

Rootstocks for Propagating *Prunus* Selections

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Fifty selections of *Prunus* species, varieties and hybrids, obtained from commercial nurseries, agricultural experiment stations and the Morton Arboretum, Lisle, Illinois, were fall-budded on 2-year-old stocks. Since the supply of certain rootstocks was limited, the appropriate rootstocks for a selection were chosen on the basis of taxonomic relationships after Rehder,** although it was intended that each selection be budded on all the rootstocks. Accordingly, *Prunus* selections of the plum type (Subgenus *Prunophora*) were budded on seedling rootstocks of four species: Myrobalan plum (*P. cerasifera* Ehrh.), peach (*P. Persica* (L.) Batsch.), American plum (*P. americana* Marsh.), and Japanese plum (*P. salicina* Lindl.). Cherry types of Subgenus *Cerasus* were budded on American plum, Mahaleb cherry (*P. Mahaleb* L.), and Manchu cherry (*P. tomentosa* Thunb.) seedling rootstocks. The peach and almond types of Subgenus *Amygdalus* were budded on peach, Myrobalan plum and Japanese plum seedling rootstocks. The selections of Subgenus *Padus* were budded on American plum and Mahaleb and Manchu cherry seedling rootstocks. Interspecific hybrids were budded on the widest possible range of rootstocks, considering the supply of scions and rootstocks available. Five replications of the stions (rootstock-scion combination) were budded on Mahaleb cherry, three replications on Myrobalan plum, two replications on peach and American plum, and only

one tree was budded using Manchu cherry and Japanese plum rootstocks.

The budding results are recorded in Table 1 with the *Prunus* selections listed according to taxonomic relationships of the female parent after Rehder.** These trees were propagated for use in cross-inoculation studies with *Coccomyces* and were only maintained during one year for the greenhouse testing.

The trees were still growing well after the disease testing was completed, although, it is possible that degrees of uncongeniality might appear in some stions in later years. Also, the possibility exists that some selections could be successfully budded on rootstocks for which negative results are recorded.

Plum selections were commonly congenial with Myrobalan plum seedling rootstocks, and certain plum selections were successfully budded on American plum, Japanese plum, and peach seedling rootstocks. Cherry and choke-cherry selections were generally congenial with Mahaleb cherry and occasionally with American plum seedling rootstocks. Cherry-plum hybrids were congenial with Myrobalan and American plum seedling rootstocks. Occasional peach and almond selections were congenial with peach and Myrobalan plum seedling rootstocks. Manchu cherry selections were congenial with American plum and Manchu cherry seedling rootstocks.

Summary—The American plum was a congenial rootstock for a very wide range of *Prunus* selections: plums, cherries, cherry-plum hybrids and

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**Rehder, A. 1940. Manual of cultivated trees and shrubs. 2nd ed. Macmillan Co., N. Y.

FRUIT VARIETIES AND HORTICULTURAL DIGEST

chokecherries. The Manchu cherry was a highly specific rootstock for Manchurian cherry selections. The Myrobalan plum was congenial for a wide range of plum, cherry-plum hybrid and almond selections. The Mahaleb cherry was a congenial rootstock for cherries and chokecherries. The Japanese plum was successfully budded with plum and almond selections, and the Peach was a congenial rootstock for almonds and a few plum selections. It is probable that most *Prunus* selections would be successfully budded on seedling rootstocks of American plum, Myrobalan plum or Mahaleb cherry.

TABLE 1. Number of live trees of fall-budded *Prunus* selections^a after one month's growth in the greenhouse in 1949.

Scion	Survival on seedling rootstocks ^b					
	Mahaleb	Myrobalan	American plum	Peach	Manchu cherry	Japanese plum
Subgenus <i>Prunophora</i>						
Sec. <i>Eupruneus</i>						
Burbank		3				
Reine Claude		0	2	—		0
<i>P. Simonii</i> sdlg.		0 ^c	—	0		0
<i>XP. gigantea</i>		3	0	1		1
<i>P. salicina</i> X <i>P. cerasifera</i>		2	0	0		0
St. Anthony X Mt. Royal		0	—	0		0
Sec. <i>Prunocerasus</i>						
Assiniboine sdlg.		0		0		0
Mandan No. 48		1		1		—
Valley River		0	0	0		0
Golden Beauty		3	0	0		1
<i>P. subcordata</i> sdlg.		2	0	0		0
Compass	0	3	0			0
Cooper		1	2			
Hanska		2	—			
Kaga		2	1			
Red Wing						
Subgenus <i>Amygdalus</i>						
<i>P. Davidiana</i> sdlg.		0		1		
<i>P. tenella</i> sdlg.		0		0		
<i>P. triloba plena</i> sdlg.		0 ^c	0	0		0
<i>P. pedunculata</i> X <i>P. triloba</i>	0	1		0		0
<i>P. Persica</i> X <i>P. Davidiana</i>				0		
Subgenus <i>Cerasus</i>						
Sec. <i>Microcerasus</i>						
Drilea	0		0		1	
Minnesota No. 20	0		1		0	
Minnesota No. 41	0		1		0	
Minnesota No. 42	0		2		0	
<i>XP. cistina</i>	0	0	1			
Sec. <i>Microcerasus</i>						
Convoy	0	2				
Dura	0	3				1
Manor	0					0

a) Listed in order of taxonomic relationship by female parent after Rehder**.

b) In all cases 5 Mahaleb, 3 Myrobalan, 2 American plum, 2 peach, 1 Manchu cherry, or 1 Japanese plum root stocks were budded with the *Prunus* selection.

c) Buds alive 2 weeks after budding, but trees were lost in moving nursery during the winter.

Scion	Survival on seedling rootstocks ^b					
	Mahaleb	Myrobalan	American plum	Peach	Manchu cherry	Japanese plum
Oka	1	2	0	—		1
<i>P. Besseyi</i> X <i>P. Persica</i>	0	0		0		
<i>P. Besseyi</i> X <i>P. sibirica</i>	0	2		0		
Sec. Eucerasus						
Schnee	1		0			
<i>P. avium</i> No. 8240	0		0			
Early Richmond	5	—	1			
Schmidt	4	0	0		0	
Seneca	1		0		—	
Zumbra	1		2	0		
Early Richmond X <i>P. pennsylvanica</i>	0				0	
Early Richmond X <i>P. tomentosa</i>	0				0	
English Morello X <i>P. pennsylvanica</i>	0				0	
<i>P. pennsylvanica</i> X Koslov	3	0	0		0	
Wragg X <i>P. pennsylvanica</i>	0	—	—		0	
Sec. Mahaleb						
<i>P. emarginata</i> sdlg.	0		—		0	
<i>P. pennsylvanica</i> No. 1	4		1		0	
<i>P. pennsylvanica</i> No. 2	0		0		0	
<i>P. pennsylvanica</i> X Koslov	3	0	0		0	
Subgenus Padus						
<i>P. Maackii</i> sdlg.	3		0	0	0	—
<i>P. virginiana demissa</i> sdlg.	1	0	—	0	0	0
<i>P. virginiana melanocarpa</i> sdlg.	1	—	1	—	0	—

Frost Resistance in Strawberries

A. S. Olney, Head of the Department of Horticulture of the University of Kentucky, has made the following observations on strawberry varieties in a recent issue of "The Green Thumb":

"Some varieties escape frost damage because of protection by their foliage, and others by a late period of bloom. The short-stemmed flowers of Premier and Earlidawn are protected by heavy foliage, and blossoms continue to open over a long bloom period. Tennessee Beauty, Sparkle, Armore, Redstar and Vermilion are late blooming and protected by leaves. Pocahontas, Dixieland, Fairland, Bellmar and Catskill also escape frost damage more often than many others.

"In the northern states where frosts are unusually severe, the everbearing

varieties are the principal ones grown. If the early blossoms are killed, others continue to develop all through the summer."



New English Varieties

The John Innes Horticultural Institution, Bayfordbury, England, has released a new pear and a new cherry. The pear, Merton Pride, is a cross between Glow Morceau and Williams Bon Chretien (Bartlett). It is high in quality, matures in mid-September, and keeps well at room temperature or at 30°F.

The new cherry, Merton Reward, is the result of a cross of Emperor Francis with Bedford Prolific. It is a late black sweet cherry that matures from mid- to late-July.