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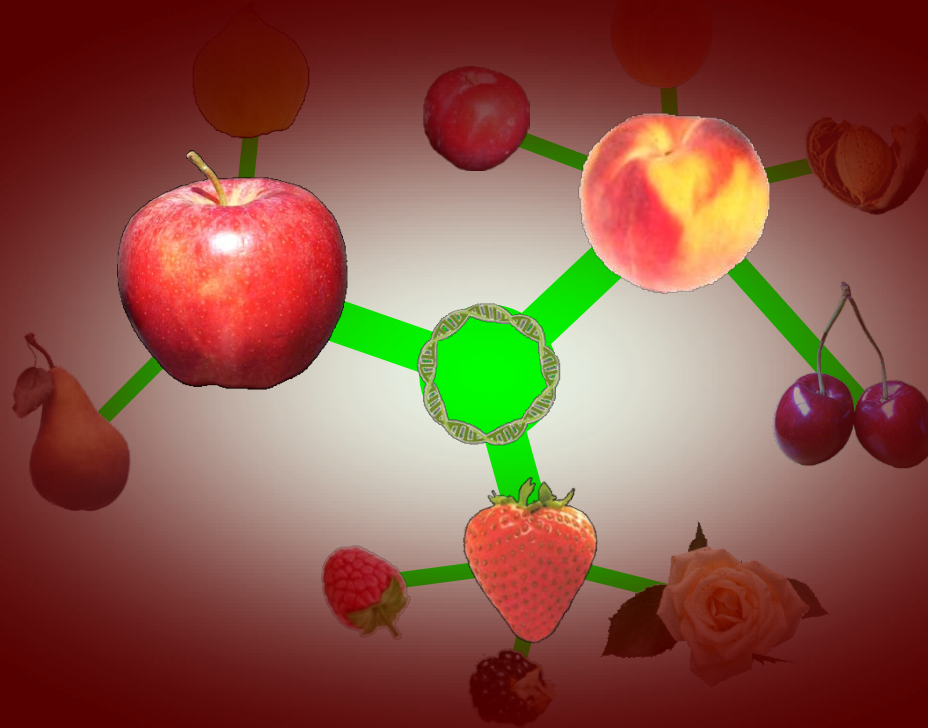
Enabling marker-assisted breeding in Rosaceae

Socio-Economics Team Goals and Activities

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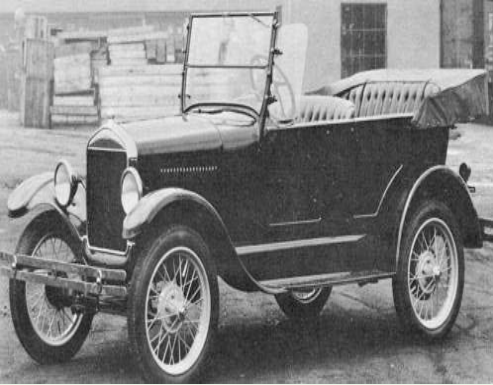
Outline of Presentation

- ❖ Production orientation versus Marketing orientation
- ❖ Socio-Economics Activities
- ❖ Socio-Economics Outcomes
- ❖ Socio-Economics Milestones



Production orientation versus Marketing Orientation

Production Orientation



- Focus on the most efficient ways to make and distribute products, like Henry Ford's Model T & Ivory soap
- Produce a product → try to sell it
- Focus on one-time sales of goods rather than repeat business
- Marketing viewed as a sales function



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Marketing Orientation

- Focus on satisfying customers' needs and wants
 - Find out customers' needs
 - ➔ Develop products satisfying the needs
 - Focus on building long-term bonds with customers
- Social marketing concept: satisfy customers' needs and also benefit society (Sustainability)



Photos courtesy of Dr. Byrne (nectarine & peach)

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Rosaceae Crop Breeding

- Rosaceae breeders have different empirical bases on which to assign relative importance to various traits under selection
 - Informal consumer surveys
 - Industry committee meetings

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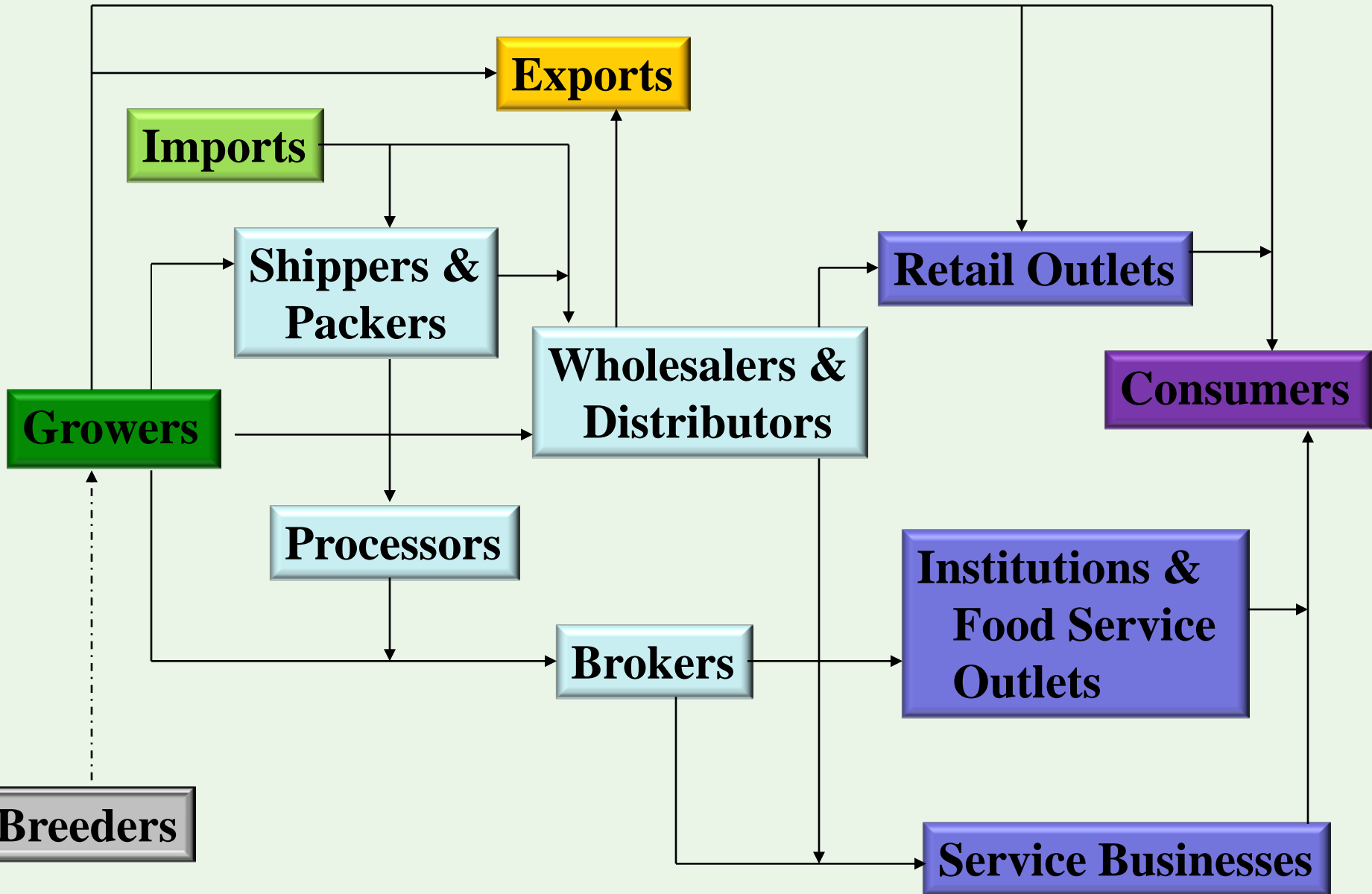
Rosaceae Crop Breeding

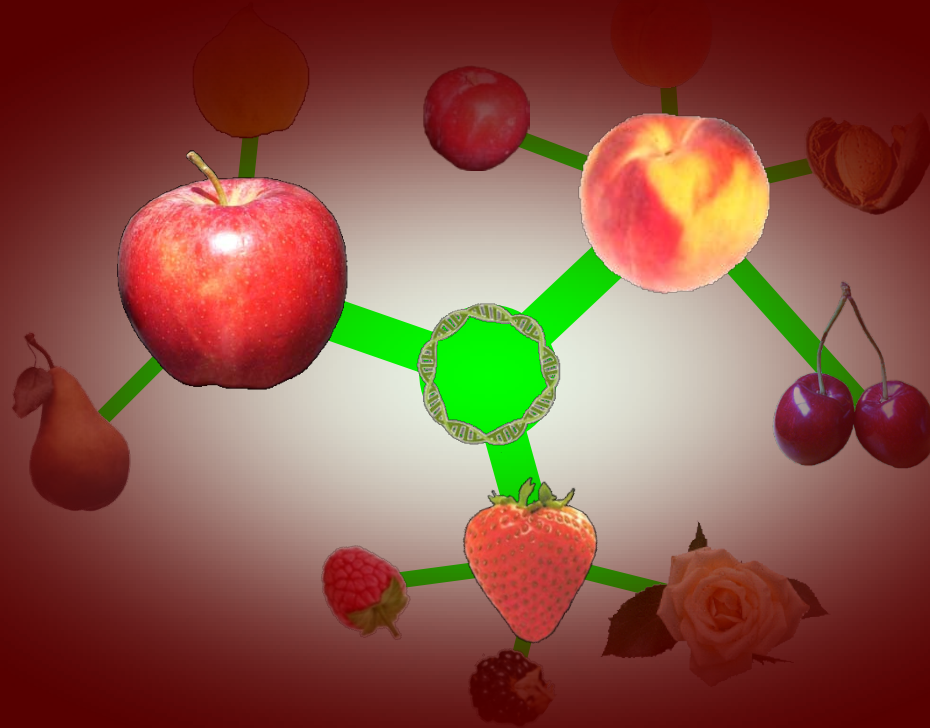
- The decision-making process that guides breeding decisions will benefit from a science-based understanding which is important to stakeholder
 - Preferences
 - Purchasing motives
 - Attitudes, beliefs, concerns, constraints
 - Willingness to pay

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Key Stakeholders





Socio-Economics Activities

Determine breeders' current trait selection practices

- Breeder interviews
- A survey will be developed (U.S. Breeders)
 - Determine specific traits under selection
 - Current relative weights placed on those traits
 - Traits for which they do not select due to limited staffing, technology, or knowledge

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Determine producer/processors' preference and willingness to adopt new cultivars

- A questionnaire will be administered
 - A randomly selected, stratified sample of producers/processors
 - Top-producing three states for five selected crops
 - Using a mixed mode (combination of mail and internet survey) method, backed up by in-person interviews when possible

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Determine producer/processors' preference and willingness to adopt new cultivars

- Conduct in-person interviews with producers/processors at industry gatherings
- Preferences for fruit traits (color, size, texture, etc.) and production traits (flowering, growth habit, annual bearing, postharvest drop, etc.).

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Determine producer/processors' preference and willingness to adopt new cultivars

- A model will be developed to measure the likelihood of adoption
 - Size of operation
 - Diversification of products
 - Degree of risk aversion
 - Synergies with other technologies
 - Input and output price uncertainty

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Determine market intermediaries' preference and values for fruit traits

- A survey will be developed and administered to market intermediaries
 - Suppliers, retailers and wholesalers
 - Preferences and values for different fruit quality attributes
 - Marketing constraints
 - Target markets
 - Size of operation

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Determine consumer preference and willingness to pay for fruit traits and market segments

- A national survey of consumers
 - Consumers' fruit selection and purchase decisions
 - The relative importance of different attributes
 - Their stated willingness to pay for attributes
 - A combination of mail and internet survey methods based on a randomly selected national sample of consumers

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Determine consumer preference and willingness to pay for fruit traits and market segments

- Consumers typically overestimate their willingness-to-pay in stated preference studies
- A grocery based auction/experiment
 - Show randomly selected shoppers real fruits
 - Ask them to sample
 - Place a value on an attribute by bidding on fruits with different attributes
 - Participants will pay real money for the product

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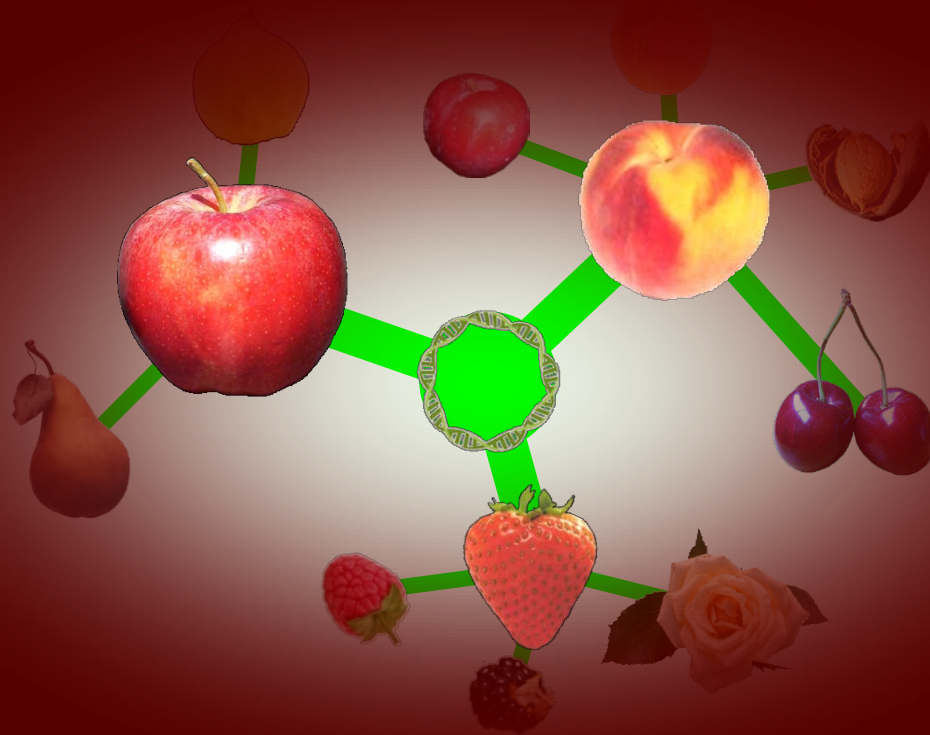


Determine consumer preference and willingness to pay for fruit traits and market segments

- These two components will allow us to
 - Investigate how much consumers are willing to pay for fruits with different attributes
 - Assess different market segments
 - Determine the degree of heterogeneity in fruit crop preferences
 - Analyze consumer attitudes and demographics

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Socio-Economics Outcomes

Short-term outcomes

- Establishment of a transparent process for determining economic values of
 - Production traits for breeding
 - Fruit traits for breeding and the target markets
- Increased Rosaceae producer/ processor, marketing group, trade organization and public awareness of breeding and MAB

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Mid-term outcomes

- Routine use of economic weighting of
 - Production traits for selection in Rosaceae MAB
 - Fruit traits for different target markets for selection in Rosaceae MAB
- Strengthened MAB process by involvement of Rosaceae producers/processors, marketing group, trade organizations and public

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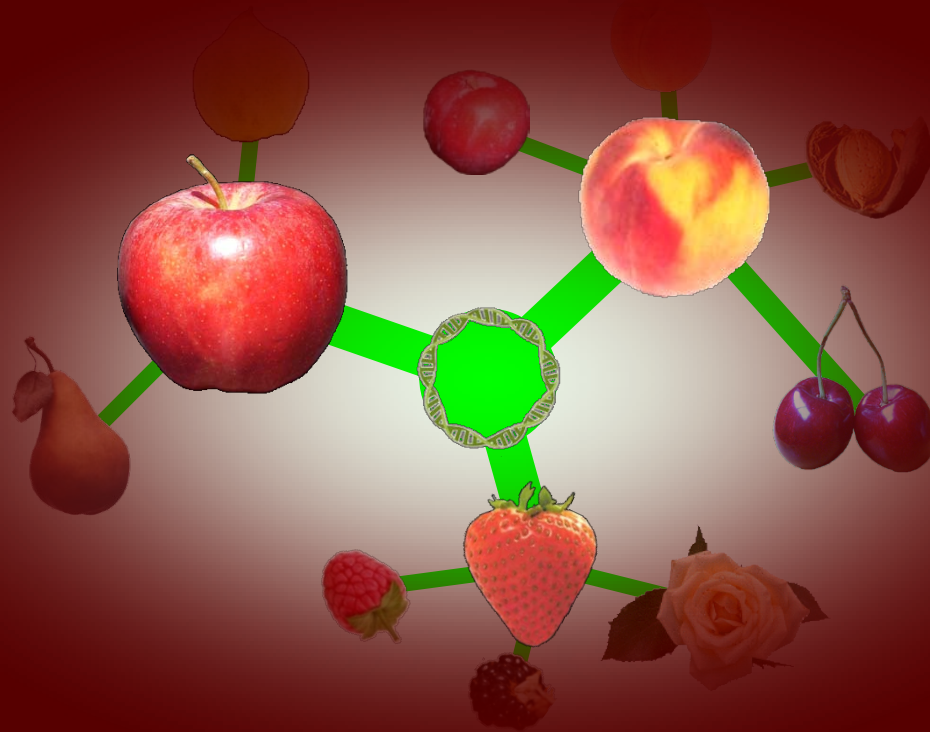


Long-term outcomes

- Valuable individual production traits targeted by U.S. Rosaceae breeders within efficient MAB schemes
- Target markets identified and valuable fruit traits targeted by U.S. Rosaceae breeders within efficient MAB schemes
- Improved profitability and sustainability of U.S. rosaceous fruit, nut, and floral crops with increased consumption and enjoyment

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Socio-Economics Milestones

RosBREED SE Milestones

- Year 1: 01 Sept 2009 – 31 Aug 2010
 - Breeders survey designed
 - Breeders' list identified and breeders' survey conducted
 - Breeders' current prioritizing of production traits and fruit traits in breeding identified

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RosBREED SE Milestones

- Producers/processors' list identified and growers' focus group conducted
- Producers/processors' survey designed and growers' survey conducted
- Preliminary data analysis of producer/processor survey conducted
- Producers/processors' preference and value for production traits and fruit traits identified

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RosBREED SE Milestones

- Year 2: 01 Sept 2010 – 31 Aug 2011
 - Marketing intermediaries list identified
 - Marketing intermediaries focus group conducted and marketing intermediaries survey designed
 - Marketing intermediaries survey conducted
 - Preliminary data analysis of marketing intermediary survey conducted
 - Marketing intermediaries' preference and value for fruit traits identified

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RosBREED SE Milestones

- Year 3: 01 Sept 2011 – 31 Aug 2012
 - Consumer focus group conducted and consumer survey designed
 - Consumer survey conducted
 - Consumer experimental auction conducted
 - Preliminary data analysis of consumer survey and auction conducted
 - Consumers' preference and value for fruit traits identified

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RosBREED SE Milestones

- Year 4: 01 Sept 2012 – 31 Aug 2013
 - Integrate grower, marketing intermediary and consumer's value and preference for traits
 - Combine survey and experiment data and conduct comprehensive data analysis
 - Develop relative economic values of different production traits and fruit traits

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Acknowledgements

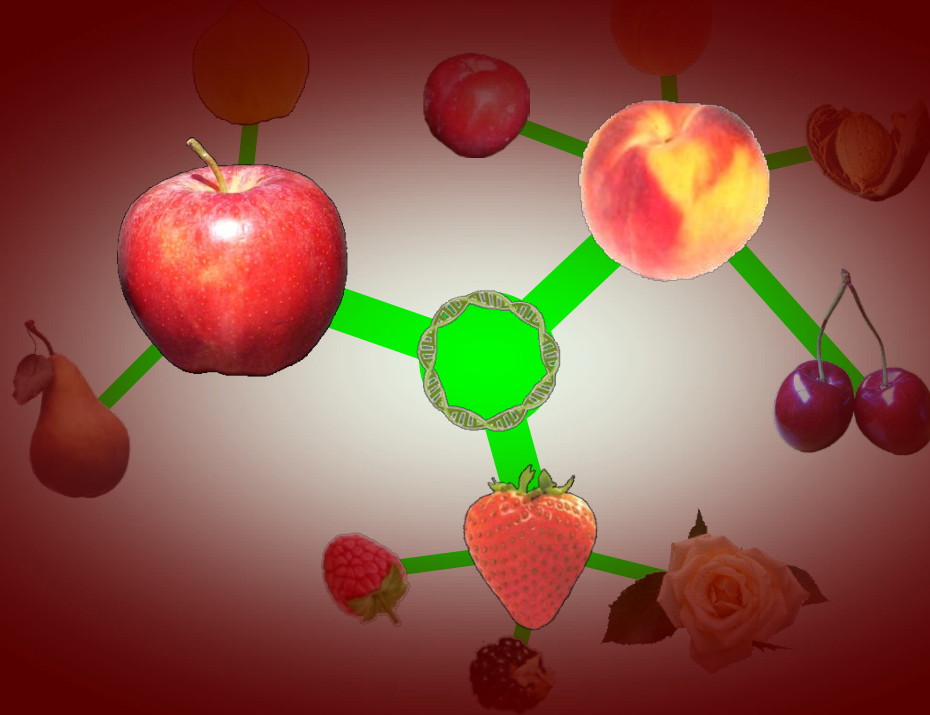


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Questions?

