

TITLE: Development and Evaluation of Crown Gall-Free (*Agrobacterium vitis*) 'White Riesling', 'Chardonnay' and 'Cabernet franc' Grapevines

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PROGRESS REPORT - 2007

A. Accomplishments/Benefits to date:

Approximately 500 vines of the Cabernet franc variety grafted to the rootstock C3309 had been propagated in the summer of 2004. In the spring of 2005 those vines were distributed to cooperators in five states (Table 1). For each location twelve vines for each of two treatments were planted in a randomized complete block design. One treatment consisted of vines whose root systems had been soaked for eight hours in an aqueous suspension of the F 2/5 strain of *Agrobacterium vitis*. The second treatment involved vines whose root systems had been soaked in clear water for eight hours. The vines were kept segregated, wrapped carefully, shipped via overnight express and planted immediately.

In some situations a third treatment involving vines obtained from commercial nurseries of the Cabernet franc variety on the C3309 rootstock were also planted.

F 2/5 inoculations were made possible because of a culture of F 2/5 strain *Agrobacterium vitis* was supplied by Dr. Tom Burr. The necessary permitting from APHIS was obtained for its shipment from New York to Michigan. This initial culture was then recultured in cooperation with Dr. Annemiek Schilder, plant pathologist at Michigan State University.

Cuttings of the AV-free C3309 rootstock and the AV-free Chardonnay scion wood were collected, stored and bench grafted in May 2005. They were then grown during the summer of 2005 in an isolated, viticulturally-virgin site at the MSU Southwest Michigan Research and Extension Center. Those vines were dug, washed free of soil, pruned, wax-dipped, packaged and stored in November, 2005. They were sent to cooperators in five states in May, 2006 (Table 2).

White Riesling and C3309 rootstock material was gathered in November, 2005 and bench grafted in May, 2006. These vines were grown in an isolated vineyard in 2006, dug that fall and were shipped to cooperators in May, 2007 (Table 3). Therefore, by the summer of 2007 all three cultivars in this experiment were planted.

First ratings of vine survival and the development of crown gall on vines in this experiment were assessed in the fall of 2006. Approximately three-fourths of those evaluations have been summarized to date (Table 4). They indicate no loss of vines to winter injury and/or crown gall and a need for modest replanting of vines. A survey of plantings was not conducted in 2007 due to lack of funding. This activity will resume in 2008, pending the receipt of funding for this project.

Table 1. Evaluation of Crown Gall-Free Grapevines

2005 Plantings of Cabernet franc/C3309

State	Number of Plantings
Indiana	2
Michigan	6
New York	2
Ohio	2
Pennsylvania	1
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Table 2. Evaluation of Crown Gall-Free Grapevines

2006 Plantings of Chardonnay/C3309

State	Number of Plantings
Indiana	2
Michigan	5
New York	1
Ohio	2
Pennsylvania	1
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Table 3. Evaluation of Crown Gall-Free Grapevines

2007 Plantings of Riesling/C3309

State	Number of Plantings
Indiana	2
Michigan	7
New York	2
Ohio	2
Pennsylvania	1
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Table 4. Results

Total crown gall-free vines planted in 2005 and 2006	576
Vines that didn't grow well and needed replanting	3
Vines with crown gall	0
Vines killed from winter injury	0