Tree Pruning 101

Jesse Randall
ISU Forestry Extension
randallj@iastate.edu
515-294-1168
Pruning

- Why
- When
- How
- With what
- What happens if we don’t follow the rules?
Why Prune?

- Safety
- Health/form
- Appearance
- Production
Pruning

Not Pruning
- Over pruned tree:
  - No lower branches!
  - No stem taper
  - Slower growth
When to Prune

- Best is late dormant season (Dec, Jan, Feb)
- Summer pruning for bleeders (late Aug, Sept, Oct.) (maple, birch, walnut etc.)
- Avoid spring growth period
- Avoid leaf color change
  - Nutrient retranslocation
Oaks are Special
Red more than White

Do not prune from March 1\textsuperscript{st} to Oct 15\textsuperscript{th} * to minimize oak wilt transmission
Browning starts at the margin, progresses towards the petiole, and trees defoliate.
Two Rules of Pruning

1. Correct multiple leaders as soon as possible
2. Leave branches on until 1” caliper; remove before 2”
Don’t get Lazy!!!

Branch collar

Branch bark ridge

Branch collar
Target pruning for tree health

1st = undercut

2nd = removal

3rd = stub removed

Branch collar

Branch Bark ridge
Dead branch
WOUND DRESSINGS

Orange Shellac
Asphalt Paints
Creosote Paints
Tar
Epoxy
Liquid Electrical Tape
...

Avoid Wound Dressings

- Kills cambium cells; slows healing
- Seals wound and traps in moisture = increased decay rates
Training Seedlings/Saplings

- Needed to develop good form - straight single stem
- Again, only do when necessary
What do I do with an absolute mess?
Low Coppice
(as in ruin the saw chain low!)

- In the fall
- High root reserves
- Do nothing for a year
- Correct to a single stem
One year after coppice—multiple stems

Fixed multiple coppice
Two Year Old Oak Coppice
Two Year Old Coppice-Fixed
Topping  Tipping
• Wound closure problems
• Decay
• Weak branch attachment
Tipping
Crown Reduction

1. Reduces height
2. Target prune will reduce resprouts
3. Longer follow-up period
4. Maintains tree’s leaf capacity
Crown Lifting

Lifting NOT complete side removal!!!
Bad pruning tells a story!

Pruned when the stem was too large introduced rot into the heartwood
Hazard trees get their start
Collar cut

Decay already started
Branch Bark Ridge – OK

Branch Bark Collar – too long

Decay will start
Stub left too long

One cut method – bottom tear out

Long time for new growth to seal over this wound area
Branch bark Ridge
  – too long

Sides – just right

Branch Bark Collar
  – too close
Fruit Tree Pruning - Apples

Managing Light Availability

Old style - one base breaks into 3 or 4 lateral trunks at 3’ above the ground
New style - one main stem with scaffold branches
   Dwarf and some semi dwarfs designed for trellis systems
   Semi dwarf to full standards are self supporting
Pruning Apple Trees in a nutshell

What to remove on a previously pruned tree – Old Style
1. Water sprouts
2. Branches that go straight up or down
3. Branches that are crossing/rubbing on other branches
4. Branches directly above/below other branches
   2-3 feet spacing above/below
5. No more than 30-40% removed in any one year

What to remove on a previously pruned tree – New Style
1. Water sprouts
2. Branches that go straight up or down
3. Branches that are crossing/rubbing
4. Branches directly above/below other branches
   that are not spaced at least 2-3 feet above/below
Pruning Apple Trees in a nutshell

Where to start on an old neglected tree
1. Make 1 major pruning removal each year until center “core” of tree is open
2. Reduce the height of the tree by target pruning the top remaining branches should be lateral
3. Branches that go straight up or down
4. Branches that are crossing/rubbing on other branches
5. Branches directly above/below other branches that are not spaced at least 2-3 feet above/below