belongs to family Rosaceae and order Rosales. The pear [*Pyrus pyrifolia* (Burm.) Nakai] was originated in China and it may have been introduced in India during the reign of Lord Kaniska (120-170 A.D.) who settled some Chinese hostages around village 'Harsa Chhina' in Amritsar district (Cheema and Dhillon, 1991). In northern India, Punjab occupies a place of prominence in pear cultivation due to its hardy nature, high productivity and wide range of adaptability to different soils and prevailing agro-climatic conditions in the state. The pear is the fourth most important crop of Punjab in terms of area 2707 hectare and annual production 59,992 tonnes (Anonymous, 2010). Moreover pear fruit is well known for its keeping quality and ability to withstand long distance transportation.

Among the recommended cultivars of pear in Punjab, Patharnakh ranks first both in area and production. The most important centre of its cultivation is Amritsar district in which

it is grown on large area and mainly it is transported to other parts of the country from here. But its cultivation since long showed some drawbacks like shy and irregular bearing after few years of planting.

The phenology, physiology, distribution and interactions of plants mostly are determined by climate. Phenology is the study of the cycling of biological events throughout the year (Bradley *et al.*, 1999) and is considered the most responsive aspect of nature to climate warming (Sparks and Menzel, 2002).

In recent times with the change in climate pattern of Punjab, chilling requirement of pear is not fulfilled and it showed erratic fruiting in many areas of the state. Farmers time and again complained about very less fruiting and no fruiting in pear particularly when temperature remains somewhat on the upper side during dormant period in pears. Keeping in view these aspects a study was planned to evaluate the growth and fruiting pattern of some farmer's orchards in Amritsar district.