California Department of Food and Agriculture
SUMMARY OF GRANT AWARDS
Specialty Crop Block Grant Program –Farm Bill
ROUND I

CDFA awarded these 15 projects to enhance the awareness, consumption and increase the competitiveness of our specialty crops.

1. USDA, Agricultural Research Service - *Defining Healthy Citrus.*
Citrus Greening is a plant disease that has wrecked havoc to citrus in the State of Florida and will eventually encroach upon the borders of California. Although fruit quality diminishes and varies with infection, infected trees will often produce fruits for a number of years until they finally succumb to the disease. The purpose of this project is to prepare the California Citrus Industry to live with the disease and remain profitable. The key to continued success will be predicated upon the continued ability of growers to deliver to consumers a desirable product and this may most readily be accomplished through developing methods to discern between commercially acceptable and unacceptable fruits and ideally, the eventual development of management practices (e.g. storage conditions, post harvest treatments) to retain or improve fruit quality. To take the first step towards this direction, the project proposes to establish baseline metabolic profiles of healthy citrus plants through the use of modern analytical methods and (2) compare the profiles of California Citrus to those obtained from Florida Citrus samples infected with Citrus Greening and (3) identify diagnostically significant metabolite and compositional differences.

2. University of California, Center for Agroecology & Sustainable Food Systems - *Biological Control of Lygus in Strawberries.* Current growth in acreage and value of both conventional and organic strawberries has resulted in increased use of insecticide applications for the control of the lygus bug (*Lygus Hesperus* Knight), a key pest in the Central Coast region. Outreach and research on an innovative package of non-chemical control methods will be further studied and extended to all strawberry growers in the region, combining recently published research results on trap crop management techniques and conservation of the introduced lygus bug parasitoid *Peristenus relictus*. It is expected that recommendations from the field-based results of this project will result in implementation of these methods in commercial fields by a diverse group of participating growers, and documented reductions in insecticide use and costs for lygus bug control. This project will accomplish two primary objectives: 1) enable strawberry growers to directly participate in the testing of methods on their farm fields that conserve natural resources and reduce production costs and 2) empower other innovative growers in the strawberry community through improved access to current research-based information.

3. California Cut Flower Commission - *Shipping Center Strategic Planning.* This project will assist in the planning process of developing an efficient and innovative statewide transportation system that will enable California's cut flower growers' to effectively distribute their product and better compete in the domestic market. After 100 years of industry development in California, the cut flower and green growers in our state are faced with a significant challenge and opportunity in the area of transportation of their product in and out of our state. The national economy, a flat flower market and stiff competition from South American imports have our state's growers currently rallied around the feasibility of working together to establish a "new model" of transporting California flowers in order to maintain and increase market share.

4. University of California, Davis, Research and Sponsored Programs - *Scent Detection Dogs.*
The need for more effective approaches to detect fecal contamination of produce has never been more critical. An international *Salmonella* outbreak recently sickened over 1,300 individuals in 43 states and Canada. Investigators are still not sure which food products were responsible and how the pathogens contacted the food items. This inability to find contaminated foods means the public may continue to ingest the contaminated

item, leading to continued foodborne illness. Prompt detection of fecal contamination on or near fields growing ready-to-eat produce might indicate that product was contaminated with pathogens, allowing intervention before distribution to consumers. Scent detection dogs can be trained to detect fecal contamination in ready-to-eat foods, such as lettuce. The superior olfactory capability of the canine has been established by their use in search and rescue, missing persons, and in law enforcement. This project will identify the potential for a highly effective tool for identifying contaminated foods prior to distribution for human consumption, assist governmental agencies during outbreak investigations to more quickly identify the adulterated food item, and better resolve the cause of the contamination.

5. University of California, Berkley, Department of Environmental Science *–Biological Control of Insect Pests in Napa County Wine Grape Ecosystems.* The proposed research and extension project will assess the impact of three flowering inter-crop species, lacy phacelia (*Phacelia tanacetifolia*), sweet alyssum (*Lobularia maritime*), and common carrot *(Daucus carota*) on the enhancement of biological control of multiple insect pests in Napa County wine grapes. The research is designed to test hypotheses of conservation biological control and to produce new and relevant information for developing cost-effective ecologically-based pest management strategies that meet or exceed the USDA standards for certified organic production. The proposed project will have a direct benefit to California specialty crops by providing new information on alternative pest management options for growers interested in reducing or eliminating pesticide usage. In addition to a scientific evaluation of treatment impacts on pest densities and crop damage, the project will make comparative cost/benefit analyses of floral resource provisioning and conventional farming practices.

6. Center for Land Based Learning (CLBL) *–Next Generation of Specialty Crop Professionals.* California agriculture, and specifically specialty crop agriculture, is at a crossroads. Not only is the average age of the state's farmers growing ever higher, but approximately 50% of the employees of the state and federal agencies that California's specialty crop producers rely on for new and innovative research, critical production information, and marketing assistance are retiring in the next 5-10 years. Agencies are losing vast amounts of knowledge, experience, and institutional memory, which are all necessary to continue increasing the production of and access to California's specialty crops. This project proposes to help reduce that trend by assisting high school students in making the decision to pursue a post-secondary course of study and prepare for a career in agriculture and continue this important work, and enable CLBL to measure, for the very first time, choices that FARMS alumni have made with respect to careers.

7. Cal Poly Corporation *– Drip Irrigation Strategies on Strawberries.* The Cal Poly Irrigation Training and Research Center (ITRC) in collaboration with academic, water district, and industry partners propose to evaluate new strategies for drip irrigation on strawberries to minimize runoff during transplant establishment. Growers use sprinkler irrigation for bed preparation and salinity control, then eventually switch to drip irrigation after transplanting the plants, but continue to use sprinkler irrigation as an insurance policy (bonding between plant roots and soil bonding, washing off the leaves, controlling salinity, and frost). Field observations have shown that only a small portion of the water applied by sprinklers actually infiltrates through the plastic mulch to the deeper plant roots. ITRC will study the current irrigation practices of 3 strawberry growers in Ventura County and determine the conditions under which growers can change their practices. Three growers have committed to the project as well as John Deere Water Technologies. Field work will be coordinated with local University of California Extension resources. Expected benefits include water and energy savings to the growers, reduced capacity requirements, and water quality improvement in the form of reduced runoff in the coastal areas.

8. California Table Grape Commission *–Table Grape Pest & Disease Field Guide.* California table grape vineyards afflicted by pests and diseases can cause reductions in yields and fruit quality, rejections of shipments, and trade disruptions to export markets. Easy identification of these pests and diseases that can cause damage to table grape vineyards is critically important to early control. A need exists to provide table grape growers and field managers with an easy pest and disease identification guide for use in the vineyard. Knowledge of distinguishing characteristics of pests and diseases is often times difficult for the grower or field manager as many pests and symptoms of diseases have only a few distinguishing characteristics that set them apart from each other. It is critical to provide easy access to the research information that exists, as current guide books with information are often not user-friendly and not available in the vineyard.

9. University of California, Cooperative Extension *–The Management of the Light Brown Apple Moth in Nursery Crops.* The recent invasion of the Light Brown Apple Moth (LBAM) into California severely threatens the viability of California's $ 3.8 billion nursery industry. A cost effective, long-term strategy to manage this pest must be developed for this heavily impacted specialty crop industry. In Australia, where LBAM is native, mating disruption using commercially available pheromones has been successfully used to control this pest in orchards and vineyards. Since California nurseries in the infested counties are often immediately surrounded by infested native vegetation, it is important to minimize or stop migration of moths into the nursery from these surroundings. Attractant baits or other lures could be applied to the perimeters of nurseries that attract and kill migrating moths. These technologies are readily available in California, but have yet to be tested in the California nursery industry where they seem to be perfectly suited. These treatments alone, combined, or integrated with other management practices could provide an effective, economical, non-chemical approach to the long term management of LBAM.

10. California FarmLink *–Beginning Farmers and Farms in Transition.* California FarmLink currently provides training and technical assistance to underserved farmers throughout California, offering information regarding business planning and succession planning. The purpose of this project will be to build and deliver business and succession planning with a marketing component for producers with less than 10 years experience as owners or operators of specialty crop farms and will provide beginning, family farmers with a single, accessible source of training and technical assistance in intergenerational transfer strategies, and include new marketing strategies.

11. Western Growers *–Best Practices for Green Onions.* Using the experience gained in developing metrics for the California Leafy Greens Marketing Agreement, this project proposes to develop measureable food safety best practices (metrics) to reduce the risk of microbial contamination of green onions during production and harvest, thus contributing to the reduction of foodborne illness related to consumption of fresh vegetables. The goal of this proposed work is to develop a document that can be used to identify best practices for growers to mitigate microbial contamination of green onions. Adoption of these best practices provides greater assurance of the safety of green onions and will enhance consumer confidence in green onions from California and promote consumption.

12. California Citrus Mutual *–Orange Maturity Standard: Better Flavor and Increased Consumption.* This project proposes to increase consumption of fresh California oranges. Previous sensory research by the citrus industry indicates that consumers prefer a better tasting orange. The objectives of this project are designed to generate statistical data to confirm consumer taste preferences of oranges, to confirm that oranges meeting the minimum BrimA standard are available for harvest at approximately the same time as those meeting the current

standard, and to use this information to educate California orange growers to the benefits of the BrimA standard over the current SSC/TA standard. The outcome of this project will be to change the minimum maturity standards for California oranges to BrimA and increase consumption by supplying consumers with a consistently better tasting orange.

13. Central Coast Ag Network, Inc. - *Buy Central Coast Grown.* The Central Coast is still a highly agricultural region. One of the best ways to help it retain its rural character is to keep local farms and ranches in production. In order to remain economically viable, local producers need to have local markets for their food and fibers. By being able to identify products that are grown in the local area, consumers are able to directly support the local agricultural economy. This project proposes six activities that address two key areas; encourage more retail purchases of local specialty crops to supply the demand already in place and clearly identify it, and create easier access for food buyers to find, purchase and prepare locally grown specialty crops.

14. California Sustainable Winegrowing Alliance – *California Sustainable Winegrowing Certification.* This project proposes to develop, implement and promote a California Sustainable Winegrowing Certification Program as an incentive to speed winegrowers' adoption of sustainable practices that demonstrate environmental stewardship and social responsibility while enhancing the competitiveness of the state's winegrapes and wine. Although the program's Code of Sustainable Winegrowing Practices has been widely embraced by the California winegrowing community, the lack of third-party verification for participating wineries and vineyards poses a barrier to potential regulatory and market opportunities. By developing a cost-effective and credible certification program, participants will be able to verify their engagement in a process of continual improvement, involving self-assessment, interpretation of performance, action planning, and implementation of sustainable practices in order to access and benefit from these incentives.

15. Western Growers –*International Food Safety: Non-tariff Barriers.* International food safety programs such as GLOBALGAP and EurepGAP require a variety of best practices and documentation from growers that are not included in United States food safety programs. GLOBALGAP and EurepGAP requirements could pose a non-tariff barrier (NTB) to US specialty crop producers who are not a part of these food safety programs. This project will evaluate whether international food safety programs serve as a NTB for US specialty crop produce. The goal of the project is to provide information and recommendations in the form of a White Paper that will be submitted for a peer reviewed publication. This research will be used in educating the specialty crop industry, trade organizations, and government agencies on the impacts of international food safety programs on US specialty crop exports.