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In the past, many highly unsuitable species of plants were recommended for planting around irrigation fields. It is important to beware of species that can become a problem to the environment as well as to the effluent system itself.

Fruit trees do not thrive in wet soil. Excess water in the surrounding soil inhibits the ability of a tree to take in oxygen through the roots. Excess water also promotes crown rot. Both of these scenarios can prove fatal to a tree. But there are gardening techniques to help prevent such disasters. By purchasing the right rootstock you can preserve and maintain a fruit-bearing tree that can tolerate those nasty wet soil conditions.

## **What is Rootstock?**

Rootstock is the root of a tree or plant that is bred specifically for the durability of its roots. The cuttings of another tree or plant will eventually be fused to the rootstock. The rootstock is preferred because of its tolerance for certain soil conditions or resistance to disease. The cutting, also called the scion, is grafted onto the rootstock and will bear the fruit or leaves it would naturally produce. This is a popular method of asexual plant reproduction that allows a gardener to grow a tree that would otherwise not survive in a particular climate or environment. There are over 100 varieties of rootstock for fruit bearing trees. Apples alone have twenty.

### **M111**

M111 is an excellent and strong rootstock for apples. It will induce fruit bearing at a younger age than most other rootstocks and is tolerant not only to wet soil, but poor soil, dry soil and soil in high temperature areas as well. Not only can it handle volatile soil, it is also resistant to woolly apple aphids, collar rot and the potentially fatal fire blight infection. They are also popular in Canada because of their resistance to cold weather. They can grow twenty feet high.

### **Citation**

The citation rootstock is used to grow peaches, nectarines, apricots and plums. It does very well in wet soil and requires regular watering if the soil becomes too dry and in fact, this root stock will become dormant if the soil is too dry. Citation root stock is also tolerant of cold weather. It is preferred because of its ability to induce heavy fruit bearing early on.

### **Betula**

Betula is the rootstock for Asian pears. It can grow to a maximum height of eight metres and tolerates wet, dry, and alkaline soil. It has even proved itself capable of surviving flood damage.

## *Fruit Trees*

### *Pears*

The common European pear and its varieties such as Seckel, Comice and Bartlett are quite tolerant of wet soil, though it would prefer a deep, moist, well-drained site. Plant on a mound if possible. It is closely related to both apples and quinces. The fruit should be picked when slightly green and ripened inside. If allowed to stay on the tree, fruit often drops off before ripening fully, and is difficult to pick without bruising. Pears need to be pollinated by other pear varieties, so plant two trees or buy a single tree on which two or more varieties have been grafted.

### *Persimmon*

Persimmons are native to both Asia and the Americas, but it is the Asian species that has been cultivated for centuries and that is most widely grown. The many varieties available can be divided into two groups, those whose fruit is astringent until soft and jelly-like and those with non-astringent fruit. The astringent varieties are usually adapted to cooler areas. A non-astringent variety can be eaten when crisp, like an apple, and is usually grown in warmer climates. Persimmons will often take some drought as well as wet soil, though the ideal soil is deep, moist and well-drained.

### *Juneberry*

Juneberry (*Amelanchier alnifolia*) is also known as serviceberry, saskatoon berry and shadblow. The fruit is a blue berry that is loved by both birds and humans. The small tree will spread by suckers to form a thicket and grows in most soils, wet or dry. The white flowers are attractive in spring.

### *Apples on Certain Rootstocks*

Like most fruit trees, favorite apple varieties are grafted on to apple species that have root systems that are either stronger or smaller than that of the original variety. Some produce dwarf trees, some semi-dwarf. Certain rootstocks are more tolerant of wet soil than others, the apple species *Malus borowinka*, *M. antonovka* and *M. ranetka* among them. Though not commonly used, the swamp crabapple, *M. fusca*, from western North America, will produce a bog-tolerant apple tree when used as a rootstock.

### *Other Fruit Plants*

- Hazelnuts - Tolerant of heavy soil, not tolerant of summer drought. Plant 2 varieties for nut set. Grows to 15'-20'.
- Blueberries - Many cultivars of blueberries tolerate wet soil. Patriot and Jersey are particularly tolerant.

- Lingonberry and Cranberry - Both tolerate winter wet soil, not summer drought.
- Black Currant - Tolerates winter wet soil, performs best with summer water.