



Horticulture Department Fact Sheet

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College of Agriculture,
Food and Environment
Cooperative Extension Service

SMALL FRUIT YIELD AND BERRY WEIGHT COMPILATION

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INTRODUCTION TO TABLES

The University of Kentucky College of Agriculture, Food and Environment, Department of Horticulture along with the Kentucky State University College of Agriculture, Food Science and Sustainable Systems perform cultivar trials for the benefit of both commercial growers and homeowners. The Cooperative Extension service uses this information to develop publications and make suggestions. Beyond site selection and preparation, deciding on an appropriate cultivar is one of the most critical choices available for establishing a successful planting.

Of the multi-year fruit trials performed at university research stations and demonstration sites, blackberries, blueberries, and strawberries are the most numerous. In the past 40 years, more than 30 trials have been conducted, evaluating over 170 distinct cultivars at five locations across the state. Durations of 4 to 6 years for blackberries, 7 to 10 years for blueberries, and 1 to 2 years for strawberries are common. However, some trials are notable for their extended timeframe with 5, 10, and 3 years of harvest data collected before conclusion.

Numerous examples exist in the tables of cultivars with only one or two years of recorded data. Named cultivars and numbered selections that perform poorly against industry standards are frequently discarded during the evaluation process. Discontinuation of an entire trial is possible if all cultivars are uniformly unsuccessful. Winter damage, spring freeze/frosts and abnormally dry growing seasons can reduce harvest yields or result in the loss of the entire crop. Footnotes within the tables note when such



yield reductions and losses occur.

Caution is advised when making quick comparisons between cultivars based on mean yield alone. In addition to year-to-year yield variations due to weather, the length of time during which a cultivar is under trial can also factor into its overall performance. Cultivars trialed for shorter periods or included later into ongoing evaluations will have fewer years of performance contributing to the overall means in the final table. For instance, only one year (2007) of data was collected from the blueberry cultivar 'Aurora' at the Robinson Center for Appalachian Resource Sustainability, Jackson, Kentucky (RCARS) versus six or seven for other cultivars. Yields of 'Aurora' were lower than expected due to an April freeze, but also due to immaturity of the planting, resulting in the perception of underperformance. However, despite the low yields, 'Aurora' is recommended for commercial production in Kentucky as it has performed well in other states as a later ripening cultivar.

It is also advisable to pursue caution when utilizing the tables as a reference for market

production. The cultivars intended use is just as important (or possibly more so) than its expected yield. A comparison of the final overall means table shows that semi-erect thornless blackberries produce two to six time's greater yield than thornless erect types. If the focus is only on yield, then the former are clearly superior, however, flavor and firmness (for storage and transport) are also important considerations. The semi-erect cultivars 'Osage' and 'Ouachita' are both highly rated for flavor, firmness, and sugar concentration, which benefit direct to consumer sales. In contrast, thornless semi-erect blackberries such as 'Chester' are noted for having larger seeds and being generally tart until very ripe. Similarly, the strawberry cultivar 'Earliglow' has amongst the lowest yield and berry weight for the matted row cultural system but is very highly flavored and remains in demand as an early producer by homeowners and retail customers.

The results contained within the tables are meant only as a general guide and should not be relied on solely for consistent expectations of outcomes. Growing conditions and management expertise will vary between individual sites and persons, affecting plant response. An example of this is apparent in the right-hand means column of the blackberry table for the semi-erect cultivar 'Triple Crown'. At the University of Kentucky Horticulture Research Farm, Lexington, KY from 2001-07 'Triple Crown' had an extrapolated mean yield twice that of the 2002-03 RCARS trial and five times greater than the 2008-09 trial at the Kentucky State University Research and Demonstration Farm, Frankfort, KY. While plant spacing and training system differed for each trial, this does not explain the yield disparity, especially after adjusting for consistency. It is also important to note that blackberry and blueberry mean yields in the overall recommended table are closer estimates of mature yields, though, immature yields contributed to the outcome.

These four tables can be found at http://www.uky.edu/hort/sites/www.uky.edu.hort/files/documents/Small_Fruit_Yield_and_Berry_Weight_Compilation.xlsx and were developed from reports published in Fruit and Vegetable Research Reports available on the University of Kentucky Department of Horticulture website, <http://www.uky.edu/hort/documents-list-commercial-fruit-nut> and from unpublished data. Persons interested in a greater understanding of cultivar distinctions beyond the basic parameters of yield and fruit weight are encouraged to read

the original reports. Doing so will provide a greater understanding of the evaluation process, underlying fruit qualities, and the reasoning behind the choice of suggested cultivars for commercial and homeowner production in Kentucky.

Acknowledgements

The Small Fruit Yield and Berry Weight Compilation is the result of numerous trials conducted by many researchers.

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