

EVALUATING & IMPROVING WINE GRAPES

Grapes are the highest-value fruit crop grown in the U.S. Over 70% of the grapes grown are used in wine. As wine grape production expands to new areas in the U.S., growers need grape varieties suited to their growing conditions, which can differ environmentally and economically from traditional regions, or varieties that are more resistant to common pests and diseases. Wine producers are also interested in new varieties they can use to create new wines and expand sales.

To find the best grapes for U.S. growers and wine producers, researchers at land-grant universities across the country are testing the performance of traditional varieties as well as new and neglected varieties. Information about the performance and resulting wine quality of different grape varieties will improve the economic viability of and respect for wine industries nationwide.

TESTING GRAPE VARIETIES

As part of this collaborative project, researchers are growing different kinds of grape vines at 24 test sites all across the country. Establishing vines at a wide range of sites is helping distinguish whether genetic factors or environmental factors are influencing how the grapes perform. At each site, researchers regularly collect weather data, record vine measurements, such as the number of grape clusters per vine, and note the presence of any pests, predators, or diseases. After harvest, researchers analyze grape color, acidity, and other qualities. Using rigorous protocols for collecting data at each test site, researchers are ensuring the data are accurate and useful.



NEW VARIETIES, NEW WINES

Based on test site results, researchers identified grape varieties with potential to meet the interests and needs of U.S. growers and wine producers. Researchers set up a database to store information on the characteristics of each variety and shared their findings with the industry through newsletters, farm tours, and websites. Researchers are beginning to analyze wines made from these grapes. Results will help growers choose which grapes to grow to produce the best possible wine.

As well-tested alternatives become available, grape growers in regions across the U.S. will see higher yields and lower losses, and winemakers will be able to produce new, high-quality wines that will be desirable to consumers and competitive internationally. For instance, the Cayuga White grape bred by Cornell University accounted for retail market wine sales of \$4 million dollars annually in the years following its release. Identifying grapes that are more resistant to pests and diseases could also reduce environmental impacts by reducing chemical pesticide use in vineyards.

As the first coordinated effort to improve wine grapes for U.S. growers, this project has created protocols, generated baseline data, and made advances that form a stable foundation for future research. The group's efforts have already fostered other projects that are extending the original impacts.



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