Success is dependent upon cumulative effects of:

- Cultivar/Variety and rootstock
- Water and Soil management
- Pest management
- Pruning and training
- Site characteristics – soil pH level
- Weather
Fruit Tree Pruning Objectives

Growing Fruit not Leaves

• Structure objective
  • *Young Trees* – develop branching habit to support crop and facilitate harvest
  • *Older Trees* – maintain branching habit and height

• Pruning should be done as close to bud break as possible
  - Reduces winter injury
  - Reduces likelihood of the buds below the pruning point drying out during the winter

• Pruning is an **annual process**
Fruit Tree Pruning Objectives

- The **3D’s**: Remove all diseased, dead, or damaged branches
- Remove stubs, suckers, and water sprouts
- Prune to outside buds and branches
- Maximize sunlight to branches

- Thin the current fruit crop as needed
- No fruit should touch
- Establish harvest height
- Maximize fruit production area
- Create future branching
Water Sprouts

A result of an over-pruned tree
Remove Stubs Anytime!

Stubs invite insects and diseases into the tree
Remove suckers from their point of origin on the root – don’t stub!
Crown Cleaning

- Selective removal of dead, diseased, broken, or weakly attached branches from a tree crown
- Regular pruning will correct small problems before they become large problems

Image source: Ed Gillman
Tree Structure

• Type of fruit tree determines pruning objectives and management

• **Drupe** (aka stone fruit)
  – Almonds and Peaches grow on 1 year old wood
  – Apricots and Cherries grow on long-lived fruit spurs
  – Plums grow on both 1 yr old wood and fruit spurs

• **Pome**
  – Apples and Pears mostly grow on long-lived fruit spurs
  – Some apples and pears grow on the tips of branches
  – Need to know your variety’s characteristics
Tree Structure

• Light + Water = Fruit
  – Pruning and Training
    • Optimize sunlight for flower bud initiation and fruit color development
    • Overall tree structure must be developed to support the crop load
    • Unpruned trees tend to produce weak, short growth and small fruit
    • Pruning height – keep the tree at a height that facilitates spraying, picking and future pruning
Types of Fruit Tree Pruning

- **Heading back** is the removal of the terminal portion of a shoot or branch (usually on one year wood)

  - Results in dense, clustered growth at the cut end.

- **Thinning out** removes shoots or branches at their base. In general, this is the preferred method of pruning. Creates stronger branch attachments.

Image source: Virginia Cooperative Extension
Pruning Tools

- Chainsaw
- Long reach pruner
- Bypass hand pruner
- Folding saw
- Lubricant
- Pruning saw
- Scabbard
- Small bypass lopper
- Large bypass lopper

Image source: pruningsaws.info
Apple

- Open center Gala apple
- Goal is to maximize sunlight to all parts of the tree
- Tree is annually pruned to maintain paths for sunlight to the fruit and facilitate spraying
- Fruit spacing: 6–8 inches apart
Apple

Typically remove 70 to 75 percent of the branches every year
Gala Apple; open center on dwarfing root stock
Crabapple - Pollinator
Central leader apple open to accommodate sunlight
Grafting
Apricot

Fruit blossoms fill the tree so prune heavily to thin fruit
Apricot

Open center

Wait until last frost of season to prune – End of March
Apricot

Apricot pruned poorly with lots of stubs
Open center peach tree annually pruned to initiate 1 year old wood. Typically remove 70% of the branches followed by thinning of 90% of the young fruit with 6-8 in. spacing.
Peach
Decadent backyard peach with very little 1 year wood. Over pruned to encourage new shoots and accommodate the ladder.
Peach

*Cytospora* fungus canker on peach. *Cytospora* will eventually kill the entire tree.

Image source: Norm Wingard
Old spurs are less vigorous - prune to encourage younger ones
Sweet Cherry

Cherries produced on spurs from at least 2 year old wood
Sweet Cherry

Open Center
Favorite Websites

• **Dr. Ed Gillman**
  - [http://hort.ifas.ufl.edu/woody/](http://hort.ifas.ufl.edu/woody/)

• **OSU Landscape Plants**
  - [http://oregonstate.edu/dept/Idplants/](http://oregonstate.edu/dept/Idplants/)

• **Tree Browser from Utah State University – Extension Forestry**
  - [http://treebrowser.org](http://treebrowser.org)

• **Colorado State Extention**
  - [www.ext.colostate.edu/](http://www.ext.colostate.edu/)

• **Colorado Tree Coalition**
  - [www.coloradotrees.org](http://www.coloradotrees.org)