

## Tomato Trials



Each year we have our Master Gardeners plant and rate a number of tomato varieties. We also give a set to Tom Fowler with the University of Missouri Extension Service. He combines our set with a number of additional varieties. I am still working on data from our Kansas Master Gardeners and will write on those results later. Following are the results from varieties that Tom grew in both 2015 and 2016. All data are from the combined results of both years. We list the average fruit size in ounces, the numbers

of fruit per plant and the number of pounds per plant. I have listed the varieties in alphabetical order.

| <b>Variety</b>    | <b><u>Avg/Fruit</u></b><br><b>(oz)</b> | <b><u>Fruit</u></b><br><b><u>Plant</u></b> | <b><u>Lb/</u></b><br><b><u>Plant</u></b> |
|-------------------|--|--|--|
| Amana Orange      | 11.16                                  | 4.1  | 2.98                                     |
| Amish Paste       | 2.20                                   | 69.6                                       | 9.86                                     |
| Anna Russian      | 6.42                                   | 15.8                                       | 6.7                                      |
| Arkansas Traveler | 5.76                                   | 19.8                                       | 6.32                                     |
| Beefmaster        | 8.78                                   | 13.8                                       | 7.2                                      |
| Beefsteak         | 4.51                                   | 27.6                                       | 6.68                                     |
| BHN 589           | 6.08                                   | 25   | 9.48                                     |
| BHN871            | 5.43                                   | 16.5                                       | 5.84                                     |
| Big Beef          | 7.34                                   | 17.6                                       | 5.76                                     |
| Big Boy           | 5.25                                   | 12.1                                       | 4.26                                     |
| Black Krim        | 6.26                                   | 12   | 4.64                                     |
| Brandywine Black  | 6.86                                   | 15.9                                       | 6.66                                     |
| Brandywine Pink   | 9.31                                   | 5.7  | 3.32                                     |
| Brandywine Red    | 8.07                                   | 4.7  | 2.22                                     |
| Brandywine Yellow | 3.74                                   | 0.6  | 0.28                                     |
| Celebrity         | 5.45                                   | 25.5                                       | 8.7                                      |
| Chef's Choice     | 5.88                                   | 25.9                                       | 9.52                                     |
| Cherokee Purple   | 7.95                                   | 13.4                                       | 6.76                                     |
| Delicious         | 3.02                                   | 18.6                                       | 4.2                                      |
| Early Girl        | 3.17                                   | 31.7                                       | 6.1                                      |
| Florida 91        | 6.33                                   | 19   | 7.52                                     |
| German Johnson    | 7.72                                   | 4.1  | 1.95                                     |
| Giant Belgium     | 9.27                                   | 7.3  | 4.6                                      |
| Golden Jubilee    | 5.20                                   | 8  | 2.35                                     |
| Jet Star          | 5.78                                   | 31.4                                       | 11.1                                     |
| Mortgage Lifter   | 7.36                                   | 7.5  | 3.52                                     |
| Mt. Majesty       | 6.19                                   | 25.8                                       | 10.14                                    |
| Oxacan Jewel      | 4.58                                   | 12.4                                       | 3.6                                      |
| Oxheart           | 5.35                                   | 14.9                                       | 4.98                                     |
| Ponderosa Pink    | 7.84                                   | 6  | 2.95                                     |
| Roma              | 1.78                                   | 51.7                                       | 5.78                                     |
| Rutgers           | 2.91                                   | 22.3                                       | 4.12                                     |
| Summer Pick       | 5.88                                   | 22.4                                       | 8.6                                      |
| Ultrasonic        | 5.00                                   | 32.7                                       | 10.44                                    |
| Vintage Wine      | 6.50                                   | 3.5  | 1.44                                     |

Both 2015 and 2016 were challenging years for northwest Missouri with 2016 being the most difficult. It will be interesting to compare what Tom found with the results from our Master Gardeners. (Ward Upham)

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## VEGETABLES

### The Difference Among Determinate, Semi-Determinate and Indeterminate Tomatoes



Tomatoes are often classified as determinate, semi-determinate or indeterminate. Determinate plants produce one large crop and then virtually nothing thereafter. They are favored by commercial growers that want to harvest most of the fruit from one picking. They then use succession planting where a new crop is planted on a set schedule to have fruit production throughout the season. Mature plants are smaller than other types and can be planted closer together to get the most tomatoes from a set

space. Primo Red is a variety that is strongly determinate.

Indeterminate plants are the traditional tomatoes that never stop growing. They are capable of producing fruit throughout the season unless disease stops production or until frost kills the plant. They do best with support as they can reach six feet tall when staked or caged.

Semi-determinate plants are more compact than indeterminate types but are also capable of producing fruit throughout the season.

Most of the varieties available to home gardeners are either indeterminate or semi-determinate. Though both are capable of producing fruit throughout the season, our hot Kansas summers often cause a dry spell in production of both types. Tomatoes are less likely to set fruit when night temperatures remain above 75 degrees and day temperatures are above 95. Hot, dry winds make the situation worse.

Gardeners with limited space will likely prefer indeterminate or semi-determinate types to stretch out the harvest season. If there is space, you may want to grow a combination of all three with the determinates used to produce a large harvest for canning or tomato juice and the remainder for fresh eating. (Ward Upham)

## More Tomato Trial Information



Last week we looked at tomato ratings from a trial done in Missouri with data from 2015 and 2016. This week we look at ratings done across Kansas during 2016 but from four separate sites. We looked at 10 different varieties and recorded the number of fruit per plant, the total number of pounds of fruit per plant and the average size of tomato in ounces. Results are below.

| <u>Tomato</u>       | <u>Fruit<br/>plant</u> | <u>Lbs/<br/>plant</u> | <u>Avg.<br/>oz/fruit</u> |
|---------------------|------------------------|-----------------------|--------------------------|
| Celebrity           | 43.03                  | 22.40                 | 5.80                     |
| Dixie Red           | 17.43                  | 8.96                  | 6.23                     |
| Ultrasonic          | 44.59                  | 16.87                 | 4.60                     |
| Summerpick          | 24.42                  | 13.21                 | 5.81                     |
| Defiant             | 66.68                  | 15.61                 | 2.80                     |
| Katana              | 26.05                  | 9.14                  | 4.37                     |
| Mountain<br>Magesty | 32.08                  | 15.50                 | 5.76                     |
| Jetstar             | 43.28                  | 13.96                 | 4.09                     |
| Chefs Choice        | 39.38                  | 20.73                 | 5.57                     |
| Burrells<br>Special | 35.62                  | 13.64                 | 4.44                     |

Celebrity was our standard for determinate or semi-determinate tomatoes. We use Celebrity as our standard as it has proven to be an excellent tomato for years. All listed tomatoes are determinate or semi-determinate except the last three (Jetstar, Chefs Choice and Burrells Special). Celebrity continues to prove itself to be an excellent yielding tomato with more pounds per plant than any other in the trial. Fruit size was also very good with only Dixie Red surpassing it.

The latter three are indeterminate types with Jetstar being the standard. In this case, Chefs Choice produced more pounds per plant than either Jetstar or Burrells Special. Chefs Choice also produced the largest fruit of the three.