

**“Interim Progress Report for CDFA Agreement Number 15-0577-SA”**

**Project Title: Management of the federal permit for field testing transgenic grapevine rootstocks in California.**

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**Time period covered by the report:** April 2016 to June 2016

**Introduction**

The major objective of this proposal is focused on the management of the APHIS-BRS federal permit that facilitates the multi-investigator testing of transgenic grapevine rootstock and scion varieties in two locations in California. The current permit is set to expire on March 31<sup>st</sup> 2016; we have submitted an extension for 3 additional years. Once this permit is granted and amended will facilitate the field testing of additional transgenic genotypes beginning in 2016. Riverside site was terminated following the final disposition protocol approved by APHIS-BRS. The Solano site will be expanded to begin field testing transgenic versions of the commercially relevant rootstocks 101-14 and 1103 for their ability to protect a sensitive variety like Chardonnay from PD.

**List of objectives**

The major goal is the management of APHIS-BRS federal permit that facilitates the field testing of transgenic grapevine rootstocks and scion varieties in California.

**Objective 1. Management of existing USDA-APHIS field permit 12-340-102r and maintain regulatory oversight and compliance with permit reporting requirements.**

**Activity 1.** Extend and amend existing permit beyond current March 2016 expiration date.

**Activity 2:** Maintain regulatory oversight and compliance at both field locations with reporting requirements and regulatory compliance inspections.

**Description of activities conducted to accomplish each objective, and summary of accomplishments and results for each objective**

**Activity 1. Extend and amend existing permit beyond current March 2016 expiration date.**

The Solano and Riverside County field APHIS-BRS federal permit #12-340-102r that had an end date of March 31, 2016 was transferred from Professor Alan Bennett to Professor Abhaya Dandekar in January

2014. A permit renewal application was filed on October 10<sup>th</sup>, 2015, the permit renewal was approved on March 8<sup>th</sup>, 2016 and extended until March 8<sup>th</sup>, 2019. The current APHIS-BRS federal permit # 15-282-118r has been modified to accommodate additional constructs currently in the transformation pipeline and a permit amendment application will be filed with APHIS-BRS.

The Riverside site was terminated following disposition protocol approved by APHIS-BRS and the site will be monthly monitored for volunteers for the next two years. “Riverside Field Termination” and “Volunteer Monitoring” reports will be submitted. The Solano site will be expanded to begin field testing transgenic versions of the commercially relevant rootstocks 101-14 and 1103 for their ability to protect a sensitive variety like Chardonnay from PD. And a new federal permit application for the single and dual constructs was also submitted on February 22<sup>nd</sup>, 2016. The new APHIS-BRS federal permit # 16-053-101r was approved on June 17<sup>th</sup>, 2016 with an end date of June 17<sup>th</sup>, 2019.

#### **Activity 2: Maintain regulatory oversight and compliance at both field locations with reporting requirements and regulatory compliance inspections.**

Personnel from the Dandekar laboratory are maintaining regulatory oversight of the field trials. The issues requiring regulatory oversight are listed in the permit. Timely reporting and inspections are conducted to maintain compliance with APHIS-BRS federal permit conditions. Regulatory compliance is enforced by working closely with the participant investigators, the two field coordinators and their crews. PD Field trials activities information is updated quarterly using the PIs activity monitoring logs. Two individuals from the Dandekar lab are entrusted with the tasks of documentation, training, and inspection to ensure regulatory compliance to the permit conditions. Going forward this will include monitoring the increased activity at the Solano site that will be expanded under the two permits, monitoring terminated Riverside site for volunteers, and preparing annual, field termination, final field and volunteers monitoring reports for each permit to comply with the APHIS-BRS requirement.

#### **Publications produced and pending, and presentations made that related to the funded project.**

Dandekar, A.M., D. Gilchrist, P. Rolshausen, A.M. Ibanez, A. Jacobson D. Dolan, R. Just and H. Gouran. 2015. Chimeric antimicrobial protein and polygalacturonase-inhibiting protein transgenic grapevines filed trial. Research Progress Reports: Pierce’s Disease and Other Designated Pests and Diseases of Winegrapes. December 2015. pp. 18-26.

Dandekar, A.M. D. Gilchrist, T. Miller, A.M. Ibanez, D. Dolan and H. Gouran. 2014. Chimeric antimicrobial protein and polygalacturonase-inhibiting protein transgenic grapevines filed trial. Proceedings of Pierce’s Disease Research Symposium held December 15-17, 2014 at the Sheraton Grand Sacramento Hotel, Sacramento, California. pp. 106-117.

#### **Research relevance statement, indicating how this research will contribute toward finding solutions to Pierce’s disease in California.**

The objectives described in this proposal directly address the number 1 RSAP priority outlined in the, “Accelerate regulatory process”. Establish and facilitate field trials of current PD control candidate vines / endophytes / compounds in multiple locations” handout released in the December 2009 Pierce’s Disease Research symposium that outline the “Top 5 to 10 Project Objectives to Accelerate Research to Practice”. This document updates the priority research recommendations provided in the report “PD/GWSS Research Scientific Review: Final Report” released in August 2007 by the CDFA’s Pierce’s Disease Research Scientific Advisory Panel.

#### **Layperson summary of project accomplishments.**

An APHIS-BRS federal permit #12-340-102r with end date of March 31, 2016 to conduct field trials of transgenic grapevines at two locations (Solano and Riverside) was obtained and managed by PIPRA till

2012 then to Professor Abhaya Dandekar in January 2014. A permit renewal application was filed on October 10<sup>th</sup>, 2015 and approved on March 8<sup>th</sup>, 2016 that extends the permit until March 8<sup>th</sup>, 2019. This current APHIS-BRS federal permit #15-282-118r has been modified to accommodate additional constructs currently in the transformation pipeline. The Riverside site was terminated following disposition protocol approved by APHIS-BRS and the site will be monitored monthly for volunteers for the next two years. “Riverside Field Termination” and “Volunteer Monitoring” reports will be submitted. The Solano site will be expanded to begin field testing transgenic versions of the commercially relevant rootstocks 101-14 and 1103 for their ability to protect a sensitive variety like Chardonnay from PD. A new federal permit application for field release of transgenic rootstocks expressing single or dual constructs was also submitted on February 22<sup>nd</sup>, 2016. The new APHIS-BRS federal permit # 16-053-101r was approved on June 17<sup>th</sup>, 2016, with an end date of June 17<sup>th</sup>, 2019.

Timely reporting and inspections are conducted to maintain compliance with APHIS-BRS federal permit conditions. Regulatory compliance is enforced by working closely with the participant investigators, the two field coordinators and their crews. PD Field trials activities information is updated quarterly using the PIs activity monitoring logs. Two individuals from the Dandekar lab are entrusted with the tasks of documentation, training, and inspection to ensure regulatory compliance to the permit conditions. Going forward this will include monitoring the increased activity at the Solano site that will be expanded under the two permits, monitoring terminated Riverside site for volunteers, and preparing annual, field termination, final field and volunteers monitoring reports for each permit to comply with the APHIS-BRS requirement.

**Status of funds.**

We have expended all the funds available for the period April 2016 to June 30, 2016.

**Summary and status of intellectual property associated with the project.**

No IP involvement in this project.