

# Pomegranate Production Analysis

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# Production Analysis

- Purpose:

collect cost-benefit data in order to analyze feasibility of pomegranate production in Florida

# Production Analysis

- Designed survey questionnaire
- IRB Approval: Sept 17

**UF UNIVERSITY of FLORIDA IFAS**

**Florida Pomegranate Cost Survey**  
Gulf Coast Research and Education Center  
(Confidential - For Research and Extension Purpose Only)

Your responses will be kept ANONYMOUS and CONFIDENTIAL. Please fill in the blanks.

**1. General Information of Pomegranate Orchard**

|                                      | Values |
|--------------------------------------|--------|
| Location of the orchard (county)     |        |
| Size of the orchard (acre)           |        |
| Establishment time (month/year)      |        |
| Number of pomegranate trees          |        |
| Two major cultivars                  |        |
| Tree spacing (feet × feet)           |        |
| Land rent if it were rented(\$/acre) |        |

**2. Production Costs for the Whole Pomegranate Orchard**

|                                | 1 <sup>st</sup> year | 2 <sup>nd</sup> year | 3 <sup>rd</sup> year | 4 <sup>th</sup> year | 5 <sup>th</sup> year |
|--------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <b>Planting Costs</b>          |                      |                      |                      |                      |                      |
| Land Preparation (\$)          |                      |                      |                      |                      |                      |
| Costs of purchasing trees (\$) |                      |                      |                      |                      |                      |
| Irrigation system (\$)         |                      |                      |                      |                      |                      |
| Other costs (\$)               |                      |                      |                      |                      |                      |

# Production Analysis

- Interviewed growers
- Visited orchards, ranging from newly established orchards to over-3-years mature orchards
- Period visiting growers: Oct-Nov

# Production Analysis

- Information Collected:
  - General information: orchard size, cultivar, planting density, # of trees, age of trees, etc.
  - Cost data: planting, irrigation, pruning, fertilization, weed management, and insects and disease management

# Results

- Planting
  - Tree spacing: 12 feet × 18 feet
  - Trees (one-gallon pot): ~\$8-\$12\*
  - Trees (three-gallon pot): ~\$20-25
  - # of trees per acre: about 200
  - Planting labor: \$2/tree



# Results

- Irrigation
  - Drip emitter or micro sprinkler
  - Frequency: 2-3times/week for ~1 hr
  - Establishment of micro sprinkler: \$800/acre
- Fertilization
  - 82lb nitrogen, 300lb 8-6-8 fertilizer, and 224lb10-10-10 fertilizer
  - Foliar micronutrients applied monthly
  - Cost of fertilization: \$162/acre

# Discussions

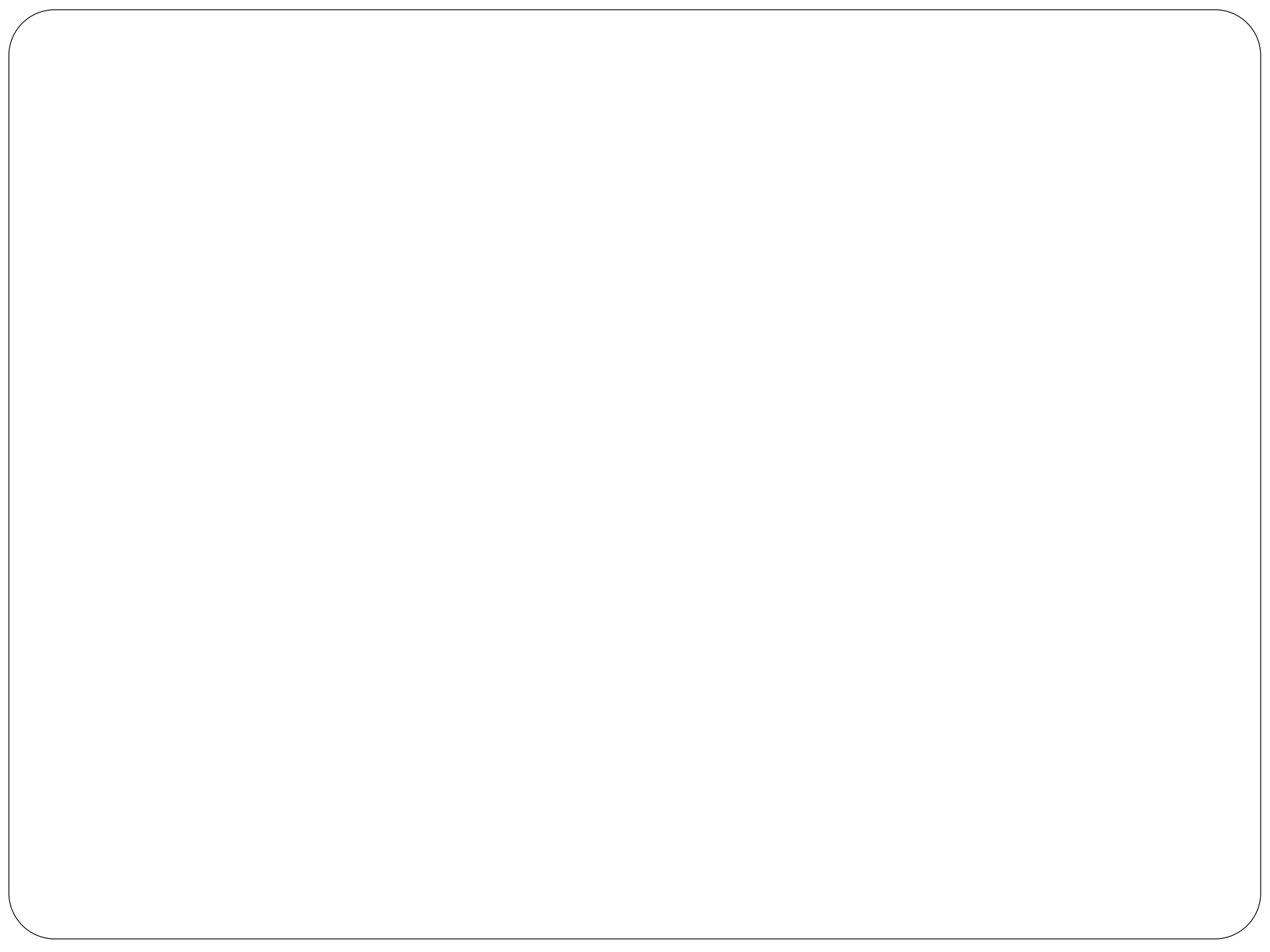
- Growers are experimenting or in establishment stage;
- Yield not representative – improvement next season
- Cost information more reliable
- Market price reference: Wonderful

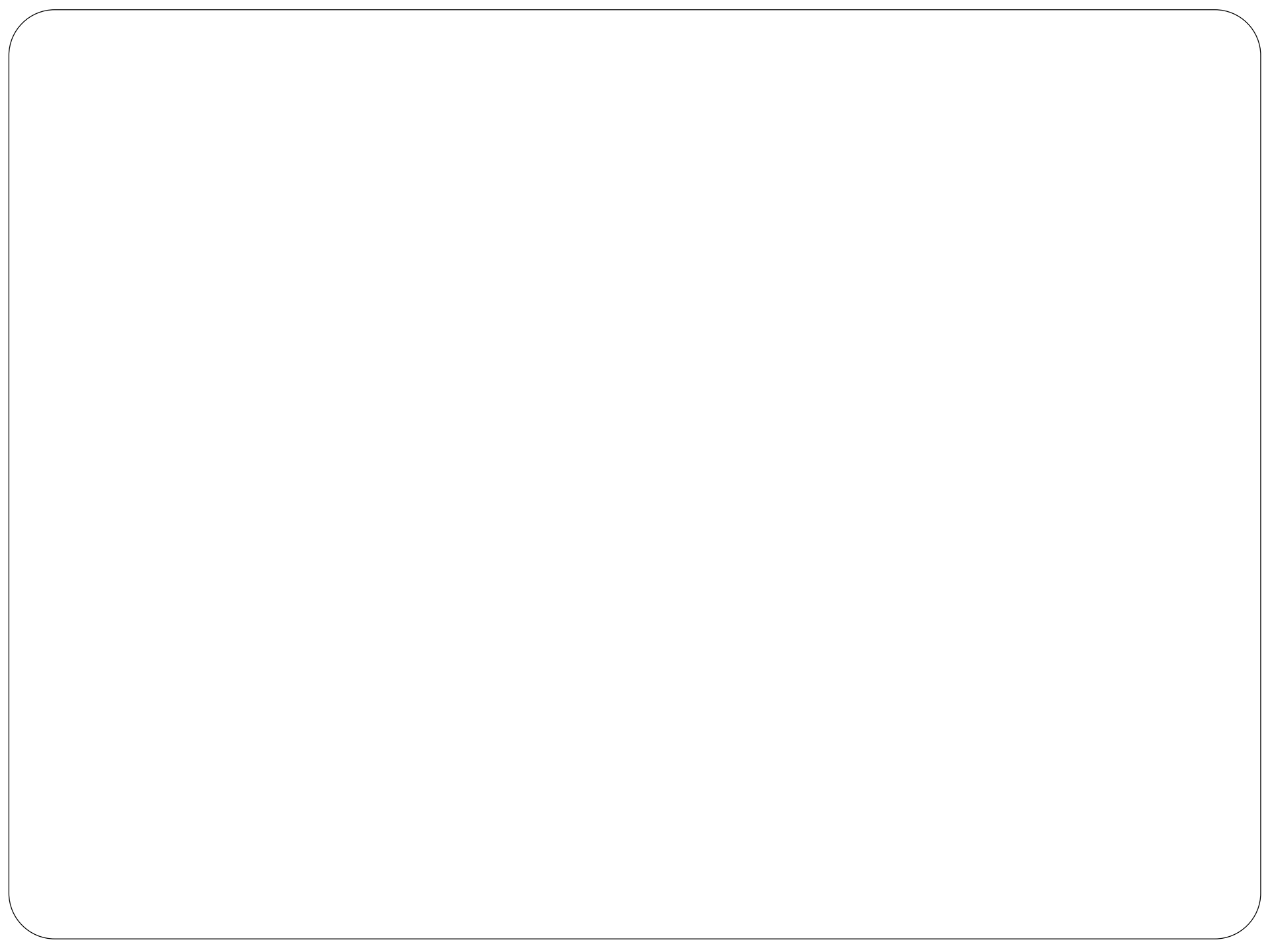


# Thank You!

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## *Experiment (Tasting Test)*

- Phase I

October 10, 2014

# of subjects 119 (students, faculty, & staff at **UF**)

- Phase II

October 13, 2014

# of subjects 119 (students, faculty, & staff at **UF**)

## *Phases of Experiment & Pomegranates' Tested*

### Phase I

- Lester
- Afganski
- Wonderful
- Salavaski

### Phase II

- Al Sirin-Nar
- Herbert
- Nikiski
- Jimmy

## *Attributes & Scaling*

|                |     |                 |     |
|----------------|-----|-----------------|-----|
| Appearance     | 1-9 | Sweetness       | 1-9 |
| Color          | 1-9 | Seed hardness   | 1-5 |
| Overall liking | 1-9 | Juiciness       | 1-5 |
| Flavor         | 1-9 | Sourness        | 1-5 |
| Texture        | 1-9 | Purchase Intent | 1-5 |

# Survey Questions

Please rate how much you like the **appearance** of **sample 1**.

## Appearance

|                      |                         |                       |                     |                                |                  |                    |                   |                   |
|----------------------|-------------------------|-----------------------|---------------------|--------------------------------|------------------|--------------------|-------------------|-------------------|
| Dislike<br>Extremely | Dislike<br>Very<br>Much | Dislike<br>Moderately | Dislike<br>Slightly | Neither<br>Like Nor<br>Dislike | Like<br>Slightly | Like<br>Moderately | Like Very<br>Much | Like<br>Extremely |
| 1                    | 2                       | 3                     | 4                   | 5                              | 6                | 7                  | 8                 | 9                 |

Please rate how much you like the **color** of **sample 1**.

## Color

|                      |                      |                       |                     |                                |                  |                    |                   |                   |
|----------------------|----------------------|-----------------------|---------------------|--------------------------------|------------------|--------------------|-------------------|-------------------|
| Dislike<br>Extremely | Dislike<br>Very Much | Dislike<br>Moderately | Dislike<br>Slightly | Neither<br>Like Nor<br>Dislike | Like<br>Slightly | Like<br>Moderately | Like Very<br>Much | Like<br>Extremely |
| 1                    | 2                    | 3                     | 4                   | 5                              | 6                | 7                  | 8                 | 9                 |

Please indicate how much you like or dislike each attribute for **sample 1**.

### Overall Liking

| Dislike<br>Extremely | Dislike<br>Very<br>Much | Dislike<br>Moderately | Dislike<br>Slightly | Neither<br>Like Nor<br>Dislike | Like<br>Slightly | Like<br>Moderately | Like Very<br>Much | Like<br>Extremely |
|----------------------|-------------------------|-----------------------|---------------------|--------------------------------|------------------|--------------------|-------------------|-------------------|
| 1                    | 2                       | 3                     | 4                   | 5                              | 6                | 7                  | 8                 | 9                 |

### Flavor

| Dislike<br>Extremely | Dislike<br>Very<br>Much | Dislike<br>Moderately | Dislike<br>Slightly | Neither<br>Like Nor<br>Dislike | Like<br>Slightly | Like<br>Moderately | Like Very<br>Much | Like<br>Extremely |
|----------------------|-------------------------|-----------------------|---------------------|--------------------------------|------------------|--------------------|-------------------|-------------------|
| 1                    | 2                       | 3                     | 4                   | 5                              | 6                | 7                  | 8                 | 9                 |

### Texture

| Dislike<br>Extremely | Dislike<br>Very<br>Much | Dislike<br>Moderately | Dislike<br>Slightly | Neither<br>Like Nor<br>Dislike | Like<br>Slightly | Like<br>Moderately | Like Very<br>Much | Like<br>Extremely |
|----------------------|-------------------------|-----------------------|---------------------|--------------------------------|------------------|--------------------|-------------------|-------------------|
| 1                    | 2                       | 3                     | 4                   | 5                              | 6                | 7                  | 8                 | 9                 |



## Sweetness

Dislike Extremely    Dislike Very Much    Dislike Moderately    Dislike Slightly    Neither Like Nor Dislike    Like Slightly    Like Moderately    Like Very Much    Like Extremely

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|

## Seed Hardness

Much too soft    Somewhat too soft    Just about right    Somewhat too hard    Much too hard

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

## Juiciness

Much too dry    Somewhat too dry    Just about right    Somewhat too juicy    Much too juicy

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

## Sourness

Not at all sour enough    Not quite sour enough    Just about right    Somewhat too sour    Much too sour

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

If available in the store, how likely would you be to purchase **sample 1**?

- a) Definitely would not buy
- b) Probably would not buy
- c) Might or might not buy
- d) Probably would buy
- e) Definitely would buy

Please taste the samples in order from left to right again and rank them for OVERALL PREFERENCE, from most preferred to least preferred.

**Rank**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Sample #**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Overall averages

|           | Appearance | Color | Flavor | Texture | Sweetness | Seed Hardness | Juiciness | Sourness | Overall Liking | Purchase Intent |
|-----------|------------|-------|--------|---------|-----------|---------------|-----------|----------|----------------|-----------------|
| Lester    | 4.35       | 4.00  | 5.57   | 6.01    | 5.78      | 3.51          | 2.64      | 2.22     | 5.53           | 2.42            |
| Afganski  | 7.07       | 7.17  | 6.43   | 6.39    | 5.83      | 3.43          | 2.91      | 3.46     | 6.33           | 3.07            |
| Wonderful | 7.36       | 7.57  | 6.26   | 6.50    | 6.21      | 3.19          | 2.69      | 2.61     | 6.48           | 3.11            |
| Salavaski | 6.18       | 6.14  | 5.95   | 6.14    | 5.34      | 3.48          | 2.87      | 3.81     | 5.91           | 2.81            |
| Al Sirin  | 6.79       | 6.81  | 6.38   | 6.25    | 6.18      | 3.60          | 2.92      | 3.09     | 6.35           | 3.17            |
| Herbert   | 5.17       | 4.97  | 6.04   | 6.12    | 5.85      | 3.45          | 2.81      | 3.27     | 5.96           | 2.90            |
| Nikitski  | 7.34       | 7.46  | 6.67   | 6.57    | 6.52      | 3.47          | 2.90      | 3.13     | 6.69           | 3.48            |
| Jimmy     | 4.34       | 4.16  | 5.61   | 5.92    | 5.85      | 3.37          | 2.74      | 2.11     | 5.64           | 2.51            |

# Rankings

|           | Appearance | Color | Flavor | Texture | Sweetness | Seed Hardness | Juiciness | Sourness | Overall Liking | Purchase Intent |
|-----------|------------|-------|--------|---------|-----------|---------------|-----------|----------|----------------|-----------------|
| Lester    | 7          | 8     | 8      | 7       | 7         | 7             | 8         | 7        | 8              | 8               |
| Afganski  | 3          | 3     | 2      | 3       | 6         | 3             | 2         | 3        | 4              | 4               |
| Wonderful | 1          | 1     | 4      | 2       | 2         | 1             | 7         | 2        | 2              | 3               |
| Salavaski | 5          | 5     | 6      | 5       | 8         | 6             | 4         | 1        | 6              | 6               |
| Al Sirin  | 4          | 4     | 3      | 4       | 3         | 8             | 1         | 6        | 3              | 2               |
| Herbert   | 6          | 6     | 5      | 6       | 4         | 4             | 5         | 4        | 5              | 5               |
| Nikitski  | 2          | 2     | 1      | 1       | 1         | 5             | 3         | 5        | 1              | 1               |
| Jimmy     | 8          | 7     | 7      | 8       | 5         | 2             | 6         | 8        | 7              | 7               |

## Rankings based on Purchase Intent

| Ranking | Names     | Averages (1-5) |
|---------|-----------|----------------|
| 1       | Nikitsky  | 3.48           |
| 2       | Al Sirin  | 3.17           |
| 3       | Wonderful | 3.11           |
| 4       | Afganski  | 3.07           |
| 5       | Herbert   | 2.9            |
| 6       | Salavaski | 2.81           |
| 7       | Jimmy     | 2.51           |
| 8       | Lester    | 2.42           |