

Effect of Rootstocks on II. Rainer Cherry Grown in Balochistan (Pakistan)

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ABSTRACT

Effect of two different rootstocks viz. colt and Mazzard on Cherry cultivar Rainer was studied. For full bloom data both rootstocks were observed on same date. Rootstock colt came to leaf sprouting two days earlier and for fruit set one day earlier than rootstock Mazzard. Results of number of fruit set per tree, number of fruit drop yield, and skin color were found significant on rootstock colt; whereas, rootstock Mazzard showed significant in total soluble solids (TSS). Proper stage of maturity between the two rootstocks remained non-significant. In the light of this study root-stock colt might be recommended for commercial cherry production in Quetta region.

Key Words: Rootstock; Rainer; Cherry; Pakistan

INTRODUCTION

Cherry (*Prunus avium* L.) is a leading fruit of temperate zone in Pakistan. It belongs to the family "Rosaceae". An account of status of cherry cultivation/production and various types of rootstocks has been described previously (Tareen & Tareen, 2006). This study was carried out to investigate the effect of rootstocks on time of flowering, fruit drop yield and quality of "Rainer" cherry variety.

MATERIALS AND METHODS

This research was conducted at Horticultural farm, Deciduous Fruit Development Center, Quetta Balochistan. The experimental design, characteristics of rootstocks, and the parameters investigated were those already studied by Tareen and Tareen (2006) for cherry cultivar Lambert.

RESULTS AND DISCUSSION

Time of flowering. It is evident from Table I that the cultivar Rainer budded on colt and mazzard rootstock reached to full bloom on same date April 8.

Time of leaf sprouting. It is evident from Table I that the cultivar Rainer budded on colt rootstock sprouted maximum leaves on April 3, while the cultivar Rainer budded on mazzard rootstock sprouted maximum leaves on April 5. Early or late leaf sprouting may be due to rootstock characteristics, which is some-what in consonance with the findings of Webster and Shepherd (1984).

Time (date) of fruit set. It is clear from Table I that the cultivar Rainer budded on colt set fruit on April 16, while the cultivar Rainer budded on mazzard set fruit two days earlier on April 17. So, partial significant difference was

found between the two rootstocks for time (date) of fruit set. **Number of fruit set per tree.** The data regarding the effect of two different rootstocks for number of fruit set of cherry cultivar Rainer are given in Table II. It is obvious from the table that the difference between the two rootstocks was non-significant. Higher number of fruit set was noted in rootstock colt (149.44), while lower number of fruit set was noted in rootstock mazzard (109.75). Increase or decrease in number of fruit set is a character of cultivar. Some cultivars produce more flowers per branch, while some less. Majority of cherry cultivars are cross-pollinated and in general fruit set is increased by cross-pollination. The more fruit set in a cultivar may be the availability of good pollinizer or the cultivar is self-fruit full. It may be due to rootstock characteristics. Parnia *et al.* (1985) and Claverie (1985) reported similar results.

Number of fruit drop. The data regarding the effect of two different rootstocks on number of fruit drop of cherry cultivar Rainer are given in Table II. It is obvious from the table that difference between the two rootstocks was significant, lower number of fruit drop per tree was noted in rootstock mazzard (52.84), while higher fruit drop per tree was noted in rootstock colt (57.08). Similar results were found by Berezenko (1987), while studying on cherry and plum.

Proper stage of maturity. The data regarding the effect of two different rootstocks on the average days to maturity on cherry cultivar Rainer are given in Table II. It is evident from data table that difference between the rootstocks was non-significant. However, lesser days were taken to proper maturity (42.75) were noted in rootstock colt, while more days were taken for proper maturity (43.67) were noted in rootstock mazzard. Less days or more days for maturity between rootstocks may be due to increase or decrease in number of leaves and time of fruit set there was a non-

Table I. Effect of two different root-stocks on cherry cultivar Rainer

		Rootstocks			
		Colt		Mazzard	
Time of bloom	date	Time of leaf sprouting	Time of fruit set	Time of bloom	Time of leaf of fruit set
April 8	April 3	April 16	April 8	April 2	April 17

Table II. Effect of two different root-stocks on cherry cultivar Rainer

Parameters	Rootstocks	
	Colt	Mazzard
No. of fruit set per tree	149.44a	109.75 b
Number of Fruit drop	57.08 a	52.84 b
Proper stage of maturity (days)	42.75	43.67
Yield (kg)	26.28 a	15.58 b
Skin color of fruits	4.35 a	2.72 b
Total soluble solids (%)	17.18 b	20.98 a

Figures bearing different letters are statistically different at 5% level of significance.

significant effect of rootstocks on the stage of maturity.

Yield. Data regarding the effect of two different rootstocks on the yield of cherry cultivar Rainer are given in Table II. It is evident from the table that difference between two rootstocks is significant. Higher yield for Rainer (26.28 kg/tree) was recorded in rootstock colt, while lower yield for Rainer (15.58 kg/tree) was recorded in rootstock mazzard. Significant differences were noted in the yield/tree and their weight in Kg. between the two different rootstocks. Tylus *et al.* (1986) reported that the scion on mazzard rootstock produced lower yields.

Skin Color. Data regarding the effect of two different rootstocks on the skin color of cherry cultivar Rainer is given in Table II. It is evident from the table that difference between two rootstocks was significant. Deeper skin color (4.35) was noted in rootstock mazzard, while minimum skin color (2.72) was noted in rootstock mazzard Nikovski *et al.* (1989) reported variation in flesh color and juice and

recommended light colored fruit suitable for processing. Color of fruits fetches more price and attraction of consumers especially maroon color cherry fruit than light pink and pale yellow cherries.

Total soluble solids. Data regarding the effect of two different rootstocks on TSS of cherry cultivar Rainer are given in Table II. It is evident from the table that difference between the two different rootstocks is partially significant. High TSS for cultivar Rainer (20.98%) was noted in rootstock mazzard, while lower TSS for cultivar Rainer (17.18%) was noted in rootstock colt. The findings of Sekse (1986) are in conformity with this conclusion as he reported that TSS ratio ranged from 17 - 23.8. Sekse (1986) reported that the result of mazzard rootstock was partially better than colt rootstock.

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