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THE HISTORY AND CULTURE OF APPLES

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Apples (*Malus sylvestris* Mill.) are botanically classified with similar species in the Rose family. As a member of the Pome tribe, apples are related to: pear, crab apple, Pyracantha, Cotoneaster, quince, loquat. Medlar, hawthorn and June-berry. All members of the pome tribe have similar fruiting characteristics and are susceptible to similar disease and insect problems.

The common apple seems to be a collection of clones from hybridization between species originating in the native forests of the northwestern Himalayan Mountains. Through the centuries, apples were distributed across continents as people and wild animals moved across the landscape. Dried apples were found in prehistoric village sites in northern Italy and Switzerland. Apples were cultivated in Greece as early as 600 BC. Theophrastus (350 BC) notes a number of named varieties were grown during his time. Varieties of apples had been named and were grown in Europe for many years before the colonization of America.

Apple trees are easily grown from pieces of roots or branches and from seed. Trees grow quickly to yield consistent large crops. The fruits are consumed fresh, cooked or dried and can be stored for long periods. Apples are easily carried and eaten without further processing. For many centuries apples have contributed to mankind's healthy survival.

During colonial times in America, many thousands of seedling trees were grown. Some planted by settlers who could not obtain trees of known varieties, some planted by cows and wandering animals in waste places where they grew to bearing unmolested. From the best of these trees, several thousand varieties have been selected and propagated. Some remained popular and were grown extensively for over a hundred years, for example: Delicious, Winesap, Jonathan, Rome Beauty and McIntosh. European immigrants also brought favorite apples to America, such as: Gravenstein. Astrachan, Cox Orange Pippen and Permain. Recent introductions from Pacific Rim countries have complemented the mix: Granny Smith, Gala and Fuji.

Bud mutations regularly occur on apple trees, so that branches or whole trees might bear fruit with different color, or flesh of a different firmness, flavor, or ripen at a different time. Some of these have been marketed as new varieties, such as Red Gravenstein. Dwarfing rootstocks have also been developed to control overall tree size and vigor. In this way a myriad of apple choices are presented to growers and consumers alike. Presently, over 2500 varieties are available for planting in North America – some suited to almost every part of the United States.

Many apple varieties are not self-pollinating. So better crops result when orchards include trees that provide pollen to other trees. For pollination, use Golden Delicious, Jonathan, Delicious, and Rome. Bees will transfer pollen from one tree to another. Additional varieties locally successful are described in a companion handout.

Reflecting their heritage, apple trees grow best in climates with cold winters and on loam soils with moderate moisture retention. Give apples plenty of space to grow; they need full sun for at least 7 hours every day. Young trees begin bearing significant crops at about age 5 and most show an improved yield when cross-pollinated. Trees are considered mature about 15 years after planting and can produce crops for up to 100 years. Trees benefit from annual winter and/or summer pruning to control growth and fruiting. Fruit thinning is usually required for production of high quality, full-sized fruit. Along the North Coast, apples suffer from two main pests and two serious diseases. The most important insect pests are Codling Moth on fruit, and aphids on leaves and roots. Killing diseases include root or collar rot (fungus) and fire blight (bacteria).

With careful selection of varieties, proper planting technique, regular watering, annual pruning and consistent pest management, home gardeners should enjoy bountiful apple crops for many years.

APPLE ROOTSTOCKS ARE AVAILABLE TO CONTROL TREE SIZE

Dwarf 8-10 ft.
Semi-Dwarf 12-15 ft.
Standard 18-30 ft.

Similar trees produce less total fruit, but at a younger age and within easy picking reach. Small trees require more careful care. Apple trees are easily trained onto trellis systems.

Additional Reading:

Fertilizing Home Fruit Trees, Nut Trees and Grapevines, UC ANR Publication #21329
Pruning Fruit and Nut Trees, UC ANR Publication #21171
Pest Notes: Apple Scab; Fire Blight, Codling Moth, Aphids, Spider Mites (www.ipm.ucdavis.edu)
Pests of the Garden and Small Farm, UC ANR Publication #3332, 1998
Commercial Apple Growing in California, UC ANR Publication #2456
Apple and Pear Integrated Pest Management, UC ANR Publication #3340, 1999.

References:

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Commercial Apple Growing in California, W. C. Micke, etal, UC ANR Leaflet 2456, 1992.
Deciduous Orchards, 3rd ed., W. H. Chandler, Lea & Febiger, Philadelphia, PA, 1957.
The Encyclopedia of Practical Horticulture, Vol 1, G. Lowther, The Encyclopedia of Horticulture Corp., North Yakima, WA, 1914.
Fruit, Berry and Nut Inventory, 2nd ed., K. Whealy and S. Demuth, Seed Saver Publications, Decorah, IA, 1993.
Integrated Pest Management for Apples and Pears, UC Integrated Pest Management Program, UC ANR Publication #3340, 1991.
UC Integrated Pest Management Guidelines: Apples, UC Statewide Integrated Pest Management Program, UC ANR Publication #3339, 1996.
Pest Notes: Codling Moth, UC ANR Integrated Pest Management Program, 1995.
Organic Apple Production Manual, UC ANR Publication #3403, 2000.