



Introduction and Evaluation of New Apple Plantation under High Density in Kashmir

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ABSTRACT

Jammu and Kashmir State being endowed with natural advantages of topography and climate with enormous diversity of agro-climatic conditions has immense scope for horticultural development. Horticulture industry in the state made rapid strides during the last few decades. Compared to 1954-55, the area under fruits in the state increased by 16 times and the production has shoot up to 60 times. Yield of apple has shown an increase from 4.12 to 10.00 MT/ha. Though it appears to be highest among the apple producing states in the country, yet it is far below the level achieved by advanced countries where productivity is of 50-60 MT/ha. The entire apple fruit plantation in the state is on seedling origin rootstock that leads to larger trees which have long juvenility, accommodating only few trees per hectare making productivity less profitable. With stagnation in productivity, looming threat of imported fruits and land prices touching new peaks in the valley, it becomes imperative to go for high density plantation for which change in rootstock is a prerequisite along with a shift to new varieties which have both high yield potential as well as good marketability. Such an initiative to evaluate newly introduced apple varieties has been taken up by SKUAST-Kashmir by introducing new exotic apple varieties in 2013. Four exotic apple varieties namely Super Chief Sandidge, Gala Red Lum, Fuji Zehn Aztec and Golden Clone B were imported from Italy on M9T337 rootstock and planted at a distance of 1.5× 3m on four wire trellis system (2222trees/ha). The performance of these exotic varieties were studied with respect to morphological, flowering and physico-chemical characteristics. The variety Super Chief Sandidge stood first in terms of overall quality parameters followed by Gala Red Lum. In terms of yield, Golden Clone B far exceeds other varieties (10MT/Ha) followed by Super Chief Sandidge (5.4MT/Ha) in the second year of plantation with 2222trees/ha. On the basis of vegetative behavior among the studied varieties, it can be suggested that in variety Super Chief Sandidge further close plantings at the rate of 3906 trees/ha can be recommended to utilize the inter-tree space more efficiently and the productivity further high. The overall results indicate that the introduced apple varieties are characterized with different biological and quality polymorphism. Most of the studied varieties show positive characteristics and can be recommended for further evaluation in Kashmir valley.

Keywords: *apple varieties, high density, M9T337, quality, yield*