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Flood Tolerant *Prunus* Through Grafting?©

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Considerable variation in tolerance to root-zone flooding exists within the genus *Prunus*. Research demonstrated the differences in defoliation and survival for 11 *Prunus* taxa (Ranney, 1994) as shown in Table 1.

The two taxa most tolerant of root zone flooding, F-12/1 mazzard cherry and 'Newport' plum, illustrate the potential for enhancing adaptability of less flood-tolerant *Prunus* such as Japanese apricot (*P. mume*) and Yoshino cherry (*P.* ×*yedoensis*) on poorly drained sites if they are grafted onto appropriate rootstocks. *Prunus avium* F-12/1, resistant to bacterial canker, is listed as compatible with *P. sargentii*, 'Yoshino', 'Okame', *P.* ×*subhirtella* 'Autumnalis', and 'Kanzan' cherries as

Table 1. Survival and defoliation of 11 taxa of *Prunus* for plants subjected to incremental flooding over 7 weeks.

Taxon	Survival %	Defoliation %
Carolina cherrylaurel (*Prunus caroliniana*)	0 a	82 c
Canada red chokecherry (*P. virginiana* 'Canada Red')	43 b	100 d
P. mume 'Peggy Clark' (Japanese apricot)	50 b	95 cd
Japanese bushcherry (*P. japonica*)	50 b	52 b
P. sargentii	60 b	29 a
P. ×*yedoensis*	60 b	87 cd
P. 'Okame'	70 bc	80 c
P. ×*subhirtella* 'Autumnalis'	70 bc	52 b
P. 'Kanzan' Japanese cherry	90 cd	58 b
P. avium F-12/1 mazzard cherry	100 d	27 a
P. 'Newport' (Newport purpleleaf plum)	100 d	15 a

Values are means of 7 to10 plants. Means followed by the same letter within a column are not significantly different P = 0.05. Survival was 100% for all nonflooded controls and defoliation was less than 7% for all nonflooded controls.

well as other Higan cherries (*P.* ×*subhirtella*), *P. serrulata*, *P.* ×*schmittii*, and *P.* 'Hillieri' (Macdonald, 1986).

Demand for winter-flowering Japanese apricot cultivars has outstripped supply in the southeastern U.S.A., partly due to difficulties in producing own-root transplants via rooted cuttings. The potential for Japanese apricot to be grafted onto 'Newport' plum or other myrobalan plums and hybrids is suggested by these research results. 'Newport' is a complex hybrid which includes a heritage of *P. salicina*, *P. americana*, *P. nigra*, and *P. cerasifera*. However, cultivar specific incompatibility problems may exist. The Japanese apricot cultivar 'Kobai' is reported to be compatible but the cultivar 'White Fast' is not compatible with *P. cerasifera* (Keith Warren, pers. comm.).

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