Training and Pruning Fruit Trees

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Rare Fruit Growers Scion Exchange
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The Home Orchard: Growing Your Own Deciduous Fruit & Nut Trees

Ordering:
Visit http://anrcatalog.ucdavis.edu
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Reasons for Training Young Fruit Trees

- Create light penetration in lower tree
- Support crop load
- Create access for ladder work, fruit thinning, harvesting, etc.
Topics to be Covered

- Post-Planting Pruning
- Dwarfing
- Fruiting Structures and Cut Types
- Summer Pruning
- Specific Training Methods
- Overgrown Trees
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- Post-Planting Pruning
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- Fruiting Structures and Cut Types
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- Overgrown Trees
Post-Planting Care

• Head tree at 18-36 in. (bare root only)
• Cut back well-placed laterals to 3-8 in., remove all others
• Paint trunk white
  ➢ Interior latex paint & water, 50:50
  ➢ Entire trunk & 2 in. below soil
  ➢ Prevents sunburn & borers
Pruning a Bare-Root Tree

Branches thinner than 3/16

Branches thicker than 3/16
New Shoots on Branches of Newly Planted Tree
Paint Trunks White
(Hot Climates, Afternoon Sun on Trunk)

To prevent this
Topics to be Covered

- Post-Planting Pruning
- Dwarfing
- Fruiting Structures and Cut Types
- Summer Pruning
- Specific Training Methods
- Overgrown Trees
Semi-Dwarf vs. Genetic Dwarf

- **Standard**: 20-25+ ft.
- **Semi-dwarf** (dwarfing rootstock): 12-20 ft.
  - Variable dwarfing
- **Genetic dwarf** (std. rootstock): 8-12 ft.
  - Available in apricot, apple, olive, peach, nectarine, pomegranate
  - Selection of varieties is limited
  - Not available in citrus, fig, pear, persimmon, plum/pluot
Topics to be Covered

- Post-Planting Pruning
- Dwarfing
- Fruiting Structures and Cut Types
- Summer Pruning
- Specific Training Methods
- Overgrown Trees
Tree Growth Terms

- **Scaffold branch**: main structural limb
- **Spur**: short fruiting twig
- **Shoot**: current season elongated growth
- **Water sprout**: vigorous shoot from branch
- **Sucker**: shoot from rootstock or roots
Peach Fruiting Branches

Veg. bud

Flower buds
Heading Cut

- Removal of part of branch or shoot
- Used to promote branch development, especially on young trees
- Stimulates growth just below cuts
- Can reduce sunlight penetration
Thinning Cut

- Removal of entire branch or shoot, or back to a branch >1/3 the thickness of cut branch
- Used to prevent crowding and improve sunlight penetration
- Defines main branches
Topics to be Covered

- Post-Planting Pruning
- Dwarfing
- Fruiting Structures and Cut Types
- Summer Pruning
- Specific Training Methods
- Overgrown Trees
Summer Pruning of Young Trees

- Purpose: promote scaffold branches
- Head unwanted shoots to 4-6 in.
- Pinch 2 ft. long shoots to promote side branching if necessary
- Reduces training time, shortens time to first fruit production
Summer Pruning for Training
(Open Center)

Before

After
Summer Pruning of Mature Trees

- **Purpose:** To increase sunlight & productivity of lower fruiting wood
- **Remove** unwanted vigorous, upright shoots 1-2 times during season
- **Bring down** tree height
- **Large branches** may sunburn if pruning is excessive
Summer Pruning (Plum)

Before

After
Prune Apricots and Cherries in August to Avoid Branch Diseases
Topics to be Covered

- Post-Planting Pruning
- Dwarfing
- Fruiting Structures and Cut Types
- Summer Pruning
- Specific Training Methods
- Overgrown Trees
Tree Shape Determines Light Interception

Sunlight

Shade

Shade

Sunlight

> ~ 1.5 X

1 X
Improving Light Management

- More fruit color
- Strong buds
- Strong flowers
- Larger fruit
Improving Light Management

• Stronger buds
• Stronger flowers
• Larger fruit
• Sunburn?
Specific Fruit & Nut Tree Training Methods

- Open center
- Central leader
- Modified central leader
- Perpendicular “V”
- Fruit bush
- Espalier
Open Center

• Most common method
• Stone fruits and almonds; also use for apples, pears, figs
• Select scaffolds during first 2 growing seasons, touch up in dormant season
• Keep center open during summer from the start
Pruning a One-Year-Old Peach
Pruning a Two-Year-Old Peach
Pruning a Mature Peach
Specific Fruit & Nut Tree Training Methods

- Open center
- **Central leader**
- Modified central leader
- Perpendicular “V”
- Fruit bush
- Espalier
Central Leader Apple
(Genetic Dwarf, planted 2000)
Central Leader Training

- Used for apples, pears, Asian pears
- Maintain leader, remove at certain height
- Tie or stake lateral branches outward
- Create 3-4 whorls of branches
- Branches offset from those below
Central Leader Training
Spread branches, keep leader dominant
Specific Fruit & Nut Tree Training Methods

- Open center
- Central leader
- Modified central leader
- Perpendicular “V”
- Fruit bush
- Espalier
Fruit Bushes Kept at Desired Height
Fruit Bushes
Pruning – Years 1 & 2

- At planting, head trees to 18-24 in.
- Mid-spring – cut back new growth by half
- Mid-summer – cut subsequent growth back by half
- Thinning cuts for sunlight penetration
- May need to prune 1-2 more times
Cutting New Shoots in Half
Mid-Summer
Fruit Bushes
Pruning Mature Trees

• Cut back new growth above selected tree height 2-3 times during growing season
• Thinning cuts for sunlight penetration
Mature Fruit Bush
Maintaining Tree Height

Before

After
Cherry,
Pome Fruits
Ideal for Fruit Bush
Apricot, Plum/Pluot Fruit Bushes
Vigorous Growth – Extra Work
Fruit Bushes

• **Advantages**
  - Tree maintenance without ladder
  - Trees for small spaces
  - Sequential ripening

• **Disadvantages**
  - Less fruit
  - No shade
  - Timing of pruning critical
Key Summer Pruning Missed
Excess Shading
Loss of lower branches
Specific Fruit & Nut Tree Training Methods

- Open center
- Central leader
- Modified central leader
- Perpendicular “V”
- Fruit bush
- Espalier
Espalier
Angle Shoots Upward Initially
Dormant Pruning
Young Espalier

Before

After
Espalier
Menorah Shape
Citrus Espalier
(Mandarin)
Espalier Peach

Peach

Cherry
Espalier Peach
Row cover (Agribon)
Before

After

Peach Espalier
July 12, 2014

Year 2: 20 fruits
Topics to be Covered

- Pruning Ornamental vs. Fruit Trees
- Post-Planting Pruning
- Dwarfing
- Fruiting Structures and Cut Types
- Summer Pruning
- Specific Training Methods
- Overgrown Trees
Methods of Reducing Height of Large Trees

1. Cut to desired height in thirds over 3 years
   - Thin upright shoots in summer to provide light for lower fruiting wood
Pruning Overgrown Apple

What else can be done?
Sunburn from First Topping
Methods of Reducing Height of Large Trees

1. Cut to desired height in thirds over 3 years
   - Thin upright shoots in summer to provide light for lower fruiting wood

2. Bring down height in one year
   - Saw off limbs well below desired height
   - Leave one “nurse” limb to feed roots
   - Thin new shoots, train tree as desired
   - Paint exposed limbs white
Pruning Overgrown Apple – One Year

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Questions?
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