FINAL PROJECT REPORT
WTFRC Project Number: AP-07-704

Project Title: Sensory profiles and consumer acceptance of apple breeding selections

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Cooperator: Andrea Chauvin, Post-doctoral fellow, Department of Food Science and Human Nutrition, Washington State University, Pullman, WA.

Total Project Funding:

Budget History:

Item	Year 1: $35,000	Year 2:	Year 3:
Salaries	17000		
Benefits	5780		
Wages			
Benefits			
Equipment			
Supplies	10720		
Travel	1500		
Miscellaneous			
Total	35000		

SIGNIFICANT FINDINGS
- The work will commence January 2008.
- The trained panel has been recruited and we have 12 panelists interested in participating.
- Training is scheduled to start the week of January 14th, with 3 sessions per week.
- We have received the list of apple selection to be evaluated by the trained panel.
- We plan to drive over to Wenatchee early January to pick up the selections as well as apples to use during training.
- Final trained panel evaluations scheduled for February 4th and 6th 2008
- Consumer panels are planned for February 5th and 7th 2008
- Both panels are scheduled to be completed by February 7th 2008

RESULTS AND DISCUSSION

A list of the apple selections was provided by Bruce Barritt. This list will be shortened to no more than 10 selections as described in the original proposal.

Table 1. Apple selections to be evaluated by the trained and consumer panels.

Selection Number	Harvest Date	Original Seedling Number	Parentage
Allen 2	10/8/07	T19-17-3-9427	Splendour open
Fuller 5	9/25/07	T19-10-5-9435	Splendour x Coop 15
Fuller 7	9/25/07	T19-46-95-9434	NJ90 x Goldrush
Fuller 10	9/18/07	C16-17-4-6-9737	Honeycrisp x Cripps Pink
Fuller 17	10/9/07	C12-10A-9-9623	Honeycrisp x Chinook
Fuller 18	10/9/07	C16-5-1-14-9735	Honeycrisp x Enterprise
Fuller 20	9/25/07	T18-5-26-9515	Coop 25 x Goldrush
Fuller 24	10/23/07	T21-18-25-9523	Gala x Cripps Pink
Allen 26	10/8/07	T21-20-49-9519	Gala x Fuji
Fuller 29	10/23/07	T21-25-13-9530	Fuji x BC 85-27-2
Fuller 30	10/9/07	T21-25-19-9530	Fuji x BC 85-27-2
Fuller 34	10/16/07	C12-7B-34-9624	Honeycrisp x Delicious
Fuller 36	10/9/07	C12-10A-16-9623	Honeycrisp x Chinook
Fuller 37	10/2/07	C12-16A-35-9724	Gala x Delblush

Sensory Attributes

Based on input from Bruce Barritt and on our previous experience with sensory evaluation of texture in apples, we have short-listed the sensory attributes to the following:

Trained panel attributes to evaluate:
- Flavour and taste: sweetness, sourness, overall apple flavor intensity, astringency
- Texture: firmness/hardness, juiciness, mealiness
- Appearance: colour intensity, size, presence of lenticels

Consumer panel attributes to evaluate:
- Flavour and taste: sweetness, sourness, apple flavour intensity, astringency, overall rating
- Texture: firmness/hardness, juiciness, mealiness, overall rating
- Appearance: overall rating
- Final overall rating of the apple

Reasons for expected success

- We successfully completed a similar study with cherries in June/July 2007 and obtained successful results. The same people are involved in this study (Ross, Chauvin, Weller and Plotka) as were involved in the cherry sensory evaluation study.

- We have also conducted apple texture studies for the past two years. This work composed Andrea Chauvin's Ph.D. dissertation topic. She has now completed her Ph.D. and is looking forward to starting on her post-doctoral work in this area.

Significance to Industry

- Draw relationships between sensory profiles obtained from a trained panel and the evaluations of a consumer panel.
- Assist the WSU apple breeding program regarding commercialization decisions of appropriate apple selections using sensory data from trained and untrained (consumer) sensory panels.
- More broadly, this research will give insight into the apple consumer, the attributes that he/she is seeking in an apple and the influence of different sensory attributes of the apple acceptance.