Pruning Basics

*The Why, When, and How*

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Why?

- Improve plant health
- Promote flowers/fruit
- Correct plant shape or form
- Reduce plant size

Promote flowers/fruit

- Sun exposed wood remains fruitful and produces the largest fruit

Reduce plant size

Plant selection

- Poor plant choice becomes maintenance problem
- Right plant, right place
- Use adaptable plants specific to site, whether native or not

Pruning principles

- Assess plant
- Never prune without a good reason
- Growth rate and size of plant
- Flowers and fruits
Pruning response

- Plant makes new growth elsewhere
- Stimulates bud break at cut

Pruning stimulates bud break at cut

Response varies based on growth habit, age, size, timing, severity of pruning

Pruning response

- Cutting back hard into old wood
  - Only on suitable plants
  - Some plants may respond with poor growth or no flowers or die of shock

Juniper, Arborvitae

Formal hedge pruning

Lower branches get sun

Good shape

Lower branches do not get sun

Bad shape

General rules

- Shrubs generally look their best with natural habit and size
- Well-positioned pruning cuts
- Remove unwanted growth when young
- Clean pruning cuts

Equipment
Tool maintenance

- Clean and dry
- Final wipe with oily rag
- Sharpen with file
- Disinfect if pruning diseased plants
  - 10% bleach solution, rusts
  - Alcohol
  - Lysol: easy to use, no rust

What about wound dressing?

NOT beneficial – can increase decay problems

Pruning cuts

- Heading
- Thinning

Heading cuts

- “Reduction cuts”
- Encourages thickening
- Stiffens branches

Before pruning

After pruning
**Thinning cuts**

- “Removal cuts”
- Remove entire branch
- Increase light and air penetration

**Where to cut**

**RULE OF THUMB**

Remove no more than 1/3 of a plant’s foliage at one time

**When to do it**

**RULE OF THUMB**

Prune spring-flowering trees and shrubs after they flower but before July 4

**When to do it**

**RULE OF THUMB**

Prune summer- and fall-flowering shrubs in the winter before bud break

**Viburnum**

**Quince**

**Dogwood**

**Crape myrtle**

**Butterfly bush**

**Spiraea**

**Hydrangea macrophylla**
The 3 Ds

RULE OF THUMB
Remove dead, damaged, and dying tissue at any time during the year

Never use heading cuts on trees! This is called topping and is extremely detrimental to tree health! It promotes weak structure and encourages decay.

Some species can sprout from stubs, producing weak branches that are unsightly.

Pruning Shade Trees

- Develop central leader — especially in trees maturing over 30'
- Space and balance branches — encourage strong (wide) angles
- Remove crossing branches
- Remove lower, less productive branches as the tree ages

Weak structure: codominant stems and bark inclusions

A. U-shaped strong union
B. V-shaped weak union
Codominant Leaders: Bradford Pear

Bark inclusion with no structural connection

Collar

Removal Cuts: Where to cut – look for the branch collar

Strong connection

The branch collar is an area of active growth where trees can seal off wounds.

Cutting into the branch collar leads to poor wound healing and decay.

When properly cut, trees seal over wounds with callus growth, which often forms a donut-like ring that eventually covers the entire wound.
Cutting too far out leaves a stub, which prevents the wound from healing, creating a channel for decay to enter the plant.

No stubs – these branches should have been removed at the trunk.

Wound wood does not develop evenly.

Bad cut - called a flush cut

Flush cuts lead to decay!

Pruning large branches:
The three cut method

A) Undercut  B) Overcut  C) Final Cut at Branch Collar
For branches over 1 ⅜ in diameter

Tear caused by not using the 3 cut method – tree cannot seal over opening for decay and insects.
Remove water sprouts and suckers. The best time is mid-summer.

**Lower Branches**
- Leave on young trees, less than 2” caliper (diameter)
- Help to develop trunk strength
- Remove as tree grows – as shaded out

**When to Prune Trees**
- Callus growth is maximized in late winter/early spring just before new growth begins
- And in early summer (June) after growth flush and new leaves are fully expanded
- Pruning after growth flush minimizes sprouting
- **Worst time**: during a growth flush

**When to prune “bleeders”**
- Bleeding is not harmful but can be minimized by pruning in early summer rather than late winter

**Hiring an Arborist**
- When pruning trees that you want to keep healthy, hire a certified arborist
- Certification through the Int’l Society of Arboriculture
- Under Certification Tab, click on ‘Verify an ISA Certification’ on the left, then search by zip code

**Pruning Small Trees**
- Remove 3 Ds
- Remove crossing or rubbing branches
- Remove inwardly growing branches to improve light penetration and air circulation
Developing a Central Leader

• Purchase quality shade trees – look for central leader
• Remove competing (co-dominant leaders)
• Suppress competing branches

Before Structural pruning is a three step process:
1. Identify the stem that will make the best leader.
2. Identify which stems are competing with this leader.
3. Decide where to shorten these competing stems.

Before Poor form
After Good form

Pruning fruit trees
• Goal: get sunlight to branches

Pruning fruit trees
OPEN CENTER CENTRAL LEADER
Open center pruning
- Peach
- Nectarine
- Plum

Central leader pruning
- Apple
- Cherry
- Pear
- Pecan
- Plum

Select One Central Leader

Fruit tree pruning
- 3 Ds (any time)
- Suckers & water sprouts (summer)
- Low branches that are in the way
- Crossing branches
- Branches growing towards center of tree
- Reduce tree height by heading back

Allow one central leader

Thinning
- Thin when fruit is size of a nickel
- Thin to 1 fruit per cluster
- Clusters 4 to 6" apart
Pruning grapevines

From Muscadine Grape Production Guide for North Carolina
http://www.smallfruits.org/Muscadines/Production.htm

Pruning grapevines annually

Pruning neglected grapevines

From Muscadine Grape Production Guide for North Carolina
http://www.smallfruits.org/Muscadines/Production.htm

Pruning mature blueberries

• Remove 3 Ds and thin branches, removing oldest wood (late winter)
• Top-prune to control height in late July

http://iredell.ces.ncsu.edu