Using the Tree Growth Cycle to Make Cultural Management Decisions

February 2011
• What is the tree growth cycle?
• The importance of understanding what the tree is telling you
• Using the tree growth cycle and not the calendar for cultural management decisions
THE TWO YEAR ALTERNATE BEARING CYCLE:
Sink strength changes each year, in an "off-crop" year it is mostly to flowers and fruit, in an "on-crop" year it is mostly to growth.

MULTIPLE SHOOT GROWTH CYCLES HAPPEN AT THE SAME TIME:
- there can be several happening at the same time
- the challenge is to get these in balance with one another
- each year only looks like one series of events but are a combination of different stages of the growth cycle

SHOOT LIFE CYCLES: Each growth flush takes two years from bud break until fruit set on the flush are harvested.
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Shoot Life Cycles: Each growth flush takes two years from bud break until fruit set on the flush are harvested.

Examples of Critical Times for:
- Phytophthora control: apply control measures when the roots are the primary sink; the best application times are indicated by the arrows.
- Calcium accumulation in the fruit: make sure calcium is available in the soil water in the first 6-8 weeks after fruit set as indicated by the arrows.
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EXAMPLES OF CRITICAL TIMES FOR:
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What do you expect will happen if the following happens?

- There is a freeze in the middle of winter?
- You hang fruit very late?
- Flowering is very heavy and there is very little new shoot flush?
- The trees set a very large crop (3-4 times the average production)?