



October/November 2005

Volume VIII, Issue 5

Nebraska Vine Lines

*Editors: Dr. Paul Read, Professor of Horticulture & Viticulture
 Donna Michel, University of Nebraska Viticulture Program*

Highlights of The North American Grape Breeders Roundtable

On September 8-11, over 40 professionals interested in grapevine improvement gathered at the University of Minnesota's Horticultural Research Center to exchange ideas and information about grape breeding and improvement. Discussions focused on improvements related to disease tolerance, cold hardiness and wine quality, among others. Pierce's Disease and powdery mildew were of special importance for California breeding programs, while cold hardiness and tolerance to other fungal diseases were goals for the New York and Minnesota breeding programs.

Peter Cousins (Cornell University) presented information on the rootstock breeding program underway at Geneva in which he pointed out that one of the most nematode-resistant wild grape species that can be used as a parent in a breeding program is *Vitis mustangensis*. He also has embarked upon a program aimed at incorporating a red-leaf gene into rootstocks so that when the scion is killed by cold

(continued on Page 2)

Paul Read to participate in Faculty Development Leave at the University of Tasmania

The 2005 growing season has been an exceptionally fine year for many vineyards in Nebraska, as well as in our research vineyards, where yields and quality have been very good and we have obtained useful observations and data.. The excellent cooperation that has occurred with regard to "in-vineyard" projects with cooperating private vineyard owners also has begun to "bear fruit" in terms of learning more about insect infestations and the results that we have obtained from the environmental monitoring that has taken place. It has been also gratifying to see so many vineyards producing such high-quality crops, which should result in top-quality Nebraska wines.

Following the now nearly completed growing season in Nebraska, I am embarking on another growing season right away in the Australian spring (buds are swelling there and "bud-burst" will commence by about the time that I arrive). I will participate in a Faculty Development Leave at the University of Tasmania, working with Professor Steve Wilson, and with Richard Smart of Smart Viticulture. Although I will be helping them with several projects, I am most intrigued by the project involving the interaction of cap-fall, fruit set, pollen viability and environmental and fungicide influences on these phenomena. Because the flowering process is not well-understood, because research has shown that bunch number and bunch size are by far the most significant factors contributing to crop yield, and because the Tasmanian research group are among the world leaders in examining these factors, I feel that I will gain many insights that will be beneficial to our Nebraska grape and wine industry. I will be officed at the University of Tasmania and travel to do research in the vineyards throughout Australia's smallest state - the island of Tasmania, where Richard Smart moved a few years ago to "be where the action is", a comment reflecting the rapid growth of the Tasmanian grape and wine industry.

Although I won't be able to be at the November 5th workshop in person, I will be with Nebraska's grape growers and wine industry in spirit. I encourage all growers to attend the November 5th workshop that will focus on one of our biggest problems (if not the biggest), that of **spring cold damage** to the grapevines. We have an excellent program lined up, featuring Dr. Imed Dami, who is considered one of the most knowledgeable professionals working in the field of delaying bud break and on factors affecting cold damage and avoidance. We also will have several local growers participating in "round-table" discussions of methods that they have employed to attempt to prevent damage to their vines. Both successes and not-so-successful methods will be presented and discussed.

(continued on Page 2)

Dr. Mark Lagrimini



On May 11, 2005 Vice Chancellor John Owens announced the new head for the Department of Agronomy and Horticulture, with the following message: Colleagues, on behalf of the IANR Deans Council, I am pleased to report that Dr. L. Mark Lagrimini has accepted our invitation to join the University of Nebraska-Lincoln as Professor and Academic Department Head effective August 1, 2005. Dr. Lagrimini's ability to work with all of the different internal and external constituencies of the department as well as his positive interpersonal skills will be of much benefit to the department, the university, and our statewide clientele. Our ability to attract Mark to this key leadership position is testimony to the excellence of the Department of Agronomy and Horticulture and the outstanding reputation of its faculty, staff, and students.Lagrimini is a former project leader at Syngenta Biotechnology Inc. at Research Triangle Park in North Carolina and spent 12 years at Ohio State as a faculty member in the Department of Horticulture and Crop Science

Lagrimini received a bachelor of science degree in biochemistry at the University of Illinois and his doctorate in biochemistry from the University of Iowa.

Dr. Lagrimini — welcome to you and your family to the University of Nebraska-Lincoln. —**The Viticulture Program.**

Paul Read to participate in a Faculty Development Leave at the University of Tasmania in Australia

continued from Page 1

I am also moving along - with help and advice from members of the NWGGA and others - on development of the next annual conference, the Ninth Nebraska Winery and GrapeGrowers Forum and Trade Show, to be held in Kearney on March 3&4, 2006. We have some outstanding speakers lined up and also plan to have several sessions involving contributions from local grape growers and winemakers. The 9th Forum promises to be one of the best that we have presented so far, thanks in part to suggestions and support of folks associated with Nebraska's grape and wine community.

Donna Michel will continue to handle logistics of both the November 5th workshop and the 9th Forum, including registration. Information about registering for the November workshop was included in the most recent issue of the Nebraska Vine Lines. Be sure to watch future issues of the Vine Lines for more details of the Forum to be held in Kearney. Steve Gamet (who is an invaluable part of the University of Nebraska Viticulture team) will be available for viticulture questions and I can be reached by email while I'm in Tasmania.

continued from page 1

Highlights of the North American Grape Breeders Conference

temperatures or other agents, it would become obvious that only the rootstock was surviving because the red leaves would be evident.

Bruce Reisch reported on the cultivar breeding program at Geneva, where a new focus is on applications of biotechnology to improvement of grapevines. He indicated that Cornell will be releasing three new cultivars soon: NY70.809.10, NY73.0136.17 and NY62.0127.01. The first two are red winegrapes and the latter is a white winegrape with distinct muscat-like character to its wines.

A highlight of the conference was an opportunity to view the nurseries, vineyards and laboratories of the University of Minnesota Viticulture and Enology Program. Peter Hemstad and James Luby conducted tours that provided those in attendance with a first-hand look at numbered selections produced by the breeding program. Of particular note were MN1211 (soon to be

named and released), MN1131 (MN 89 x Seyval blanc), MN 1143, MN1235 and MN1189. Anna Katharine Mansfield discussed the wines made from Frontenac, LaCrescent, Frontenac Gris and MN1211. The latter is an exciting red winegrape that makes a wine with excellent fruit, body and tannins and the vine appears to be very cold-hardy.

David Ramming (CA) discussed his advanced table grape selections and commented on raisin production also (95% of production is Thompson Seedless!). In addition, Andy Walker (CA) pointed out that some rootstocks that may be used for grafting can be difficult to root, with different root morphology (Riparia Gloire has almost horizontal roots, while Ramsey has distinctly downward root growth).

This conference was truly successful because it brought together researchers from a diverse set of interests, but all were able to help share ideas that reflected their passion for grapevine improvement.

Grape Breeding 101

What is the probability of obtaining white fruited progeny when selfing a dark-fruited cultivar such as Frontenac?

The probability of that is 25%. Frontenac, like its parent Landot 4511 (Landot Noir), is heterozygous for primary fruit color. Since the allele for dark fruit is dominant, a heterozygous plant has dark fruit. The recessive allele for light fruit color came through Villard Blanc, Frontenac's grandparent.

Crossing Frontenac with another dark-fruited heterozygote (or selfed) produces 25% white fruited seedlings; crossing with a white-fruited vine will produce 50% white-fruited seedlings. Those percentages are the theoretical values.

Frontenac = riparia #89 x Landot 4511

Landot 4511 = Landal (L. 244) x SV 12-375 (Villard Blanc).

Information courtesy of

Mark Hart—Grape Breeders

Small Scale Commercial Wine Making Workshop

Friday and Saturday, October 21 and 22n, 2005—9:00 a.m.—4:00 p.m. both days at Whiskey Run Creek Vineyard and Winery, 702 Main Street, Brownville NE. Tuition \$300 per person (includes text and reference manual, lunch and refreshments). Sponsored by Five Rivers Resource Conservation and Development, Tecumseh, NE

Advanced registration and tuition must be submitted no later than Oct. 7. Class size is limited to 20.

Instructor: Alan Dillard, owner/winemaker at Limestone Creek Winery in Shawnee Hills area of Southern Illinois

University Research Plots: by Steve Gamet, University of Nebraska-Lincoln

The University research plots have yielded some very interesting results this year. As of this writing there has been 22 different cultivars harvested. Some have been very productive while a handful have been less than productive. Some of the star performers have been Vignoles, Edelweiss, Frontenac, St. Croix, Delaware, Vidal Blanc, Lemberger and Traminette. On some of these cultivars there has been over a 50% increase from the previous year. On a Vignoles plant at Kimmel there was one plant that produced 57 pounds not counting the clusters that the birds damaged. All the Vignoles plants at the Kimmel location averaged over 44 pounds per plant this year. This is up from the 2004 average by 25%. One particular Frontenac plant at Kimmel has now produced for three years in a row over 40 pounds and one rep (6 plants) of St. Croix averaged just under 40 pounds per plant. Kimmel is the most fertile site of the three research sites and has not been fertilized since establishment.

Does this mean that you could achieve an average of at least 40 pounds per plant? The next year(s) will tell us a lot and if plants can produce at this level for several years. We do believe that plants could sustain productions of 25 to 30 pounds per plant yearly. Of our vinifera, Lemberger, Gewurztraminer and Riesling, Gewurztraminer is the only one that harvest is completed on. The crop was above average until the birds and the bees found them. We don't have enough netting to begin to cover this crop. The Lemberger and the Riesling look great and maybe should be considered in the lower south eastern part of the state. Lemberger at Kimmel didn't perform that well this year. There are three crops that have to be harvested yet and that is Norton, Chambourcin, and Riesling. All three are looking very good and barring any catastrophe should yield an above average crop.
(continued on Page 4)

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Continued from Page 3

University Research Plots by Steve Gamet

On a more personal note about our harvest out west in the Gamet family vineyard by Ogallala, we had an outstanding harvest. There is much for us to learn after completing harvest this year for next year, such as canopy management. This year we converted Edelweiss to GDC and increased production by 50%. Next year production should again increase because we will be working with established cordons that will give us the opportunity to leave more buds. On Lacrosse there are two plants that are in our row of table grapes that produced over 120 pounds. It will be interesting to see if the plants can do this again next year. Overall from what I have heard from other growers throughout the state, this has been a very productive year assuming you didn't have a freeze, hail storm or some other natural disaster.

I can't wait to taste the new wines from the wineries. If anyone has any questions feel free to call 402-450-6340 or e-mail sgamet@unl.edu

Imed Dami



Dr. Imed Dami joined the Department of Horticulture and Crop Science at The Ohio State University, effective 1 September 2003, as an Assistant Professor with research and extension responsibilities in viticulture.

Dr. Dami received his advanced education at Colorado State University and worked two years as a Viticulture Extension Associate at Virginia Polytechnic Institute and State University. In 1999, he became the state viticulture specialist at Southern Illinois University where he provided program leadership associated with a very rapidly growing grape and wine industry.

Dr. Dami has a strong research background in stress physiology, particularly the negative impact of cold temperatures on grapes. The focus of his research program will be to improve vineyard efficiency with the goal of improving wine quality.

Be sure to put the 9th Annual Forum on your calendar:

March 3 and 4, 2006. Outstanding speakers, growers round-tables, local speakers and an outstanding trade show await you at the 9th Annual Nebraska Winery and GrapeGrowers Forum and Trade Show to be held at the Kearney Holiday Inn March 3 and 4, 2006.

Anna Katharine Mansfield, University of Minnesota Enology Project Leader will highlight the winery and winemaking sessions, providing insights into the characteristics of new grape cultivars and techniques that enable top-quality wines to be produced from them. Are you a grower that has questions about grape nutrition, fertilizer practices and the relationships of root growth to canopy growth and management? If so, the 9th Forum's Advanced Viticulture sessions featuring Dr. Terry Bates, Cornell University, will help you get to the "root" of the problem. Local growers will weigh in by sharing their techniques and experiences and a special session will help beginning growers to focus on problems associated with vineyard establishment and management of young vineyards. Again, experiences of the Nebraska growers and the University of Nebraska Viticulture Program will be shared with participants.

Register NOW for the November 5, 2005 Workshop

Pre-registration for the November 5th Workshop on Cold Temperature Avoidance and Management will help us plan for lunch and assure you a place at this important workshop. Please send in the form found later in this issue.

Become a Corporate Sponsor. To learn more about this program, e-mail sgamet@unl.edu or

402/450-6340

Or

Donna Michel, 402/472-8747

Agenda
**November 5th Workshop on
 Cold Temperature Avoidance and Management**

- 8:30a . Registration. Come visit with other growers and enjoy “coffee and a Danish”.
- 9:05a Welcoming remarks
Dr. Mark Lagrimini, Head, University of Nebraska-Lincoln, Dept of Agronomy and Horticulture
Steve Gamet, Viticulture Technologist, University of Nebraska Viticulture Program
- 9:15a **Dr. Imed Dami**—Department of Horticulture and Crop Science at The Ohio State University.
 “Cold Hardiness of Grapevines”.
- 10:00a Refreshment break
- 10:30a **Imed Dami**—”Spring Frost and Protection Methods.”
- 11:45a Lunch, Door prizes
 Announcements from the NWGGA
- 1:15p Frost Avoidance Roundtable
Imed Dami—Moderator
Jim Emal, Czechland Vineyards
Jim Shaw, Soaring Wings Vineyard and Winery
Barb Yendra, Geo. Spencer Vineyards
Rich Mullins, Echo Hills Vineyard
Seth McFarland, Mac’s Creek Vineyard and Winery
- 2:15p Entomology — the project thus far, **Chelsey Wasem**, Graduate Student, Dept. of Entomology
- 2:45p Discussion on use of chemicals, pesticides; etc., **Steve Gamet**
- 3:30p Wine Tasting, Taste some of the best wines in the state.
- 5:00p Adjourn, Have a safe trip home!

**See you all at the Ninth Annual Nebraska Winery and GrapeGrowers Forum and Trade Show!
 Kearney, NE, March 3rd and 4th, 2006**

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The University of Nebraska Viticulture Program

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FALL GRAPE GROWERS WORKSHOP
Cold Temperature Avoidance and Management
East Campus Student Union—University of Nebraska
Lincoln, NE
November 5, 2005**

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Questions: Donna Michel—dmichel@unl.edu or 402/472-8747

THE JAPANESE BEETLE

By: Chelsey Wasem
Graduate Student, Entomology

The Japanese beetle (*Popillia japonica*) is a pest of regulatory significance in the United States. It is commonly spread via nursery stock in balled and burlaped (B&B) plant material. In the early to mid-2000's, severe outbreaks in Nebraska were observed, and Japanese beetles are now an established pest in southeastern Nebraska, especially in parts of northern Omaha and southeast Lincoln.



Adult Japanese beetles have a metallic green head and thorax with coppery brown wing covers and five tufts of white hair on each side of the abdomen.

The beetles are broadly oval, and about 0.3 to 0.5 inches long and 0.25 inches wide. They emerge in early June, often during the same time chickory is blooming.



The female lays several groupings of eggs during June and July. White grubs hatch and feed on the roots of turfgrass until they burrow deep in the soil to overwinter.



Japanese beetles are gregarious feeders that are known to feed on the foliage and fruit of nearly 300 species of landscape plants, including grapes. Japanese beetles feed on the upper leaf surface, removing the soft tissue of the leaf and leaving the veins in a lacelike or skeletonized pattern. Japanese beetles release a strong aggregation pheromone that attracts additional beetles to a potential food source.



REMEMBER—Future Forums

2006—March 3 and 4—Holiday Inn, Kearney, NE
2007—March 2 and 3—Holiday Inn, Kearney, NE
2008—February 29 and March 1—Holiday Inn, Kearney, NE

FOR YOUR CALENDAR

October 21 and 22, 2005—Small-scale commercial winemaking workshop. 9:00am—4:00 pm both days. Tuition: \$300 per person. For more information call Five Rivers RC&D at 402/335-3347 or email tecumsehrcd@ne.usda.gov

November 5, 2005. University of Nebraska Grape Growers Workshop on “Cold Temperature Avoidance and Management.” Call Donna Michel for more information. 402/472-8747

January 27-28, 2006 (Friday and Saturday) = Iowa Wine Growers Conference, Hotel Ft. Des Moines, Des Moines, IA. Contact Paul Domoto, 515-294-0035 or email: domoto@iastate.edu

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REMEMBER—Future Forums

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