



Apple Tree Pruning

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Pruning/Training – Why?

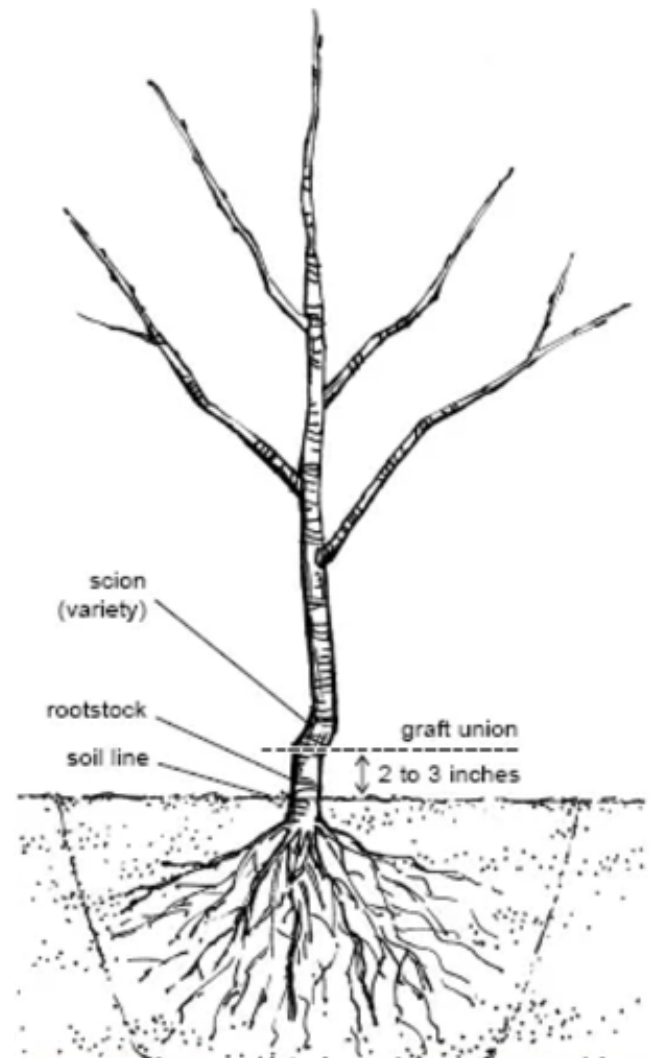
- Better sunlight and air flow
- Maximum fruit bearing surface
- Encourage stronger scaffold branches
 - To better hold fruit and human(?) weight
- Better shape tree for thinning and harvesting fruit

Pruning/Training – Why?

- Create pleasing and useful shape
- Pest management is easier
- Maintain and renew fruiting wood
- Keep growth/vigor consistent in all parts of the tree

Fruit Tree PHYSIOLOGY

- Roots/rootstock
- Graft union
- Scion
- Scaffold branches
- Lateral branches
- Fruit buds/spurs
- Branch collar
- Water sprouts
- Root suckers



ASK BEFORE MAKING ANY CUTS

- What kind of fruit tree is it?
- Apple? Cherry? Pear? Plum?
- Peach? Nectarine?
- Where does the fruit tree set it's fruit?
- New growth? Old growth? 1-2-3 year old growth?
Only at tips of branches? Fruit spurs?
- Apple/pear: fruit spurs on 2+ year-old-wood
(unless tip-bearing)
- Plum/cherry/peach: new growth/fruit spurs on
1+ year old wood

Fruiting habit - APPLE

- Apple fruits on two year old and older wood
- Flower buds develop on spurs (short shoots) on two year old and older wood
- Best fruit occurs on 2-, 3-, 4-year old wood
- Buds/spurs weaken as they get older
- Shade is your enemy
- Horizontal wood preferred over vertical wood

APPLE – fruiting habit



PRUNING vs. TRAINING

- Pruning – cuts made on a tree to maintain and renew fruiting wood
- Training – development of fruit bearing structure on new trees
- TRAIN first, PRUNE second

Bending later in the life of the tree

Timing:
April & May



FRUIT TREE PRUNING TERMS

- Heading
- Thinning
- 1/3 rule aka the pruning “budget”
- 3 D’s (Dead, Diseased, Damaged)
- RE-LEADERING?
- 1-2-3 cut for big branches

APPLE pruning – goals

- Create a balance between fruiting wood and new shoot growth (which will become fruiting wood)
- Remove old wood, stimulate new growth
- Create an even light environment (as possible) throughout tree
- Open up tree for spraying, etc.
- Create a structure to support crop load

APPLE pruning – basics


- Central leader tree
- Cone shape tree
- Dormant pruning (January-April) more invigorating than summer pruning (July)
- Heading cuts increase vigorous response at location of cut
- Thinning cuts are more desirable because they create balance between new and older wood
- !!!Thinning cuts are almost always preferable to heading cuts!!!

APPLE – central leader

Note:

- Dominant central leader (trunk)
- Branches get smaller as you move up the tree (cone or Christmas tree shape)
- Permanent “scaffold” branches at bottom
- Smaller, shorter branches as you move up the tree, may be permanent or temporary





Head central leader at planting.
32" above graft union – whip
18" above upper branches
Shorten lateral branches by 1/3











Early June

Remove competitors





A photograph of a young tree branch with green leaves. A wooden brace is tied around the branch, demonstrating the 'Early Bending' technique. The background is a blurred green field under a cloudy sky.

Early Bending

- Distributes vigor
- Develops good crotch angles
- Timing: early June



= strong branch


After the
growing
season

Young Apple Trees

- **Almost no pruning is required**
- **Maintain dominance of central trunk**
 - **Remove direct competitors**
 - **Apply 2-to-1 Rule**
- **Remove bad crotch angles**
- **Timing:**
Spring through early summer



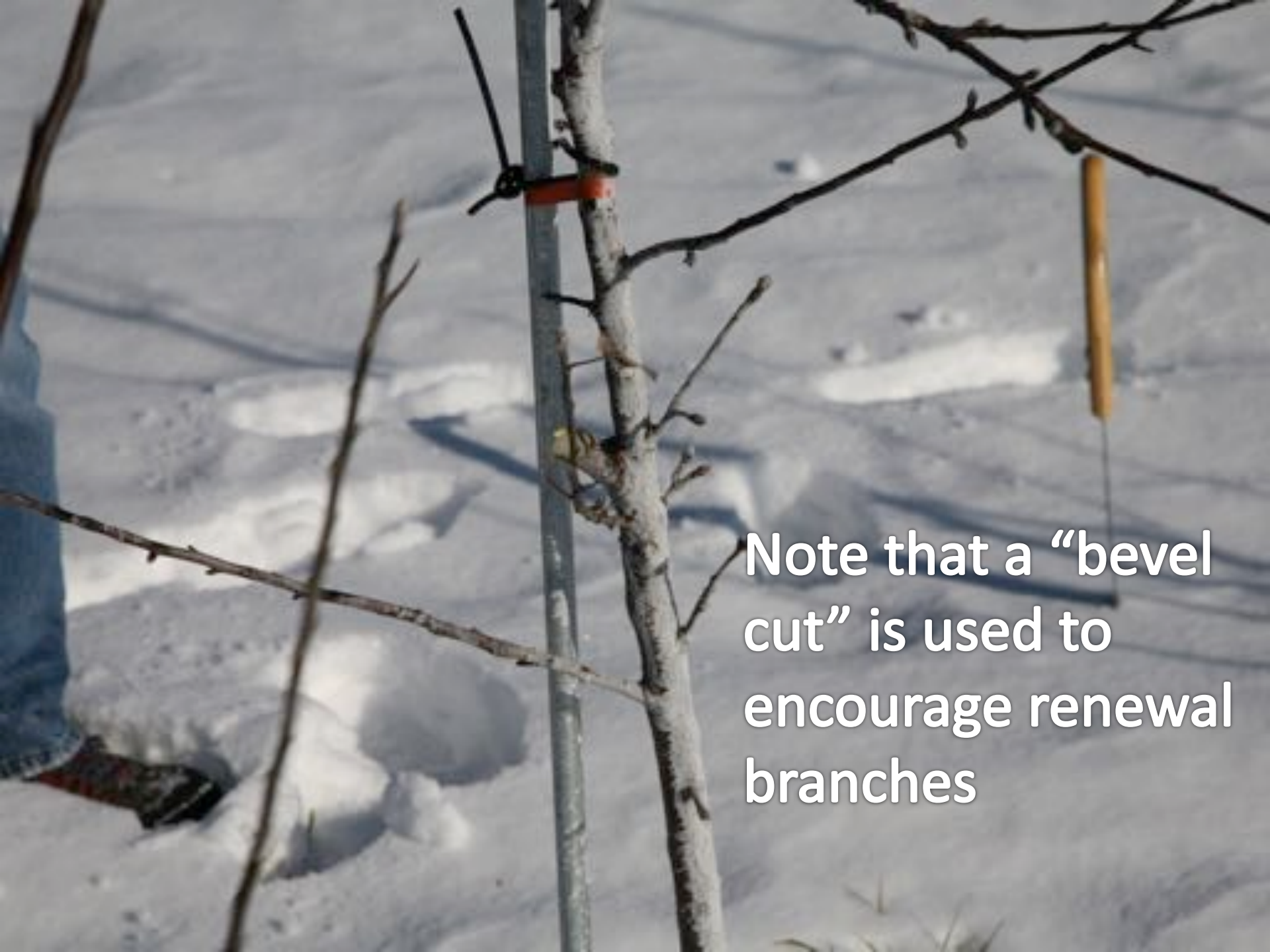




Apply
2-to-1
Rule

Trunk diameter $> 2 \times$ limb diameter



A photograph of a young tree in a snowy field. A vertical metal pole is positioned next to the tree trunk. A black plastic collar with an orange band is wrapped around the tree trunk. A bevel cut has been made in the bark of the tree trunk. A yellow growth collar is visible on a branch to the right. A person's leg in blue jeans and a dark boot is visible on the left side of the frame. The ground is covered in snow with some shadows.

Note that a “bevel cut” is used to encourage renewal branches

Bevel or Dutch cut



Remove
bad crotch
angles







Seven Simple Rules for Apple Pruning

Optimal timing: February-May

1. Remove 2-3 of the largest limbs in the top 2/3's
2. Use the 2-to-1 rule
3. Avoid stubbing (or heading) cuts
4. Simplify branches
5. Remove drooping branches
6. Remove branches growing straight up
7. Maintain central leader

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2. Use 2-to-1 Rule



Trunk diameter $> 2 \times$ limb diameter

3. Avoid heading/stubbing cuts



Remove the limb instead.



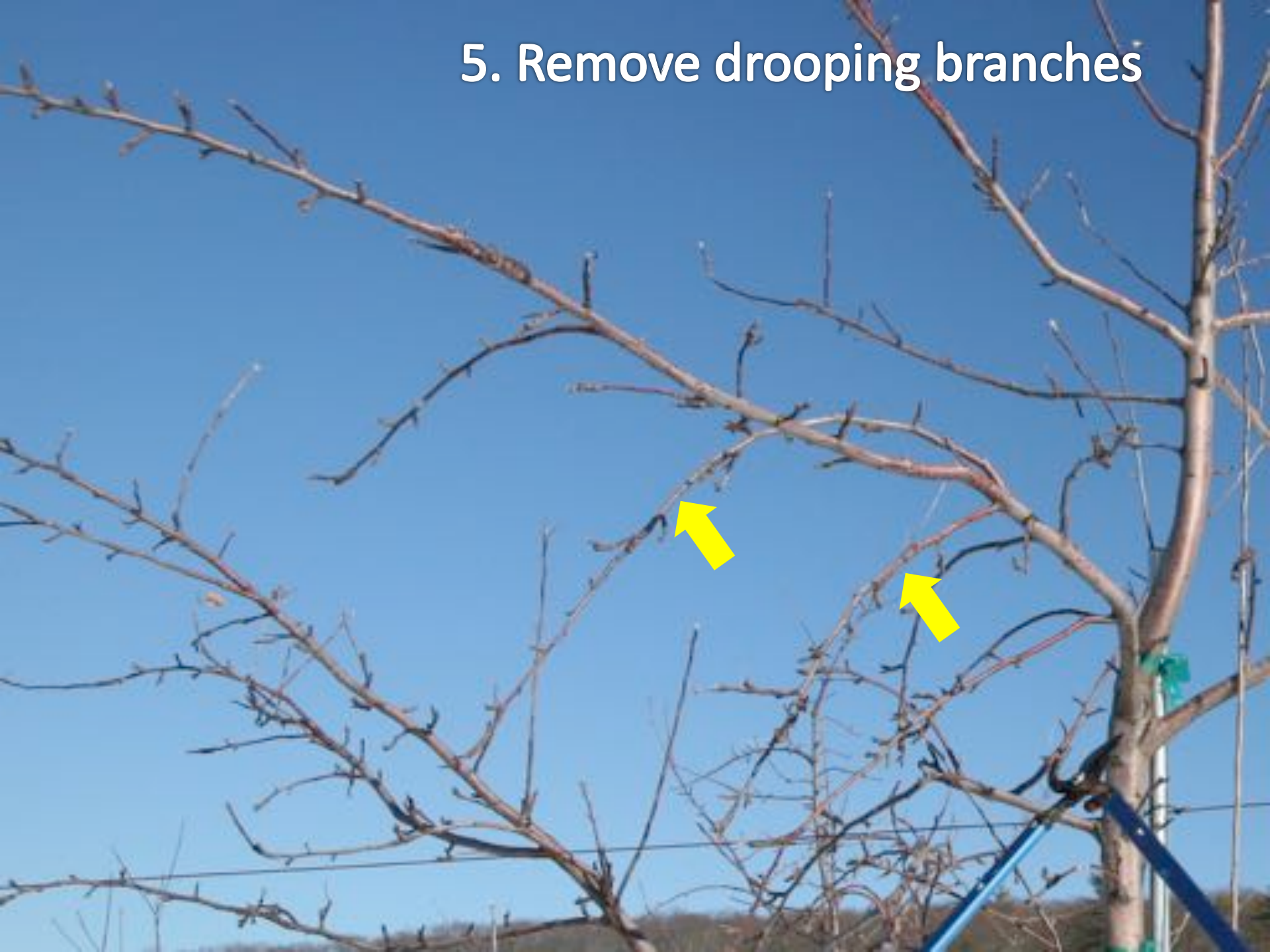
4. Simplify branches



4. Simplify branches



5. Remove drooping branches



6. Remove upright branches



6. Remove upright branches



6. Remove upright branches



7. Maintain the central leader



THIS IS NOT CORRECT!



THIS IS BAD!





EXCESS VIGOR & NO FRUIT!

PRUNING: Recap

- Tree budget only 1/3 of canopy each year. More than 30% = rampant growth!
- 3 D's – Dead, Diseased, Damaged – OUT!
- More thinning cuts, less heading cuts
- 3-5 year process to transition
- Too big? Consider cutting down, replanting, or grafting

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Pruning Fruit Trees in the Home Orchard

Overview



37 photos and illustrations enhance the detailed text covering apple, pear, peach, plum and cherry trees.

To purchase copies of the **Pruning Fruit Trees in the Home Orchard**, contact your state Extension publication office, or the **University of Massachusetts Extension Bookstore** at 1-877-UMASSXT (within Massachusetts) or 413-545-2717. You may complete your order online, print your confirmation email and mail it with a check, or submit it electronically then make a follow-up phone call to provide credit card information. Check the homepage for hours of business, as they will change.

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