

Oklahoma State University 2007 Report for SERA 14

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Oklahoma Grape Industry Review 2007

The number of licensed wineries has increased from 4 in 2001 to 51 in 2007. Recent developments in Oklahoma have led to a burgeoning of the grape growing and wine making industries, such as the passage of SQ 688 in November 2000 that allowed Oklahoma wineries to sell wine they produce directly to liquor stores and restaurants. However, in 2006 that legislation was ruled to be unconstitutional, and currently Oklahoma wineries must use wholesalers to distribute their products. The grape and wine industry is working toward modification of current laws to help expand the industry.

A survey of the industry was conducted through the OGGWMA and also through the OSU county educators in all 77 counties in Oklahoma. The surveys include questions on acreage, cultivars, insect and diseases, winery operations, etc. More detailed information on the results of that survey can be obtained from the author.

Research Efforts in Winegrapes at OSU

Eric T. Stafne

Cultivar and rootstock evaluations at three Oklahoma locations (Buffalo, Burns Flat, and Stillwater) funded by the Kerr Foundation showed that producer management plays a significant role in quality production of grapes. The Stillwater location (central OK) was well-managed, whereas the Burns Flat location (SW OK) was fair, and the Buffalo location (NW OK) was poorly maintained. Cold damage at Buffalo was severe, killing nearly all the vinifera vines and damaging all others. The cultivar that performed best was 'Frontenac'. The Burns Flat vineyard has less cold damage, but yield components suffered due to lack of intensive management. Even though the Stillwater location was well-managed, winter injury became a severe problem starting in 2006 and by 2007 many vinifera (Chardonnay, Cabernet Sauvignon, and Cabernet Franc) were killed back to the ground or outright.

The research and demonstration vineyard at the Oklahoma Pecan and Fruit Research Station in Perkins, OK is still ongoing. The research there includes a cultivar trial, rootstock trials, pruning studies, and demonstrations of three trellis systems as well as various non-replicated cultivars for observation. Harsh environmental conditions since 2005 have made it difficult to obtain good harvest data, but assessment of cold tolerance has been useful.

Research to determine anti-inflammatory properties of grapes grown in Oklahoma has been initiated with Dr. Edralin Lucas in the Department of Human Environmental Sciences at Oklahoma State University. A new graduate student, Andrew Puckette, will start work on cultivar preference of green June beetles, as well as studies on apple twig borer. Studies to document the antioxidant activity and anti-microbial potential of 'Cynthiana' (*Vitis aestivalis*) grape pomace have been undertaken with Dr. Christina Mireles DeWitt of the Department of Animal Science. Two graduate students are supported by the project. The primary goal

of the research is to develop screening methods to identify the presence of potentially high-value functional compounds in winery waste streams. Work to date has developed techniques yielding water and lipid-soluble extracts suitable for use in both antioxidant and anti-microbial activity tests.

Publications

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