Raspberry Production Basics
Site Selection

- Well-drained soil with good organic matter
- Good light exposure
- Protected from wind
- Gentle slope, good elevation
- Source of water nearby
- Soil pH: 5.6 to 6.2
- Eliminate weeds, nightshades
- Eliminate wild brambles (500')
Site Preparation

• Soil Test
  • pH, nutrients, o.m.
• Soil Amendments
  • Lime, dolomite, sulfur
  • Fertilizer (N-P-K)
  • Organic Matter
    • compost, manure
• Pre-Plant Cover Crops
  • ↑ Organic Matter
  • ↓ Weeds
Raspberries

Life Cycle - Biennial

1st year: Vegetative
= Primocane (green)

2nd year: Reproductive
= Floricane (brown)

After fruiting, floricanes die
# Hardy Red Raspberry Varieties

- Boyne
- Encore
- Killarney
- Latham

Lauren
- Nova
- Prelude*
- Reveille
- Taylor
Everbearing Red Raspberries

Bear fall crop on primocane tips, summer crop on lower buds of floricanes

• Autumn Bliss*  • Heritage
• Autumn Britten*  • Polana*
• Caroline  • Joan J?

* Best for more northern sites
Planting Raspberries

- Early spring
- Dormant canes “handles”
- Same depth as nursery
- 20 to 30 inches w/in rows
- 8 to 12 feet between rows
- Cut off handles at 3” to 4”
Planting Raspberries

Raised Beds

- Improve drainage
- Reduce root diseases
- Increase drought irrigation
- Increase winter injury?

Photo: P.R. Bristow
First Season Care

- Clean cultivation
- Straw mulch?
- Water (trickle system)
- Maintain 1.5’ row width
- Control weeds
- Fertilize June & August
  ~20 lbs. N/acre
First-Second Season Care

· Establish ground cover  
  · between rows  
  · weak perennial grass  
· Mulch  
  · Bark, chips (no straw)  
  · within rows  
  · 4-8” deep  
· Weed control  
· Maintain 1.5’ row width at base of plants
Fertilizing Raspberries

- Maintain soil pH at 5.8 to 6.5
- Mid-April: 20 lbs. each: $N, P_2O_5, K_2O$ per acre
- June & August: 20 lbs. N/acre
- Soil test every 2 years
- Tissue analysis for problems
  - Late July, primocane leaves
Raspberries

T - Trellis System

- Posts ~ every 25’ - 30’
- > 2’ depth to prevent heaving
- Anchor end-posts
- Cross arms ~ 4’ high, 3’ wide
- Wire supports for floricanes
- Attach with twine, etc.
Raspberries

V - Trellis System

- Posts ~ every 25' - 30'
- > 2' depth to prevent heaving
- Anchor end-posts
- Posts at 20°-30° angle
- Wire supports for floricanes
Raspberries
Established Planting

- 3-4 years to full production
- Fruiting canes outside -
  - Primocanes inside
- Average life span
  = 10-15 years
Pruning Raspberries

Summer Thinning

- Maintain 1.5’ row width
- Remove primocanes on row edges
- Remove weak, infested canes
- Remove spent floricanes?
  - May wait until late winter
  - Especially in far north
Pruning Raspberries

Dormant Cane Types

- Spent Floricane
- Healthy Floricane
- Weak Floricane
Pruning Raspberries

Dormant - Late Winter

- Remove spent floricanes
- Remove floricanes at row edges
  - Maintain 1.5' row width
- Remove weak, infested canes
- Thin, leaving tallest, thickest canes
- Final density = 3 to 4 canes / foot
- Remove and destroy prunings
Pruning Raspberries
Before
Pruning Raspberries

After
Pruning Raspberries - Mowing
Pruning Raspberries - Mowing

Summer - Bearing
  Biennial fruiting: Mow every other row or plot every other year

Ever-Bearing
  Annual fruiting on primocanes, i.e. fall crop only, no summer floricane crop
Handling Bramble Fruit

- Harvest late July-Sept.
- Pick fruit cool & dry
- Use shallow containers
- Cool immediately
- Store fresh fruit at 0°C
Weed Management

Average bed life 10-15 years

• Most common reason for early bed failure: Weeds

• Pre-plant preparation

• Cultivation

• Mulch

• Hand-pulling
Raspberry Fruitworm

- Adult beetle 1/4” long, brown, fuzzy
- Feeds on flower buds in spring, lay eggs on flowers
Raspberry Fruitworm

- Larvae 3/8" long, tan, dark head
- Feeds fruit, receptacle
- Often drops into picking container
Raspberry Fruitworm

Management
- Control weeds
- Scout for injury at fruit bud stage
- Holes in buds, leaves
- Apply insecticides prebloom
Raspberry Cane Borer

• Adult black beetle 1” long, orange thorax, long antennae
  - Lay eggs in tips of primocane, girdles cane

• Larvae: whitish grub
  - Bores in pith of canes
Raspberry Cane Borer

Damage

- Cane tips girdled twice about \( \text{"} \) apart, egg laid between
- Tips of primocanes wilt, dry up
Raspberry Cane Borer

Management

• Destroy wild brambles
  - Within 500’ of planting

• Remove wilted tips
  - 2+” Below lower girdle

• Insecticides
  - @ flower bud stage on floricanes
  - Pyrellin
Red Necked Cane Borer

- Adult black beetle "long, reddish thorax, short antennae
  - Lay eggs near base of primocane

- Larvae: whitish grub
  - Bores in pith, cambium of cane
  - Cane forms gall
Red Necked Cane Borer

Damage

• Grubs tunnel in cane near base
• Gall Forms
• Weakened Cane
  - Often breaks
  - Dies in spring
Red Necked Cane Borer

Management

• Destroy wild brambles
  - Within 600’ of planting

• Remove canes with galls

• Insecticides
  - @ flower bud stage on floricanes
  - Pyrellin
Wasps

• Yellow Jackets
• Bald-faced Hornets
  - Feed on ripe fruit
  • Dry conditions
  - Deter pickers
Wasps

Management

• Early season control
  - Queens vs. workers
• Eliminate food
  - Rotten fruit, compost
• Find & destroy nests
• Trapping
• Spraying
  - Days to harvest
Tarnished Plant Bug

- Adult bugs 1/4” long, bronze
- Nymphs green, active, don’t fly
- Feed on flowers, developing fruit
  lay eggs in stems
Tarnished Plant Bug

- Feeding kills developing druplets
- Fruit misshapen, poorly filled, crumbly
Tarnished Plant Bug

Management

• Control weeds
• Scout for bugs at bud-bloom stage
• Apply insecticides pre-bloom, post-bloom
  - PyGanic
Aphids

Small, soft bodied
- Green, yellow, pink
- Wingless, slow moving
- Live young
- Sucking mouthparts
  - Feed on stems and underside of leaves
  - Leaves distorted, chlorotic

- Vectors of viruses
Viruses

Mosaic, Leaf Curl

Source: wild brambles

Raspberry Mosaic  Raspberry Leaf Curl
Aphids / Viruses

Management
- Buy certified plants
- Remove all wild brambles
  - 600 feet
  - Windbreaks
- Scout & rogue infected plants
- Insecticides
  - When aphids noticed
  - Pyrethrum
Phytophthora Root Rot

Management

• Good soil drainage
  • tiling
  • raised beds
  • optimum organic matter

• Resistant varieties?
  • Newburgh, Latham

• Gypsum?
Anthracnose
Anthracnose

Management

- Good air circulation
  - pruning, narrow rows
- Sanitation
- Fungicides

![Anthracnose Image]
Spur Blight
Spur Blight

Management

• Good air circulation
  • pruning, narrow rows, trellis
• Sanitation
• Fungicides
Botrytis (Gray Mold)
Botrytis

Management

- Good air circulation
  - pruning
  - narrow row width
  - trellis

- Sanitation

- Fungicides applied at bloom
  - Rovral
  - Captan
  - Elevate
  - Pristine
  - Switch
Marketing Bramble Fruit

- Pick-Your-Own
  - Timing, labor and price issues
- Pre-Picked
  - Labor, labor and labor issues
- Retail
  - Good demand; price resistance?
- Wholesale
  - Good demand; storage & transportation issues
Raspberries: Bottom Line

· Establishment Costs (years 1-3)
  · $3000 - $5000
  · Prep, plants, trellis, labor, etc.

· Maintenance Costs (years 4 +)
  · $6000 - $7000
  · mostly labor

· Net returns (above costs)
  · $0 - $6000

· Dependent upon:
  · Yield (0-6,000 lbs./acre)
Bramble Information

New England Small Fruit Pest Management Guide
http://www.umass.edu/fruitadvisor

Raspberry & Blackberry Production Guide  NRAES - 35
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ATTRA: Organic Culture of Bramble Fruits