



# **GREEN DEFECTS AND HOW TO PREVENT THEM**

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# FACTORS AFFECTING QUALITY

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- **Site**-rainfall, soil, elevation, shade/sun
- **Variety**
- **Nutrition**
- **Pests and Disease**
- **Harvest**
- **Processing**

# SITE

- **Rainfall**-ideal in Hawaii is 60-85” a year, well distributed as relates to growth phase: vegetative, flower, fruit
- **Soil**-good drainage, fertile
- **Elevation**-as relates to temperature
- **Shade/sun**-temperature, production higher in sun but more stress on tree



# VARIETY

Guatemalan or Kona typica is best for Kona conditions



# NUTRITION

- UH CTAHR recommends 1,600-2,000 lbs/year of fertilizer such as 15-5-25 based on research done in Kona
- Soil and leaf analysis should be done to make recommendations specific to individual farms

# PESTS AND DISEASE



Green  
Scale

# PESTS AND DISEASE



Coffee Twig Borer

# PESTS AND DISEASE

## Kona Coffee Rootknot Nematode



**Infected roots**

**Healthy roots**

A healthy root system has many fine, white feeder roots.

# PESTS AND DISEASE



# HARVEST

- Harvest only ripe cherries, not under- or over-ripe



# PROCESSING

- Pulp within 24 hours of picking
- Make sure equipment is adjusted properly
- Ferment correctly
- Dry parchment properly



# BASIC CATEGORIES OF DEFECTS

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- **Botanical/Environmental**
- **Harvesting/Processing**

# BOTANICAL/ENVIRONMENTAL

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- **Quaker**
- **Mother**
- **Shell**
- **Insect**

# QUAKER/FLOATER-underdeveloped



# PREVENTING QUAKERS/FLOATERS

- Provide adequate water and nutrition
- Water is critical in the 6 to 16 weeks after flowering when bean size is determined
- Adequate nutrition and water are critical in bean density especially during 20-30 weeks following flowering

**MOTHER/ELEPHANT**-two beans  
develop in one ovule (botanic deviation)



SHELL-one half of a mother bean



# INSECT-holes and mines



# PREVENTING INSECT DAMAGE

- Insects are more attracted to stressed trees
- Keep trees as healthy as possible by providing adequate water and nutrients
- Store parchment or green in a protected area

# HARVESTING/PROCESSING

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- **Black**
- **Mold**
- **Sour/Stinker**
- **Broken, Cut, Nicks, Chips**
- **Aged/Discolored**

BLACK



# PREVENTING BLACK

- Do not process raisins  
If handpicking, do not pick raisins  
If mechanically picking, be sure raisins are sorted out



# MOLD



# PREVENTING MOLD

- Dry parchment to 11.5-12.5% moisture, so the green is approximately 10-11%
- If sun drying use proper thickness and turn frequently during the day
- Moderate temperature and moisture storage environment
- Provide adequate ventilation

# POSSIBLE CAUSE OF MOLD- Cercospora berry blotch



Control fungal diseases with cultural practices

# SOUR/STINKER- fermented odor or flavor



# PREVENTING SOUR/STINKER

- Don't pick over-ripe cherries
- Pulp within 24 hours of picking
- Don't over-ferment; ferment only until bean has lost slippery feeling
- Avoid storing near strong odors

# BROKEN, CUT, NICKS, CHIPS



# PREVENTING BROKEN, CUT, NICKS, CHIPS

- Have pulper properly adjusted
- Have huller properly adjusted
- Don't over-dry coffee (to prevent brittleness)

# AGED/DISCOLORED



# PREVENTING AGED/DISCOLORED

- Moderate temperature and moisture storage environment
- Prevent uneven drying of coffee by turning frequently
- Store at proper percent moisture of coffee
- Store as parchment if possible
- Don't store for too long a period

# PEABERRY (Not a defect)

- Occurs when one of the ovules does not develop; the other one occupies the whole berry, forming a round bean
- Not more than 3% by weight allowed in higher grades
- Classified as a type of bean (Type II)
- Not a grade

# QUALITY

Once coffee is harvested nothing can be done to *improve* its quality, but many things can be done to *harm* the quality.

