

## Vidhan Sabha Question

Name of Department: Horticulture  
Assembly Question Starred: 4602  
Date of Reply: 25-02-2022  
Subject: “Apple and other Fruit Rootstock”  
Asked by: Sh. Rakesh Singha (Theog)  
Concerned Minister: Jal Shakti Minister

Question	Answer
(a) which is the best root stock for Apple, Plum, Peach, Cherry, Almonds, Apricot, Pears, Litchi, Mangoes, Pomegranates, Orange, Lemon, Kinnow, Dragon fruit, Grapes and Kiwis for the ideal conditions of Himachal Pradesh; what cultivar gives best results on what rootstock from quality and quantity and viruses free and whether colonial or tissue culture plants are giving better results;	a, b & c Information has been laid on the table of house.
(b) has any research work been conducted; if yes, place report summary of it on Table of the House; and	
(c) does the Government propose to carry out R & D on this vital issue of quality and productivity or leave everything to chance or hit and trial by the farmers and how does the government propose to rejuvenate old orchards by new technologies and latest practices?	

Starred Assembly Question No. 4602 asked by Sh. Rakesh Singha (Theog) regarding “Apple and other Fruit Rootstock ” - reply thereof.

- (a) The best performing rootstocks for the desired fruit crops in Himachal Pradesh with respect to quality fruit production are mentioned at Annexure-I. The research work on field performance of tissue culture raised rootstocks is under progress.
- (b) Yes; the research work has been carried out in the experimental fields of Dr. YS Parmar University of Horticulture and Forestry Nauni Solan and on that basis various rootstocks and cultivars have been recommended, the detail of which has been mentioned at above referred annexure.
- (c) The research work on quality production of the mentioned fruit crops is a continuous process and is being carried out from time to time to resolve the specific production related issues at Dr. YS Parmar University of Horticulture and Forestry Nauni Solan and its research stations. As per evaluation protocol of varieties and rootstocks, it requires minimum 3 years for validation of data on production and quality parameters under different agro ecological conditions and the same is to be reflected in State Level PoP (Package of Practices) for recommendation to the farmers. The old orchards can be rejuvenated by following the standard rejuvenation techniques with respect to specific fruit crops.

## Annexure-1

Fruit Crop	Rootstocks	Cultivars
Apple	Dwarfing rootstocks: M9/EMLA-9 Semi dwarfing rootstock MM111; M7; MM106	All the recommended cultivars performed well on these rootstocks. However, in case of HDP standard cultivars perform better on dwarfing rootstocks and spur type cultivars on semi dwarfing rootstocks. Standard Varieties Royal Delicious; Red delicious; Red Velox; Jeromine; Granny Smith; Golden Delicious Gala and Fuji Series; Early Red One etc. Spur type varieties Red Chief; Super Chief; Scarlet Spur II; Oregon Spur; Red Cap Valtod; Golden Spur etc.
Plum	Wild apricot/ Myrobaln B	Santa Rosa; Red Beaut; Mariposa; Cancaska; Black Amber, Frontier; Sweet Early; Beauty etc.
Peach	Wild peach; peach x almond hybrid	Redhaven; July Elberta; Sun crest; Red Heaven
Cherry	Colt; Paza; F12/1; Sour Cherry	Van; Stella; Black Heart; Red Heart; Duranoro; Wing; Sam; Sue; Napoleon; Lambert; Black Republican etc.
Almond	Bitter almond and wild peach	Ne-Plus Ultra; Texas; Thin Shelled; Non Pariel IXL; Nauni Selection; Drake; Katha etc.
Apricot	Wild apricot	Ema; New Castle; Shakarapara; Kaisha; Nugget; Safeda; Early Shipley; Harcot etc.
Pears	Kainth; Zarainth and Quince A	Bartlett; Red Bartlett; Max Red Bartlett; Claps Favourite; Fremish Beauty; Starkrimson; Conference; Kashmiri Pear; Keiffer; Patherakh'and China Pear etc.
Litchi	No rootstock available as plant are raised through air layering	Dehradun; Calcuttia; Rose Scented; Seedless Late; Early Large Red; Seedless
Pomegranate	No rootstock available as plant are raised through cutting	Kandhari Kabuli; Bhagwa
Orange/ Lemon/ Kinnow	Jatti Khatti (Rough Lemon)	Blood Red Malta; Kinnow; Duncan; Valencia Late, Jaffa, Foster; Kagzi Nimbu; March Seedless; Ruby Red; Mosambi; Hill Lemon; Pineapple
Dragon Fruit	No research has been done yet	-----
Grapes	No rootstock available as plant are raised through cutting	Beauty Seedless; Thompson Seedless; Kali Saheb; Beauty Seedless; Anab-e-Shahi; Black Prince; Choltu Red/White; Perlette etc.
Kiwi	Bruno for grafting	Hayward; Allion