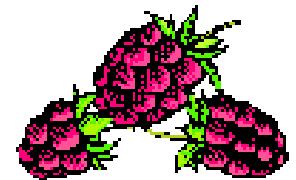




# Raspberry Production

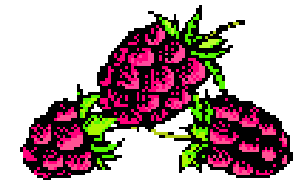
## Growing Small Fruits and Rhubarb for Wine Production

4-24-03



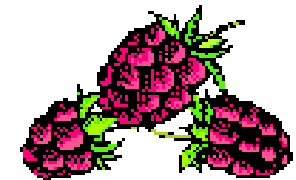
# Site Selection

- ◆ Sunny, well drained
- ◆ 200 feet from shade trees, yet protected
- ◆ Site should not be previously sod
- ◆ Should not follow peppers, eggplants, strawberry



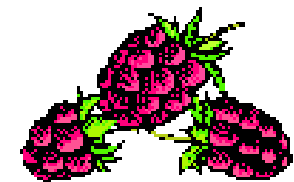
# Raspberry

- ◆ Member of the rose family
- ◆ Related to strawberry
- ◆ 8 year life



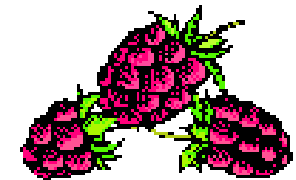
# Type

- ◆ Summer bearing--Floricanne
  - Most common
  - Biannual-root system perennial
  - Vegetative canes-fruiting canes
  - Prune old fruit canes
  - More labor intensive
- ◆ Everbearing (fall-bearing) -- Primocane
  - Bear in the fall
  - All canes remove
  - Least labor intensive



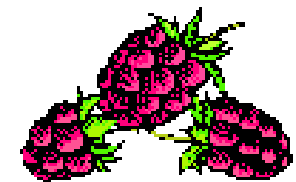
# Planting

- ◆ Plant after danger of frost
- ◆ 24-36 inches apart within the row
- ◆ Rows 10-12 feet apart
- ◆ Tissue cultured plants-disease free
- ◆ Plant source
  - Ag Resource-Detroit Lakes
  - Indiana Berry
  - Local nurserymen



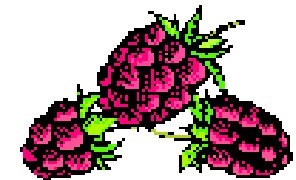
# Irrigation

- ◆ Trickle irrigation most common
- ◆ Raspberry are shallow rooted
- ◆ Well-drained soil



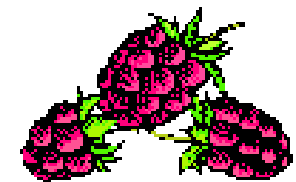
# Pruning

- ◆ Plants 6 inches apart
- ◆ Rows 18 inch wide
- ◆ Canes should be 3-5 feet tall



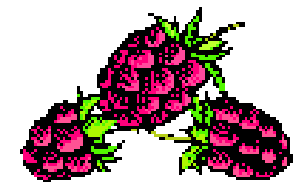
# Weed Control

- ◆ Not competitive with weeds
- ◆ Control perennial weeds before planting
- ◆ Poast labeled for grass control
- ◆ Plant grass or ground cover in between rows



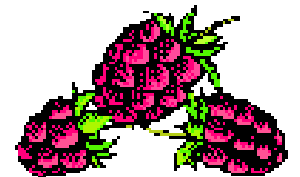
# Harvest

- ◆ 2nd year after planting for fall/3rd year for summer
- ◆ 1,500 pounds per year
- ◆ Harvest every 3 days
- ◆ 10 pickers per acre



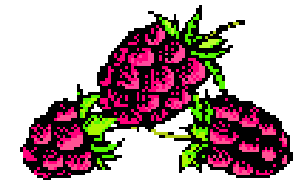
# Labor requirements for one acre

- ◆ Land preparation: 3 hours
- ◆ Establishment: 49 hours
- ◆ Production year one: 22 hours
- ◆ Production year two: 54 hours
- ◆ Mature: 59 hours
- ◆ Custom harvest: \$5,000 (probably very high)



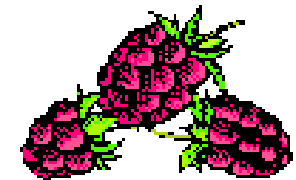
# Summer Bearing

- ◆ Boyne \*
- ◆ Killarney
- ◆ Latham
- ◆ Madawaska
- ◆ Reville
- ◆ Newburgh
- ◆ Nordic



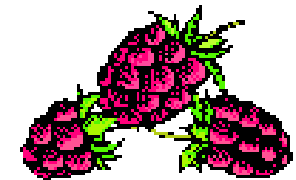
# Fall Bearing

- ◆ Fall Red
- ◆ Heritage (late)
- ◆ Autumn Bliss \*
- ◆ Autumn Britten
- ◆ Double Delight
- ◆ Red River



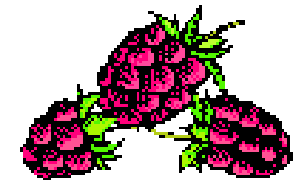
# Fertilization

- ◆ Use 10-10-10 prior to planting and before growth starts in the spring
- ◆ Do not fertilize in summer or fall
- ◆ Do not over fertilize
- ◆ High organic levels in the soil
- ◆ Soil test



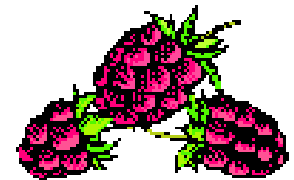
# Irrigation

- ◆ Critical to have adequate moisture 7-10 days before fruit is ripe
- ◆ Avoid overhead watering



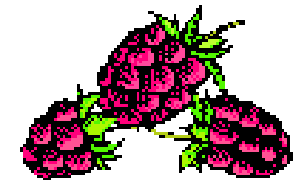
# Tips to promote healthy Raspberries

- ◆ Start with disease free plants
- ◆ Well drained site
- ◆ Avoid overhead watering
- ◆ Avoid over-fertilization
- ◆ Control weeds
- ◆ Prune and thin to maintain optimum stand
- ◆ Destroy wild raspberries
- ◆ Remove old fruit canes after harvest
- ◆ Sanitation



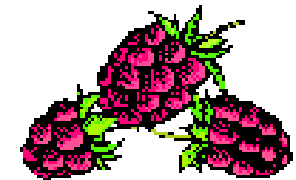
# Diseases

- ◆ Anthracnose (most common)
- ◆ Cane blight
- ◆ Spur blight (common, berries small and abort)
- ◆ Gray mold
- ◆ Root rot
- ◆ Verticillium wilt
- ◆ Leaf spot
- ◆ Powdery mildew
- ◆ Rust



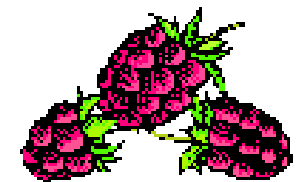
# Disease Control

- ◆ Management practices
- ◆ Lime-sulfur
  - Anthracnose
  - Cane blight
  - Spur blight
- ◆ Sulfur and copper-based fungicides



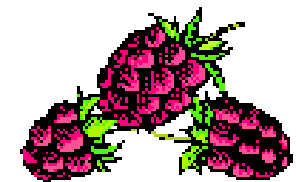
# Viral Diseases

- ◆ Raspberry mosaic
- ◆ Leaf curl
  - Raspberry aphid



# Insects

- ◆ Red spider mites (most common)
- ◆ Raspberry cane borer (girdle cane)
- ◆ Raspberry cane maggot
- ◆ Raspberry crown borer
- ◆ Raspberry fruitworm
- ◆ Sap beetles (feed on over ripe fruit)





# Insecticides



- ◆ Sevin, diazinon, and malathion
- ◆ Do not use sevin for spider mite control