

# Development of Occupational Safety Indicators for Wineries in Selected States

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## Objectives

The goal and scope of this study is to develop a score (SA-Score) for adoption by commercial wineries involving key safety indicators<sup>1</sup>.

Specifically, the objectives are:

1. Partner with commercial wineries on a voluntary basis to collect selected parameters including water use, total production economics and safety procedures.

2. Establish a single, identifiable metric for rating the sustainability of participating wineries.



Figure 1: All sites visited utilized some type of input. We did not encounter any “truly organic” sites.



Figure 2: Example of Outdoor Field Agriculture



Figure 3: Is this proper signage?

## Methodology

Twenty wineries from 4 different regions of the USA were included. The regions are: Northeast, Upper Midwest, Lower Midwest and Michigan.

The metric and overall SA-Score equation are as follows:

$$SA = [SA1 + SA2 + SA3 + SA4 + SA5 + SA6 + SA7 + SA8] / 8$$

Where SA = Safety Metric

SA1 = Glass Hazards

SA2 = Slip, Trip and Fall Hazards

SA3 = Employee Miscellaneous

SA4 = Traffic Safety

SA5 = First Aid

SA6 = Materials Handling and Safety

SA7 = Ergonomics

SA8 = Personal Protection Equipment

Number	Descriptor	S-score Range
0	Absent	Absent
1 - 3	Poor for given parameter; no consideration or data	Metric is Barely Present (1), Given Little Consideration (2), Given Some Consideration, But Not Implemented Adequately (3)
4 - 6	Mildly decent execution for parameter	Metric is Adequate, But Below Average (4), Average (5), Slightly Above Average (6)
7 - 9	Moderate success for safety	Safety Management is Slightly Above Average (7), Skillfully Implemented (8), Exceptional (9)
10	Excellent success for safety	Optimal facility for All Safety Parameters

Table 1: Scale for Assessing SA-Scores

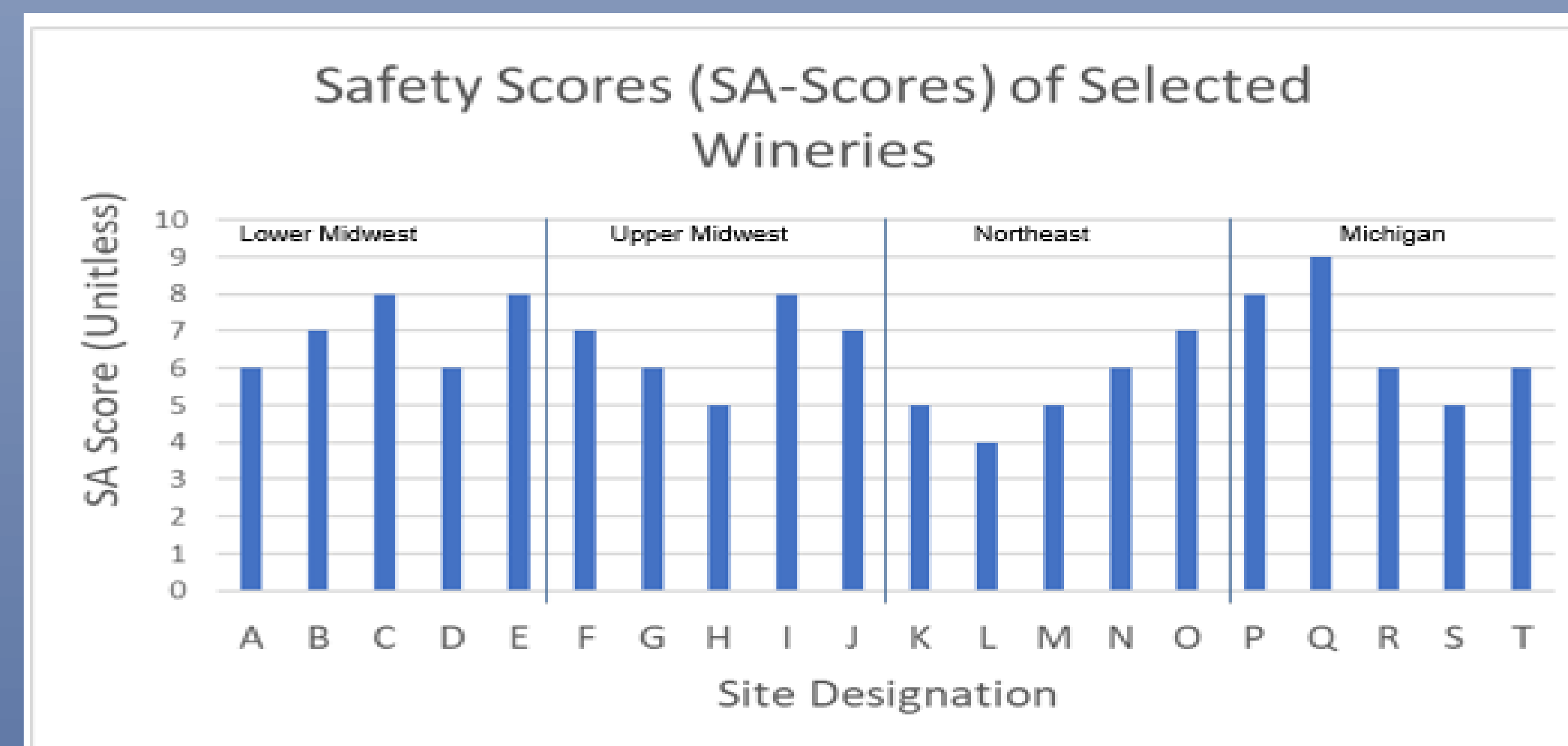


Figure 4: Safety (SA-Score) Results per Facility

## Preliminary Results/Discussion

- (1) Most facilities had a range of scores from 4-8
- (2) Slip, trip and fall hazards were not adequately addressed at most locations
- (3) For outdoor field operations, tractors needed to have ROPS
- (4) Field areas cultivated for grapes should have better grass management
- (5) Intersectional spacing remains an issue and requires multiple-use management

## Preliminary Conclusions

- 1) Wineries with formal health and safety training programs ultimately had higher scores.
- 2) Larger facility scores were improved by concerns regarding liability and production efficiency.

## Acknowledgement

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## References

- (1) Jaime Thissen & Paul C. Davidson (2020) JA:2021-39. Development of Safety Scores for Selected Greenhouse Production Facilities in North America, Journal of Agromedicine, 25:3, 262, DOI: [10.1080/1059924X.2020.1765605](https://doi.org/10.1080/1059924X.2020.1765605)



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# Safety Scores (SA-Scores) of Selected Wineries

