



Institute for Continental Climate Viticulture & Enology

College of Agriculture, Food and Natural Resources

2010 Grape Crop Assessment Survey Report

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Background

The Institute for Continental Climate Viticulture and Enology (ICCVE) was requested by the Missouri Wine and Grape Board (MWGB) to survey Missouri grape growers to determine the extent of crop loss during the 2010 season. A draft survey document was developed by R.K. Striegler, R.A. Allen, and E.A. Bergmeier. The draft survey document was sent to MWGB members and MWGB Research Committee members for review. The survey document was revised based upon input received. A copy of the final survey document is attached. Surveys were emailed to members of the Missouri Grape Growers Association, Missouri wineries, and the ICCVE Missouri grape growers' mailing list during the week of November 18, 2010. Growers were asked to return the survey by December 31, 2010.

Response to Survey

Responses to the survey are characterized as listed below:

- 39 surveys received, 35 surveys recorded at least one acre of bearing vines.
- Total bearing vineyard acres reported was 654.
 - This represents 41% of the 1600 MO vineyard acres. (NASS, 2010)

Survey Results

Grape acreage, production, and reported loss data are presented in Table 1. Survey responses represent 654 bearing vineyard acres. Approximately 86% of growers responding to the survey indicated they suffered crop loss in 2010. The amount of crop loss was estimated to be 329 tons. This represents an 8.4% loss based upon the information reported by responding growers. The adoption of cutting edge vineyard technology may be influenced by vineyard size (Noguera et al., 2005). We decided to examine whether vineyard size had an influence on percentage of crop loss. Large differences were not apparent in vineyard acreages from 1 to 50 acres; however, loss significantly increased with operations having greater than 50 acres according to our survey results (Figure 1). This was viewed as potentially important information due to the influence it

might have on future extension/research efforts. Figure 2 breaks the survey responses down by vineyard size category and shows the percentage of reported acreage represented by each category.

The factors responsible for crop loss are provided in Table 2. The 2010 season was characterized by a warm and humid summer with higher than normal rainfall through much of the state with the exception of the south central and southeast regions which experienced drought conditions for much of the summer. Large portions, approximately 57%, of losses reported were attributed to other or unknown which included poor fruit set, failure to ripen, and hail/wind damage. The factor accounting for the second highest level of reported loss was due to disease (28%) followed by pressure from vertebrate pests such as birds, deer, raccoons, etc. (10%). Other causes of reported loss were due to other factors (1.9%) heat/drought, insects (1.6%), and freeze/frost damage (1.2%).

The MWGB also asked that certain additional information be collected as part of the survey. This information is presented in Table 3. Growers were asked to report if they sold fruit to out-of-state processors and if they had fruit they were unable to sell. Out-of-state sales were reported by 11.4% of growers responding to the survey. Of the growers that sold fruit to out-of-state processors, 78% reported selling Norton and/or Chardone. Respondents reported being unable to sell 20.6 tons of their crop primarily due to disease, poor quality, and oversupply. Of these 20.6 tons, Vidal and Chambourcin were reported as 85%.

References

Noguera, E., Morris, J., Striegler, K., and Thomsen, M. 2005. Production Budgets for Arkansas Wine and Juice Grapes. Arkansas Agricultural Experiment Station Research Report 976.

USDA, National Agricultural Statistics Service (NASS). 2010. Missouri grape facts. http://www.nass.usda.gov/Statistics_by_State/Missouri/Publications/Brochures/Grape_Facts.pdf

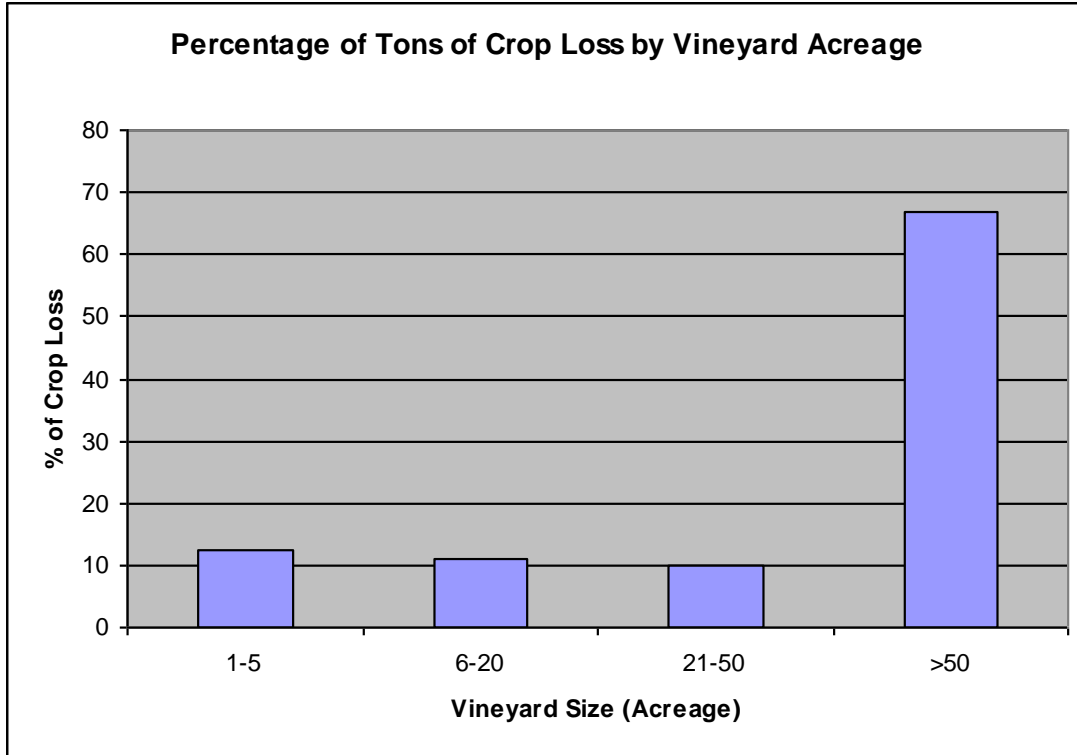


Figure 1 Estimated tons of crop loss by vineyard acreage.

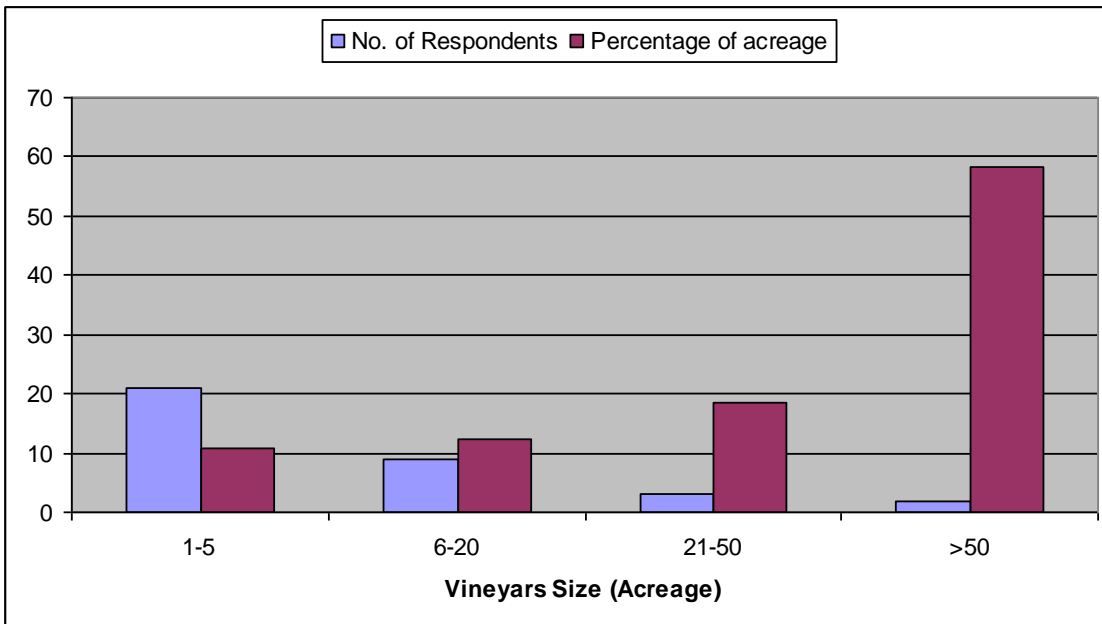


Figure 2 Number of respondents by vineyard acreage category and percentage of acreage within each. The value above the lighter bars represent the number of respondents within that acreage category while the value above the darker bars represents the percentage of acreage corresponding to each acreage category.

Table 1. Grape acreage, production, and reported loss. 2010.

Reported acreage	654
Percent of growers reporting crop loss	86
Grape tons harvested	3,591
Grape tons lost	329
Total grape tons produced (projected)	3,920
Loss - percentage of total production	8.4

Table 2. Reported cause of grape loss. 2010.

Cause	Tons Lost	Percent of Total Grape Loss
Heat/Drought	6	1.9
Freeze/Frost	4	1.2
Disease	92	28
Insect	5	1.6
Bird, deer, etc.	33	10
Other/Unknown	189	57.3

Table 3. Additional information from growers responding to survey. 2010.

Percentage of growers who sold to non-MO processors	11.4
Number of tons sold to non-MO processors	24.5
Percentage of growers unable to sell or utilize crop	14.3
Number of tons unable to sell or utilize	20.6