Japanese Plum Types, Plumcots, and Other Novel Interspecific Hybrids and Their Adaption to the Northeast

By
Jerome L. Frecon
Agricultural Agent and Professor 1, Rutgers New Jersey Agricultural Experiment Station, Clayton, N.J. 08312

The Japanese-type plum varieties adapted to the milder temperate climates of the Northeastern US are of great diversity. Many of these plum varieties are the result of interspecific hybridization. Most plums described as Japanese are the result of crosses of the species *Prunus americana, Prunus salicina* and *Prunus simonii.* More recently *Prunus angustifolia* has been used by southern breeders to improve adaptability.

Generally, the Japanese type plum varieties grow on upright spreading, spreading to drooping trees and produce round to heart-shaped fruit (pronounced apex) with yellow to red, to almost black skin color.

Plumcots are interspecific hybrids of Japanese plums *Prunus salicina* and apricots *Prunus armeniaca.* Plumcot is a generic term for these hybrids

Pluots® are later-generations that show more plum than apricot characteristics; the fruit's exterior has smooth skin closely resembling that of a plum. Pluots were developed by Floyd Zaiger, and "Pluot" is a registered trademark of Zaiger Genetics.

Apriums® are complex plum-apricot hybrids that show more apricot traits. Genetically they are one-fourth plum and three-fourths apricot. Aprium varieties were developed in the late 1980s by Floyd Zaiger, and "Aprium" is a registered trademark of Zaiger's Genetics

Prunus domestica or the European, or common garden, plum varieties are more upright in growth habit and produce oval- to ovate-shaped plums with blue to black skin color. Some varieties have a dry texture, very high sugar content, and are processed into prunes. For this reason, many of these cultivars are commonly called prunes. A botanical species, *insititia* or damson plum, is one of these cultivars. Varieties of the American, or wild, plum grow on spreading trees and produce small, round fruit of various colors. These later two species have not been extensively evaluated in New Jersey and thus will not be discussed.

Varieties

The Japanese type varieties grown on available rootstocks are generally short-lived and relatively unproductive (there are exceptions). The trees are easily stressed by many of the same problems affecting peach trees, namely winter injury, spring frost, moisture stress, nematodes, root rots, and short life. Some Japanese varieties also experience latent incompatibility with available rootstocks and decline slowly.

Fruitfulness is also a problem in Japanese plums because of bloom variability, pollen incompatibility, and sensitivity to variation in temperatures and sunlight. The Japanese varieties bloom earlier than other plum species. Plumcots generally bear earlier than most Japanese type plums. The following varieties are suggested for small commercial plantings. These will be discussed.

Early-Season: Japanese
Early Golden –
Methley.
Shiro.
Crimson Beauty (USDA BY 8158-50)
Mid-Season: Japanese
Au Rosa –
Santa Rosa.
Black Ruby
Red Ace. .
Redheart.
Ozark Premier.
Black Amber –
Wickson -
Queen Rosa -
Rubysweet
Late-Season: Japanese
Vanier.
South Dakota.
Ruby Queen.
Fortune –
Friar - September 10

There are many other Japanese and Japanese X American hybrid varieties that have not been observed or tested in New Jersey.

Plumcots
Spring Satin (ripens with early Japanese)
Pluots (in order of ripening)(start with mid season Japanese)
Flavor Queen –
Dapple Dandy -
Flavor King –
Flavor Gem -
Flavor Grenade -
Flavor Heart -
Flavorich -
Aprium (with early season Japanese)
Tasty Rich
Honey Rich

Rootstocks
Myrobalan(Prunus divaricata) seedlings and *Myrobalan 29C* clonal stocks are the recommended rootstocks for all European plum varieties. They are also compatible with many Japanese and Japanese X American hybrid varieties, but tend to be shorter-lived on sandy or drought sensitive soils. They are more adapted and longer-lived on loamy or clay-loam soils.
Lovell and Halford peach seedlings are used on many Japanese plum varieties. Trees are short-lived and susceptible to most problems experienced with peach varieties. Japanese plum varieties on Lovell and Halford peach seedlings are better adapted to sandy soils than European varieties on Lovell or Halford peach seedlings.
Mariana 2624 clonal rootstock is compatible with most plum varieties. Trees of all varieties are more sensitive to low winter temperatures on this rootstock than other rootstocks.
Citation appears to be promising rootstock for semi-dwarf plum trees *Krymsk 1.* A New rootstock from Russia has not been tested in New Jersey but is being offered with Japanese plums as very winter hardy and producing a semi dwarf tree.
Pumiselect is a dwarfing clonal selection of *Prunus pumila* sold with Japanese type plum.

Pollination
All Japanese plums benefit from cross-pollination. Methley, Shiro and Early Golden will set heavy crops in some years without cross-pollination. All other varieties should be planted as a design with at least three varieties.
Most European varieties require cross-pollination. Varieties described as self-fruitful will set better and more consistent crops with cross-pollination.
Do not pollinate Japanese plum varieties with European plum varieties.