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Nebraska Vine Lines

University of Nebraska Lincoln EXTENSION

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University of Nebraska Viticulture Program

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Bravo! Our Fall Workshop was a Great Success!

The University of Nebraska Viticulture Program's Fall Workshop, held on November 1, 2008, was enthusiastically received by over 40 participants. Dr. Paolo Sabbatini, viticulture specialist from Michigan State University, presented valuable insights regarding canopy management, vineyard management and approaches to disease management, with special emphasis on prevention of bunch rot.

Among other important points, Paolo's comments emphasized and reinforced the importance of fruit exposure for fruit color and quality development and he explained shading factors as they influence light penetration and their effects on photosynthesis.

Post-workshop survey respondents rated the knowledge gained about canopy management, growing degree days, vineyard economics and bunch rot information as highly useful in their vineyard management programs. More than 75% of respondents rated the guest speaker as "knowledgeable" and "communicated information helpful to my enterprise" ("strongly agree"); with the rest of the respondents rating "agree".

Many participants noted they appreciated Paolo's informal style and his knowledgeable and thorough handling of questions. The open discussion and question and answer sessions were also highly appreciated. Ellen Burdick's comments about crop insurance for grapes were also appreciated by the attendees.

We received many excellent suggestions for future educational program topics and these ideas will be considered as we prepare future programs. We appreciate your inputs and advice as we strive to help Nebraska's grape and wine industry continue to grow and improve. Feel free to send your suggestions to Paul Read (pread@unl.edu, 402-472-5136).

Details of all workshop presentations will be placed on the University of Nebraska Viticulture Web site: agronomy.unl.edu/viticulture. Perhaps the best measure of the success of the workshop is reflected in the numerous comments of "Great seminar—Thanks", "Excellent seminar" and "Great workshop".

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Excitement is Building!

Excitement is building for the 12th Annual Nebraska Winery and Grape Growers Forum and Trade Show to be held in Kearney, Nebraska, March 5-7, 2009. This event is presented by the University of Nebraska Viticulture Program in collaboration with the Nebraska Winery and Grape Growers Association (NWGGA).

Among the outstanding speakers lined up for this conference are Jean-Marie Peltier, president of the National Grape and Wine Initiative; Dr. Mark Chien, Pennsylvania State University viticulturist; Patrick Pierquet, associate enologist for the Ohio State University; Keith Powell, "the business revivalist" and Michael Jones of Scott Laboratories.

There will be three separate workshops on the afternoon of the 5th: one on requirements for wineries, presented by personnel from the Tax and Trade Bureau for Tobacco and Alcohol (TTB); one on yeast selection and vinification (Michael Jones) and one for beginning grape growers on fundamentals of viticulture presented by UNL viticulture program and NWGGA personnel.

Keynote presentations will follow the Friday morning trade show opening and the NWGGA business meeting. Afternoon sessions on Friday and Saturday sessions will address many subjects, including grafting, management of new and important cultivars such as Edelweiss and Frontenac, wine blending, marketing and motivation, tourism and wine, Web site management and tasting room server training.

Other highlights will include a tasting in the trade show, followed by the annual awards banquet, where each course will be paired with an appropriate Nebraska wine selection. This educational conference has something for everyone in the grape and wine industry, so mark your calendars for March 5-7, 2009 and plan to interact with your fellow grape and wine enthusiasts.

Happy Trails to You!

Main Street Paxton is the home of Nebraska's newest winery. The owners John, Patrick and Stephen Gamet and their immediate families opened the winery to the public on the 75th anniversary of the repeal of prohibition, December 5th. The name '5 Trails' comes from the number of significant trails that have crossed the state of Nebraska: the Oregon, Mormon, Texas, Pony Express, and Lincoln Highway, being the 5 most recognizable. The winery is in a main street building that has housed a grocery store and most recently a farm implement business. The building has been completely gutted and remodeled by Pat and John with the help of local contractors.

Winery daily operations and production are under the direction of Patrick and his wife Lori. Vineyard management is Stephen's responsibility and John is the president of business operations.

5 Trails opened with five wines, including Edelweiss, Nebraska's number one white wine, Trail White, a field blend with a light crisp feel that is as dry as the trail was long, Marechal Foch Blush that willing Paxton residents helped process, Frontenac Gris, a semisweet wine and a Frontenac Blush, a light wine one can't get enough of — just a great, everyday wine.

The Gamets planted their first grapes in 2000 just south of the Roscoe interchange (12 miles west of Paxton). The first grapes planted were Edelweiss, Lacrosse and Marechal Foch. With two more expansions one of Frontenac and one of Vignoles, and now a third expansion of Frontenac Gris and more Edelweiss will give them a total of 10 acres.

All of the Gamets want to remind you that "Fun Begins at 5 — at the 5 Trails Winery in Paxton, Nebraska.

Vine Lines Calendar of Events

• January 27, 28 & 29, 2009
Unified Wine & Grape Symposium
Sacramento Convention Center
1400 J Street, Sacramento, California, 95814
For more information visit www.unifiedsymposium.org

• February 7, 8 & 9, 2009
The Midwest Grape and Wine Conference
"Sustainability in Vineyard and Wineries"
Tan-Tar-A Resort, Osage Beach, MO
Contact Rozanna Benz, conference coordinator:
at 573-489-5596, rozannabenz@centurytel.net
or visit their new Web site:
www.midwestgrapeandwineconference.com

• February 12, 13 & 14, 2009
MGGA Cold Climate Conference, Bloomington, MN
Contact Nicole Walsh, conference coordinator:
nrwalsh1@yahoo.com

• March 10, 11, 12 & 13, 2009
Wineries Unlimited, the largest wine trade show and seminar program east of the Rockies, will hold its 33rd show at the Valley Forge Convention Center in King of Prussia, PA
Program information, exhibitors and registration will be available online at: www.wineriesunlimited.com

• March 20 & 21, 2009
Iowa Wine Grower Association Annual Conference
Airport Holiday Inn, Des Moines, IA
www.holidayinn.com/h/d/he/1/enhotel/dsmap?requestid=235953

Future Nebraska Winery & Grape Growers Forums

• 2009 – March 5 – 7, Holiday Inn, Kearney*
• 2010 – March 4 – 6, Holiday Inn, Kearney
• 2011 – March 3 – 5, Holiday Inn, Kearney
• 2012 – March 1 – 3, Holiday Inn, Kearney

***Please visit us on the Web for important registration information and other updates at: http://agronomy.unl.edu/viticulture.**

Protection Strategy for Spring Cold Injury

In an in-depth article published in HortScience, E. Barclay Poling has provided some useful information for grape growers in continental climates. Although written with a focus on North Carolina vineyards, the principles that he has set forth in the tables reproduced below are just as applicable for Nebraska as they are for North Carolina. (Helpful conversions: 1 hectare (ha) = approximately 2.5 acres; a metric ton = 2200 lbs; 0º C = 32º F, –2.2 º C= -28º F).

Table 1: Defining active control methods.

Active frost control differs from passive control strategies and methods in several important ways.

1) *Energy use*. Active control methods include energy intensive practices (vineyard heating with fuel, overvine sprinkling with water, and so on) that are used during the cold event to replace natural energy or heat losses from the vine (Snyder, 2001).
2) *Direct versus indirect methods*. Active control strategies rely on direct frost protection methods (e.g., wind machines, heaters, overvine sprinkling) and involve active control against a cold event (Westwood, 1978). Passive control or protection involves indirect practices (e.g., site selection, variety selection, and cultural practices like double pruning or sprinkling to delay, budbreak) that cause the plant to be less susceptible to cold injury or decrease the probability or severity of radiation frosts (Evans, 2000).
3) *Time of implementation*. Active control strategies and methods must be implemented just before and/or during the cold event to counteract an immediate threat of a radiation frost or frost/freeze. Passive protection includes strategies and practices that are generally done well ahead of cold events, like delayed pruning.

Table 3: Average net returns of vineyards with different probabilities of frost damage (assumes 40 h of wind machine use in years with frost)[z] .

Probability of frost damage (%)	10-yr avg net return ($/ha) Vineyard with wind machine	Vineyard without wind machine[y]	Difference in avg net returns $/ha	$/4.047 ha vineyard
0	1,984	2,711	-726	-7,264
10	1,928	2,068	-140	-1,410
20	1,872	1,426	446	4,463
30	1,838	783	1,033	10,327
40	1,760	141	1,619	16,191
50	1,704	-502	2,206	22,055
60	1,648	-1,144	2,792	27,919
70	1,592	-1,786	3,378	33,783
80	1,536	-2,318	3,965	39,647
90	1,480	-3,071	4,551	45,511
100	1,424	-3,714	5,137	51,375

[z]Estimated costs of installation and use of a wind machine in a 4.047-ha vineyard; initial equipment cost $28,000 per unit; annual total ownership (fixed) cost $726/ha; operating costs $5.36 per hour; and labor costs $25.94 per hour.

[y]Assumes 50% crop loss; at a price per ton of $1400 (for 'Chardonnay'), a 4.94 $Mt \cdot ha^{-1}$ will generate only $6918, which is barely enough revenue to cover annual operating expenses of $6609/ha [Safley, C.D., C.E. Carpio, and E.B. Poling. 2007. Cost and investment analysis of Chardonnay (*Vitis vinifera*) winegrapes in North Carolina. The North Carolina winegrape grower's guide. North Carolina Coop. Ext. Serv., NC State University, Raleigh, AG-535.].

Table 4. Relative effectiveness of passive, active frost, and active frost/freeze protection methods under different cold even scenarios.

Method	Radiational hoar frost; temp -2.2 to 2.2 ºC	Radiational black frost and/or weak inversion; temp below -2.2 ºC	Frost/freeze and temp below –2.2 ºC (winds of 2.2 $m \cdot s^{-1}$ to 4.5 $m \cdot 5^{-1}$)	Comments
Good site selection (passive)	Highly effective	Effective	Limited effectiveness	Locations with good air drainage; visualize air flow/and evaluate frost climatology
Wind Machine	Highly effective	Limited effectiveness	Ineffective, potentially damaging	Do not use if wind are greater than 1.8 $m \cdot s^{-1}$
Wind machine plus heaters	Not applicable	Effective	Limited effectiveness	Can be effective in black frost, weak inversion, or frost/freeze; merits further attention; not needed in a hoar frost
Wind machine plus helicopter	Not applicable	Highly effective	Ineffective	Useful when inversion ceiling is high; not needed in a hoar frost
Overvine sprinkling	Highly effective	Highly effective	Effective	Incorrect use can cause greater damage
Helicopter	Highly effective	Effective	Ineffective, potentially damaging	Very high costs per hour, greater than $2000 per hour in 2006
Heaters	Highly effective	Effective	Effective	Very limited use in North Carolina vineyards as a result of high cost of fuel

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