

**NEW YORK STATE 2016 DRY BEAN CULTIVAR TRIAL REPORT  
Dark Red Kidneys, Light Red Kidneys, Black Turtle and Cranberry**

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**PROCEDURE AND MATERIALS**

**Location:** NYS Agricultural Research Farm – Gates Road, Geneva - soil type - Lima silt loam

**Planting Dates:** 6/15/16

**Row Width:** 30 inches, Row length: 30 ft. **In-row Spacing:** (Kidneys and cranberries - 4-5 seeds/ft., blacks - 6-8 seeds/ft.)

**Conventional Tillage**

**Fertilizer:** 300#/A of 8-14-21

**Herbicide:** Dual post plant

**Planter** - Two Row Monosem Vacuum Planter

**Plot Size:** 1 row 35 ft long - 4 replications

The objective of this trial was to compare the performance of new varieties with the industry standard varieties in terms of yield, maturity, height of pods, disease resistance, adaptation to NYS growing conditions and quality. This was accomplished in cooperation with the NYS Dry Bean Industry in an attempt to find new, higher quality, and disease resistant varieties that are adapted to our climate and soil conditions.

For both replicated and observation entries, yield of ten feet per replication was obtained by pulling the plants and hand picking them. Multiple harvests were made to plot yield increase and also seed size increase. An FMC snipper and grader were used to snip and grade the harvested pods. Each replicated entry was processed (canned and frozen) for later evaluation by the processors and seedsmen. Comments from this cutting are not included in the report.

Soil moisture was limited for all plantings with natural precipitation at its lowest since 1965. The field was planted and emergence was spotty. Drip tape was placed next to each row 10 days after planting and water was applied. This evened the stands out. I understand that part of the trial objectives was to evaluate for water stress, but the trial stands would have been too poor to evaluate without this irrigation. An irrigation was applied every two weeks at the rate of about one inch (6/25, 7/10, 7/25). We had some rain in August to finish them off. See the weather insert at the end of the summary for a breakdown of temperatures and precipitation over the growing season.

A field day was well attended by interested growers and industry representatives in August. A cutting was held on 2/28/17 to evaluate canned product. Evaluations of the canned product are included in Table 4.

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*Special thanks to my crew - Wayne Hansen, Karen Luong, Alison Mahoney, Helen Terra, Misty Hotelling, Zach Hemminger and Callie Musto for their assistance in day to day operations.*

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## Table 1. Cultivar List

### Dark Red Kidney

|           |         |
|-----------|---------|
| Chaparral | Provita |
| Epic      | Provita |
| 09431     | Provita |
| 09434     | Provita |
| Red Rover | TV      |
| Red Hawk  | TV      |
| Dynasty   | TV      |

### Light Red Kidney

|              |         |
|--------------|---------|
| Big Red      | Provita |
| Red Zone     | Provita |
| Red Flag     | Provita |
| Red Dog      | Provita |
| 09360        | Provita |
| 06269        | Provita |
| 09363        | Provita |
| 09378        | Provita |
| 09357        | Provita |
| Clouseau     | TV      |
| Pink Panther | TV      |
| Wallace      | TV      |
| Cal Early    | TV      |

### Blacks

|                    |         |
|--------------------|---------|
| 12576 (Black Bear) | Provita |
| 13489              | Provita |
| 13503              | Provita |
| 13505              | Provita |
| 14497              | Provita |
| 14506              | Provita |
| Zenith (new)       | TV      |
| Zorro              | TV      |
| Black Velvet       | TV      |
| Eclipse            | TV      |
| T39                | TV      |
| Shania             | ADM     |
| B0040613           | ADM     |
| B1048276           | ADM     |
| Obsidian           | TV      |

### Cranberry

|          |     |
|----------|-----|
| Etna     | TV  |
| Krimson  | TV  |
| Hooter   | TV  |
| Vero     | ADM |
| Bellagio | MSU |

### White Kidney

|         |     |
|---------|-----|
| Beluga  | MSU |
| Snowden | MSU |

**Table 2. Plant Characteristics (varieties listed in order of maturity)**

| Cultivar               | Plant Habit (rating) | Plt ht. (in) | Plt width (in) | Pod length (in.) | Seeds per pod (10 pod sample) | Maturity (days compared to std) |
|------------------------|----------------------|--------------|----------------|------------------|-------------------------------|---------------------------------|
| <b>Dark Red Kidney</b> |                      |              |                |                  |                               |                                 |
| Red Rover              | 3.5                  | 18           | 16.5           | 4.5-5.25         | 4 to 5                        | minus 1                         |
| Dynasty                | 3.25                 | 20           | 18             | 4.5-6.0          | 5 to 7                        | minus 1                         |
| <b>Red Hawk (std)</b>  | 3.25                 | 18.5         | 17             | 4.5-5.5          | 4 to 6                        | 0                               |
| 09434                  | 3                    | 17           | 15.5           | 5 to 6           | 4 to 7                        | 0                               |
| 09431                  | 3                    | 16           | 19             | 5 to 6           | 5 to 8                        | plus 2                          |
| Chaparral              | 2.75                 | 18           | 16             | 5.5-6.5          | 5 to 7                        | plus 3                          |
| Epic                   | 3                    | 18           | 16.5           | 4.5-6.25         | 4 to 7                        | plus 4                          |

**Light Red Kidney**

|                        |      |      |      |          |        |             |
|------------------------|------|------|------|----------|--------|-------------|
| 09357                  | 3.25 | 17   | 15.5 | 4-6.25   | 5 to 7 | minus 1     |
| <b>Cal Early (std)</b> | 3.75 | 16   | 13.5 | 4-5.5    | 4 to 5 | 0           |
| 06269                  | 3.5  | 17.5 | 17   | 4.5-6    | 3 to 6 | 0           |
| 09363                  | 3.75 | 15.5 | 12   | 5.25-5.5 | 4 to 5 | 0           |
| Wallace                | 3.5  | 16.5 | 17   | 5.5-7    | 4 to 5 | 0           |
| Big Red                | 3    | 17   | 14.5 | 5.0-6.0  | 5 to 6 | plus 2      |
| Red Dog                | 3    | 20.5 | 21   | 4.5-6.0  | 4 to 5 | plus 2      |
| 09378                  | 3.25 | 15.5 | 13.5 | 5-5.5    | 3 to 5 | plus 2      |
| Red Flag               | 3.25 | 20.5 | 17.5 | 4.5-5.5  | 4 to 5 | plus 3      |
| Clouseau               | 3.25 | 17.5 | 18   | 4-5.5    | 3 to 5 | plus 3      |
| Pink Panther           | 3.25 | 18   | 20.5 | 4.5-5.5  | 3 to 5 | plus 3      |
| 09360                  | 3.75 | 22   | 20   | 5 to 6   | 4 to 6 | plus 4 to 5 |
| Red Zone               | 3.5  | 23.5 | 24.5 | 5.0-6.0  | 5 to 6 | plus 5 to 6 |

**Table 2. Plant Characteristics continued:**

| Cultivar            | Plant Habit (rating) | Plt ht. (in) | Plt width (in) | Pod length (in.) | Seeds per pod (10 pod sample) | Maturity (days compared to std) |
|---------------------|----------------------|--------------|----------------|------------------|-------------------------------|---------------------------------|
| <b>Black</b>        |                      |              |                |                  |                               |                                 |
| Eclipse             | 5                    | 19.5         | 12.5           | 4-5.0            | 6 to 8                        | minus 3                         |
| 13503               | 4                    | 22           | 15.5           | 3-3.5            | 4 to 6                        | minus 2                         |
| 14506               | 4.5                  | 23.5         | 16.5           | 4-4.5            | 5 to 7                        | minus 2                         |
| T39                 | 2                    | 13           | 14             | 3-4.0            | 4 to 8                        | minus 2                         |
| 13505               | 5                    | 23           | 11.5           | 3-3.75           | 6                             | minus 1                         |
| 14497               | 3.5                  | 23           | 19.5           | 3-3.75           | 6                             | minus 1                         |
| Zenith (new)        | 5                    | 22           | 12             | 3.5-4.5          | 5 to 7                        | minus 1                         |
| B1048276            | 4                    | 18           | 17             | 3.5-4.5          | 5 to 8                        | minus 1                         |
| <b>Zorro (std)</b>  | 4.5                  | 21.5         | 14             | 3-3.75           | 5 to 8                        | 0                               |
| Shania              | 4                    | 20           | 15.5           | 3.0-4            | 6 to 8                        | 0                               |
| Obsidian            | 4.25                 | 21           | 15             | 3.75-4.5         | 6 to 8                        | 0                               |
| 12576 (Black Bear)  | 4.25                 | 20.5         | 15             | 3.5-4.5          | 6to 7                         | plus 1                          |
| 13489               | 4.25                 | 23.5         | 15.5           | 3.5-4            | 5 to 8                        | plus 2                          |
| Black Velvet        | 4.25                 | 22           | 17             | 3.25-4.25        | 4 to 7                        | plus 2                          |
| B0040613            | 3.75                 | 18           | 16             | 3.25-4.25        | 6to 7                         | plus 2                          |
| <b>Cranberry</b>    |                      |              |                |                  |                               |                                 |
| <b>Etna (std)</b>   | 3.5                  | 17.5         | 14             | 4.5-5.5          | 5 to 7                        | 0                               |
| Krimson             | 3.25                 | 15           | 17             | 4-6.0            | 4 to 6                        | 0                               |
| Vero                | 3.5                  | 17.5         | 15             | 4.5-5.5          | 4 to 6                        | plus 1                          |
| Hooter              | 3.75                 | 21.5         | 20             | 3.5-4.5          | 4 to 5                        | plus 2                          |
| Bellagio            | 3                    | 18           | 15             | 4.0-5.0          | 4 to 6                        | plus 2                          |
| <b>White Kidney</b> |                      |              |                |                  |                               |                                 |
| Snowden             | 3.5                  | 17.5         | 12             | 5-6.0            | 4 to 6                        | minus 1                         |
| <b>Beluga (std)</b> | 3                    | 16           | 17             | 3.5-5.5          | 3 to 4                        | 0                               |

**Table 3. Yield** (varieties listed in order of maturity)

| Cultivar               | Moisture % | Count per lb. | Plants/ft | Lbs per acre | Maturity |
|------------------------|------------|---------------|-----------|--------------|----------|
| <b>Dark Red Kidney</b> |            |               |           |              |          |
| Red Rover              | 11.4       | 835           | 3.1       | 1997         | minus 1  |
| Dynasty                | 12.4       | 823           | 3.3       | 2763         | minus 1  |
| <b>Red Hawk (std)</b>  | 11.3       | 950           | 3.7       | 2270         | 0        |
| 09434                  | 11.2       | 968           | 3.3       | 1850         | 0        |
| 09431                  | 11.4       | 962           | 3.6       | 2208         | plus 2   |
| Chaparral              | 12.1       | 1071          | 2.7       | 1677         | plus 3   |
| Epic                   | 11.4       | 852           | 3.5       | 2147         | plus 4   |

**Light Red Kidney**

|                        |      |      |     |      |             |
|------------------------|------|------|-----|------|-------------|
| 09357                  | 11.3 | 885  | 3.6 | 2008 | minus 1     |
| <b>Cal Early (std)</b> | 11.3 | 885  | 4.2 | 2746 | 0           |
| 06269                  | 11.4 | 931  | 3.8 | 3376 | 0           |
| 09363                  | 11.3 | 850  | 3.6 | 2606 | 0           |
| Wallace                | 8.8  | 1058 | 4.1 | 2697 | 0           |
| Big Red                | 11.3 | 852  | 3.9 | 2321 | plus 2      |
| Red Dog                | 11.1 | 853  | 3.5 | 2450 | plus 2      |
| 09378                  | 11.2 | 887  | 4.2 | 2707 | plus 2      |
| Red Flag               | 11.2 | 863  | 3.5 | 2119 | plus 3      |
| Clouseau               | 11.1 | 836  | 3.8 | 2400 | plus 3      |
| Pink Panther           | 11.4 | 825  | 3.9 | 2490 | plus 3      |
| 09360                  | 11.2 | 831  | 4.3 | 2574 | plus 4 to 5 |
| Red Zone               | 11.3 | 894  | 3.3 | 2176 | plus 5 to 6 |

**Table 3. Yield Continued:**

| <b>Cultivar</b>      | <b>Moisture %</b> | <b>Count per lb.</b> | <b>Plants/ft</b> | <b>Lbs per acre</b> | <b>Maturity</b> |
|----------------------|-------------------|----------------------|------------------|---------------------|-----------------|
| <b>Black</b>         |                   |                      |                  |                     |                 |
| Eclipse              | 8.1               | 2152                 | 4.8              | 2683                | minus 3         |
| 13503                | 8.3               | 2105                 | 4.8              | 2879                | minus 2         |
| 14506                | 7.8               | 2061                 | 5.5              | 2956                | minus 2         |
| T39                  | 7.9               | 2057                 | 4.5              | 2781                | minus 2         |
| 13505                | 8.0               | 2191                 | 4.8              | 2806                | minus 1         |
| 14497                | 8.4               | 2047                 | 5.8              | 3348                | minus 1         |
| Zenith (new)         | 8.2               | 1992                 | 4.8              | 3279                | minus 1         |
| B1048276             | 8.4               | 2406                 | 4.4              | 2942                | minus 1         |
| <b>Zorro (std)</b>   | 8.3               | 2120                 | 5.4              | 3136                | 0               |
| Shania               | 7.8               | 2187                 | 4.7              | 3119                | 0               |
| Obsidian             | 7.6               | 2026                 | 5.3              | 2757                | 0               |
| 12576 (Black Bear)   | 8.0               | 2101                 | 5.3              | 3189                | plus 1          |
| 13489                | 7.8               | 2051                 | 5.3              | 3443                | plus 2          |
| Black Velvet         | 8.1               | 1910                 | 4.8              | 2840                | plus 2          |
| B0040613             | 7.7               | 2153                 | 4.9              | 3156                | plus 2          |
| <b>Cranberry</b>     |                   |                      |                  |                     |                 |
| <b>Etna (std)</b>    | 11.0              | 906                  | 4.3              | 2502                | 0               |
| Krimson              | 10.6              | 918                  | 4.1              | 2833                | 0               |
| Vero                 | 11.1              | 906                  | 4.0              | 2709                | plus 1          |
| Hooter               | 11.2              | 896                  | 4.8              | 2471                | plus 2          |
| Bellagio             | 11.4              | 890                  | 3.6              | 2459                | plus 2          |
| <b>White Kidney</b>  |                   |                      |                  |                     |                 |
| Snowden              | 11.0              | 845                  | 2.9              | 2042                | minus 1         |
| <b>Belugia (std)</b> | 11.1              | 938                  | 3.0              | 2454                | 0               |

Column descriptions on page 8

## Column Descriptions for tables 2 and 3

All measurements are an average of the data for the four replications. Raw data is available if requested.

### Table 2

Plant Habit Rating - on a 1-5 scale with 5 being the best

Plant height - measurement in inches from the top of the plant to the soil surface.

Plant Width - measurement of the canopy in inches .

Pod Length- ten sample pods were lined up and the measurement in inches is listed as a range.

Seeds per pod - ten pods were cut open and number of seeds counted per pod. Listed as a range.

Maturity - The standard (cultivar with std beside it) was listed as 0. Other cultivars were listed in comparison to that cultivar.  
Maturity might be impacted by germination uniformity. Drier soil might have delayed emergence.  
Irrigation was not applied until 10 days after planting.

### Table 3

Moisture Percentage - harvested seeds were air dried after harvest and shelling. Moisture level of seed was measured with a Burrows Digital Moisture Computer.

Count per pound - At time of moisture percentage measurement, 100 seeds were weighed and this was converted to seeds per pound.

Plants per foot - Ten feet of plants were harvested for each rep. The number of total plants was divided by 10 for a plants per foot.

Pounds per acre - Shelled seed weight per 10 ft was extrapolated to pounds per acre.

Maturity - See above.



**Table 4. Canned evaluation**

Rating scale - 2=premium, 1 = acceptable, 0 = unacceptable

| DRK             | process      | Texture    | Bean color | Brine color | Overall Appear. |
|-----------------|--------------|------------|------------|-------------|-----------------|
| Chaparral       | Salt         | 3          | 3.3        | 2.7         | 2.3             |
| Epic            | Salt         | 3.3        | 3.0        | 3.0         | 2.7             |
| 09431           | Salt         | 2.7        | 3.0        | 2.7         | 2.7             |
| 09434           | Salt         | 3.0        | 3.3        | 3.0         | 3.3             |
| Red Rover       | Salt         | 3.0        | 4.0        | 3.7         | 3.5             |
| <b>Red Hawk</b> | <b>Salt</b>  | <b>4.0</b> | <b>4.0</b> | <b>4.0</b>  | <b>4.0</b>      |
| Dynasty         | Salt         | 2.7        | 2.7        | 2.7         | 2.3             |
|                 |              |            |            |             |                 |
| Chaparral       | Sauce        | 2.7        | 3.0        | 3.0         | 2.7             |
| Epic            | Sauce        | 3.0        | 3.0        | 2.7         | 2.7             |
| 09431           | Sauce        | 2.7        | 2.7        | 3.0         | 2.3             |
| 09434           | Sauce        | 3.3        | 3.7        | 3.3         | 3.7             |
| Red Rover       | Sauce        | 4.0        | 4.0        | 4.0         | 3.7             |
| <b>Red Hawk</b> | <b>Sauce</b> | <b>4.3</b> | <b>4.3</b> | <b>4.3</b>  | <b>4.3</b>      |
| Dynasty         | Sauce        | 3.0        | 2.3        | 2.3         | 2.3             |
| LRK             |              |            |            |             |                 |
| Big Red         | Salt         | 3.0        | 1.5        | 2.5         | 2.0             |
| Red Zone        | Salt         | 3.0        | 2.0        | 2.5         | 2.0             |
| Red Flag        | Salt         | 3.0        | 3.5        | 3.0         | 3.0             |
| Red Dog         | Salt         | 3.5        | 2.5        | 2.5         | 2.5             |
| 09360           | Salt         | 3.0        | 2.5        | 2.5         | 2.5             |
| 06269           | Salt         | 3.5        | 3.5        | 3.0         | 3.5             |
| 09363           | Salt         | 1.5        | 3.0        | 2.5         | 2.5             |
| 09378           | Salt         | 3.0        | 3.7        | 3.3         | 3.3             |
| 09357           | Salt         | 3.3        | 2.0        | 3.0         | 2.3             |
| Clouseau        | Salt         | 3.7        | 3.3        | 3.3         | 3.3             |
| Pink Panther    | Salt         | 3.7        | 3.0        | 3.0         | 3.0             |
| <b>Wallace</b>  | <b>Salt</b>  | <b>3.3</b> | <b>3.3</b> | <b>3.7</b>  | <b>3.7</b>      |
| Cal Early       | Salt         | 3.0        | 2.3        | 3.0         | 3.0             |
|                 |              |            |            |             |                 |
| Big Red         | Sauce        | 3.0        | 2.5        | 3.0         | 2.5             |
| Red Zone        | Sauce        | 3.0        | 3.0        | 3.5         | 3.5             |
| Red Flag        | Sauce        | 3.0        | 3.0        | 3.0         | 3.0             |
| Red Dog         | Sauce        | 2.5        | 2.5        | 3.0         | 2.0             |
| 09360           | Sauce        | 2.5        | 2.0        | 2.5         | 2.5             |
| 06269           | Sauce        | 3.0        | 2.5        | 3.0         | 3.0             |
| 09363           | Sauce        | 2.5        | 2.5        | 2.5         | 2.0             |
| 09378           | Sauce        | 3.0        | 3.0        | 3.0         | 3.0             |
| 09357           | Sauce        | 2.5        | 2.5        | 3.0         | 3.0             |
| Clouseau        | Sauce        | 2.5        | 2.0        | 2.0         | 2.0             |
| Pink Panther    | Sauce        | 3.0        | 2.5        | 3.0         | 3.0             |
| Wallace         | Sauce        | 3.0        | 3.0        | 3.0         | 3.0             |
| Cal Early       | Sauce        | 3.0        | 3.0        | 3.5         | 3.5             |

| <b>Table 4. Canned evaluation continued:</b> |                    |            |            |             |                 |
|--|--------------------|------------|------------|-------------|-----------------|
| Blacks                                       | process            | Texture    | Bean color | Brine color | Overall Appear. |
| (Black Bear)                                 | FG                 | 3.0        | 3.0        | 3.0         | 2.5             |
| 13489  | FG                 | 3.0        | 3.0        | 3.0         | 3.0             |
| 13503  | FG                 | 3.0        | 3.0        | 3.0         | 3.0             |
| 13505  | FG                 | 3.5        | 3.0        | 3.5         | 3.0             |
| 14497  | FG                 | 3.5        | 3.5        | 3.5         | 3.0             |
| <b>14506</b>                                 | <b>FG</b>          | <b>3.5</b> | <b>4.0</b> | <b>4.0</b>  | <b>4.0</b>      |
| Zenith (new)                                 | FG                 | 3.0        | 2.5        | 3.0         | 3.0             |
| Zorro  | FG                 | 3.5        | 3.5        | 3.5         | 3.5             |
| Black Velvet                                 | FG                 | 3.5        | 3.0        | 3.0         | 3.0             |
| Eclipse                                      | FG                 | 3.5        | 2.5        | 3.0         | 2.5             |
| T39  | FG                 | 3.0        | 2.5        | 3.0         | 2.5             |
| Shania                                       | FG                 | 3.0        | 1.5        | 2.5         | 2.5             |
| B0040613                                     | FG                 | 3.5        | 3.0        | 3.0         | 2.5             |
| B1048276                                     | FG                 | 3.0        | 3.0        | 3.0         | 2.5             |
| Obsidian                                     | FG                 | 3.5        | 4.0        | 4.0         | 4.0             |
|  |                    |            |            |             |                 |
| (Black Bear)                                 | Non ferrous        | 3.0        | 2.0        | 2.5         | 2.5             |
| 13489  | Non ferrous        | 3.0        | 2.5        | 2.5         | 2.5             |
| 13503  | Non ferrous        | 3.5        | 3.5        | 3.0         | 3.5             |
| 13505  | Non ferrous        | 3.5        | 3.5        | 3.5         | 3.5             |
| 14497  | Non ferrous        | 3.5        | 2.5        | 3.0         | 2.5             |
| <b>14506</b>                                 | <b>Non ferrous</b> | <b>3.0</b> | <b>4.0</b> | <b>4.0</b>  | <b>4.0</b>      |
| Zenith (new)                                 | Non ferrous        | 3.0        | 3.0        | 3.5         | 3.0             |
| Zorro  | Non ferrous        | 3.5        | 3.0        | 3.0         | 3.0             |
| Black Velvet                                 | Non ferrous        | 3.5        | 3.0        | 3.0         | 3.0             |
| Eclipse                                      | Non ferrous        | 2.5        | 2.0        | 2.5         | 2.0             |
| T39  | Non ferrous        | 2.0        | 2.5        | 2.5         | 2.0             |
| Shania                                       | Non ferrous        | 2.5        | 2.0        | 2.5         | 2.5             |
| B0040613                                     | Non ferrous        | 3.0        | 3.0        | 3.0         | 2.5             |
| B1048276                                     | Non ferrous        | 2.5        | 2.5        | 2.5         | 2.5             |
| Obsidian                                     | Non ferrous        | 3.0        | 2.5        | 3.0         | 2.5             |
| <b>Cranberry</b>                             |                    |            |            |             |                 |
| Etna   | salt               | 2.5        | 2.5        | 3.0         | 2.5             |
| Krimson                                      | salt               | 2.5        | 2.5        | 3.0         | 2.0             |
| Hooter                                       | salt               | 2.5        | 3.0        | 3.0         | 2.5             |
| Vero   | salt               | 2.5        | 3.0        | 3.0         | 2.5             |
| Bellagio                                     | salt               | 2.5        | 2.5        | 3.0         | 2.5             |
| <b>White Kidney</b>                          |                    |            |            |             |                 |
| Beluga                                       | Ca8                | 3.0        | 2.5        | 2.5         | 2.0             |
| Snowden                                      | Ca8                | 3.5        | 3.0        | 3.0         | 2.5             |

**Additional Comments** (Paul Paget - ADM assisted me with these comments) Comments below also include notes from the canned demonstration. Seeds were dried beyond the optimum percentage for canning. This resulted in splits that should not be considered a variety fault this year. *Canned bean comments will be in italics. See ratings in table 4.*

**Dark Red Kidney**

**Red Rover** – Treasure Valley, broad plant, big seeds, decent yield. *Beans in sauce looked good. Great flavor.*

**Dynasty** – Treasure Valley, tall, broad plant, good set, big seeds, top yielder of this group. *Splits.*

**Red Hawk** – Treasure Valley, used as the standard cultivar for this group, narrow plant, good pod clearance, small to medium size seeds, good yield. *This was the best canned bean of the group. Looked very good! Great flavor.*

**09434** – Provita, broad plant, scattered pod set, small to medium size seeds, lower yield. *Looked good. Nice flavor.*

**09431** – Provita, broad plant, low pods, small to medium size seeds, good yield. *Splits and a bit soft.*

**Chaparral** – Provita, recumbent plant, habit low pods, scattered set, small seeds, lowest yield of this group but lower plant populations might have impacted this. *Splits. Soft.*

**Epic** – Provita, low pods, big seeds, lower yield. *Too many splits.*

**Light Red Kidney**

**09357** – Provita, early, narrow plant, pods high on the plant, good set, plant habit not quite as good as Cal Early but seed size similar, lowest yielder but possibly a day earlier than Cal Early. *The color washed out resulting in a tan color.*

**Cal Early** – Treasure Valley, NY standard, mature 8/22, short, narrow plants, good plant habit, concentrated set, good yield. *Looked the best in the sauce group. Poorer color in the brine group.*

**06269** – Provita, broad plant, good set, seeds a little smaller than std., excellent yield (best for this group). *Some variation in color.*

**09363** – Provita, short, narrow plant, good set, green stem, good plant habit, good yield. *Too firm and a bit gritty-salt brine. Poorer flavor in the sauce group.*

**Wallace** – Treasure Valley, wide plant, decent pod clearance, long pods, small seeds, good yield. *Looked the best in the brine group other than small seed.*

**Big Red** – Provita, short plant, decent yield. *Splits. Poor color, flavor different. Good flavor in the sauce group. A bit soft.*

**Red Dog** – Provita, tall, broad plant, good set, decent yield. *Color variation. Some cracks.*

**09378** – Provita, narrow, leaning plant, scattered set, good yield. *Too firm in the sauce group. Some cracks. One member of grading team liked this one best of this group.*

**Red Flag** – Provita, tall plant, low pods, scattered set, lower yield. *Splits. Different flavor.*

**Clouseau** – Treasure Valley, broad plant, bigger seeds, decent yield. *Looked good. Soft but flavorful.*

### **Additional comments continued:**

**Pink Panther** – Treasure Valley, broad plant, bigger seeds, decent yield. *Good texture and flavor but poor color.*

**09360** – Provita, late maturity, tall, broad plant, good set, good plant habit, bigger seeds, decent yield. *Too firm in both groups. Splits in the sauce group.*

**Red Zone** – Provita, very late maturity, long pods, tall, broad plant, good set and good pod clearance, lower yield. *Color variation salt brine. Some cracks.*

### **Black**

**Eclipse** – Treasure Valley, viney, narrow, upright plant, excellent plant habit, good pod clearance, good yield. *Had some splits and size variation in the FG group, dull colored. A bit light colored in the non ferrous group.*

**13503** – Provita, leaning, arching plant, good architecture, good yield.

**14506** – Provita, viney, tall, narrow plant, high pods, a bit ratty, good yield. *Very nice. Best of the FG and non ferrous groups.*

**T39** – Treasure Valley, older cultivar, recumbent, ratty plants, low pods, good yield. *Splits in the FG group.*

**13505** – Provita, tall, narrow, viney plant, excellent plant habit, very concentrated set, seeds per pod very uniform, good yield. *Looked good in the FG group although a few cracks.*

**14497** – Provita, broad, plant type a bit recumbent, ratty plant, seeds per pods very uniform, very good yield. *Splits in the FG group.*

**Zenith** – Treasure Valley, viney, narrow plant, excellent plant habit, good set, very good yield. *Some color variation.*

**B1048276** – ADM, viney, broader plant, very good set, smaller seeds, good yield. *Splits in the FG group.*

**Zorro** – Treasure Valley, good set, very good yield. *Looked good in the FG group.*

**Shania** – ADM, viney, broader plants, good set, scattered maturity, very good yield. *Splits in the FG group.*

**Obsidian** – Treasure Valley, viney, good plant type, good set, good yield. *Some color variation in the non ferrous group.*

**Black Bear (12576)** – Provita, good set, very good pod clearance, very good yield. *Splits in the FG group and the non ferrous group.*

**13489** – Provita, tall, viney plant, good set, red stem, very good yield (best of the group). *Splits in the non ferrous group.*

**Black Velvet** – Treasure Valley, broad plant, good set, bigger seeds, good yield. *Looked good other than some color variation in the non ferrous group.*

**B0040613** – ADM, low pods, uneven maturity, very good yield. *Splits in the FG group.*

**Additional comments continued:**

***Cranberry***

**Etna** – Treasure Valley, narrow, short plants, good set, good yield. *Soft.*

**Krimson** – Treasure Valley, very similar to Etna, best yield of the group. *Splits. Soft.*

**Vero** – ADM, broad plant, good set, yield just a bit less than Krimson. *Splits. Soft.*

**Hooter** – Treasure Valley, tall plant, best plant habit of the group, good yield. *Splits. Soft.*

**Bellagio** – MSU, scattered set, good yield. *Splits. Soft.*

***White Kidney***

**Snowden** – MSU, larger seeds, a little better plant habit than Belugia. *Splits.*

**Beluga** – MSU, smaller pods, smaller seeds but better yield than Snowden. *Splits.*