New Jersey Comparison of Juice Yields from Apple varieties Intended for Use in Hard Cider Production

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In 2018 a trial was established at the Rutgers Snyder Research and Extension Farm in Pittstown, Hunterdon County New Jersey to evaluate apple varieties well suited for hard cider production. This trial was established in response to the tree fruit industrys interest in growing apples (many of which are heirlooms), well suited for hard cider production. Apple characteristics of these varieties include higher acids, tannin, and polyphenol content. In this trial extensive data has been collected on yield, fruit size, flowering time, fireblight potential and tendencies toward biennial bearing. This report is limited to a two-year evaluation of the average percentage of juice yield across 29 varieties. Apples have differences in the precent juice content that can be pressed from them. A high percentage of juice is one characteristic that improves the desirability of an apple for hard cider production. In this component of the study, we evaluated the apple cultivars to determine the average percentage of juice per pound of apple weight.

Materials and Methods

Samples of six apples per tree (two trees per variety) were taken from twenty nine cider varieties. The samples were weighed and then put into a tabletop juicing machine. The volume of juice was then measured in vials. The percentage of juice was calculated as the volume divided by the weight of the apple sample.

Results/Discussion

The average percentage of juice varied widely (~40%) across the 29 cultivars (Figure 1). The lowest juice yields were approximately 25% juice per lb. of apple mass and were found in Calville Blanc and Roxbury Russett. While the varieties that retained the largest percentages of juice per weight were nearly 70% juice. These varieties were Pink Pearl, Sangre del Toro and Major. Further analysis will be done to determine if the varieties with the highest juice yields also had the greatest and most consistent fruit yields from 2018-2023.

Our next report will also present our data on fruit size, flowering time, fireblight potential and tendencies toward biennial bearing.

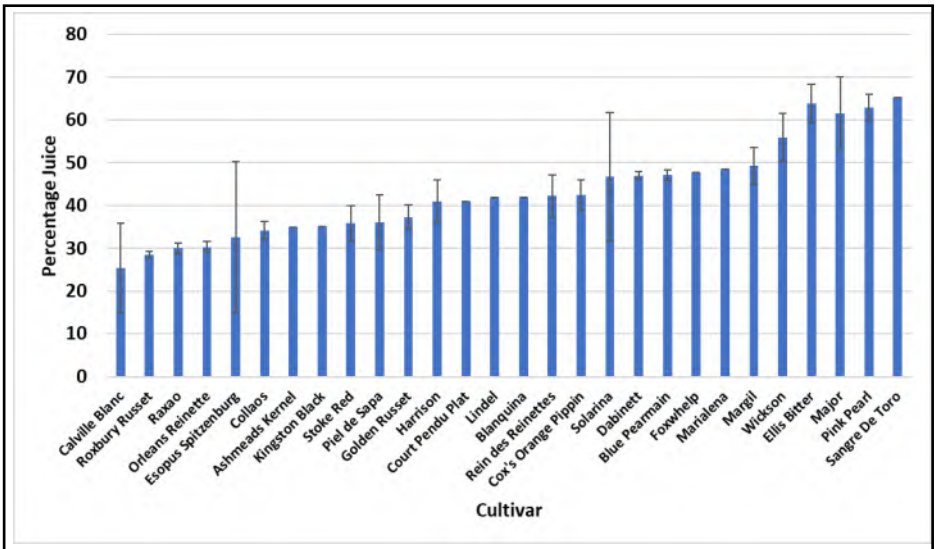

Figure 1. Average percentage of juice per apple sample collected from the 2022 and 2023 growing seasons.

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