



NATIONAL SECOND - PLANT VARIETY

HRMN-99: New apple variety for tropical, sub-tropical and plain areas.

Hariman Sharma
Bilaspur, Himachal Pradesh

Hariman Sharma (60) is a well-known progressive farmer. He has developed an innovative variety of apple that can be successfully grown in plains, tropical and subtropical areas where the temperature can be as high as up to 40 to 45 °C during summers. This variety does not require chilling hours for flowering and fruit setting.

Having lost his mother at the age of three, Hariman was adopted and taken care of by his uncle. He studied till class ten and thereafter took to farming. Presently, he lives with his wife, children and grandchildren. His two daughters are married and his two sons are also well settled. His elder son lives with him and helps in his farm. The main source of income for Hariman is agriculture, he owns about 1.75 hectare land. He has a great interest in horticulture and grows different fruit plants like apple, mango, pomegranate, kiwi, plum, apricot (*khumani*) and peach (*aadoo*), along with the fruit crops he also grows coffee. The most interesting part of his farming practice is that he can grow apple along with mango in the same field. He strongly feels that farmers in the state can easily get out of poverty if they start raising apple orchards in the lower valleys. He feels very happy when the plants distributed by him at different locations bear fruits.

Genesis

In 1998 Hariman purchased some apples from a village in Bilaspur. After eating the fruit he disposed the seeds in his backyard. A year later he noticed that the seeds had started germinating. In 2001 he got some fruits on that tree. As a farmer he could sense that this apple tree bearing fruits at a warm area like his village situated at 1,800 feet above mean sea level was extraordinary. Therefore he preserved this plant and the next year he took some branches and grafted them on a plum tree as no apple tree was available. The grafting was successful and the fruit quality was good. Durign 2003-05, he brought some crab apple seedlings from Shimla and grafted the same. He created a mini orchard of apple trees, which continue to bear fruits till today. Now



he gets crab apple seedlings every year from Kashmir and raises the graft on those plants.

The apple variety

Usually apple can be grown at altitudes 5,000-8,500 feet above mean sea level in the Himalayan range, which experience 1,000-1,500 hours of chilling but the variety developed by Hariman can be grown at low hill/plain area, which are about 1,800 feet above mean sea level or lesser. The variety does not require chilling hours.

The common characteristics of this scab disease resistant apple variety are that it can be grown in high temperature areas, the plant height is up to 12-15 feet, fruiting starts after third year of plantation, flowering starts in early January and harvesting can be done after six months (June). Pruning of grown plant is needed at the end of November or early December. The ripe fruit color is yellow-red with normal fruit size and sweet in taste. The only disadvantage of the fruit is that it has short shelf life (about 10-12 days at room temperature). The average yield of a well grown plant (10-12 years old) is about 1.0 quintal/plant. These days Hariman Sharma is working on improving its fruit shelf life. So far this variety is having promising results in plain areas.

Hariman has distributed thousands of plants to hundreds of farmers throughout the country. NIF has extended the support to him for conducting multi-locations trials in tropical and subtropical regions. NIF started transplantation of HRMN-99 saplings from 2014-2015 for introduction and evaluation trial in different areas the country. Total 7572 saplings were transplanted by NIF in two years with the objective of adoption and fruiting study in



three year plants. Interestingly, fruiting has been reported in one year plants in seven states such as Delhi, Uttar Pradesh, Uttarakhand, Karnataka, Haryana, Himachal Pradesh and Manipur.

The fruit quality report of Indian Agricultural Research Institute confirms the better value of HRMN-99 fruits. Morphological and SSR DNA finger printing study by NIF and Gujarat State Biotechnology Mission confirms its diversity and superiority over other low chilling varieties Anna and Dorsett golden. NIF has filed the application on behalf of Hariman Sharma for the registration of HRMN 99 variety under PPV & FR Act- 2001.

Hariman has received various regional, state and national awards and recognition as well. A large number of newspapers and magazines have written about his apple variety, with a local newspaper calling him the 'Apple Man of Bilaspur'. He has become a source of inspiration for thousands of farmers and agriculturists of Bilaspur and other lower hill districts of the state, the areas which earlier could never dream of growing the apple fruits. Now his farming practices are recognized nationally and internationally.