LAACC
Diplomatic and Commercial Officers

JOSH EDDY
CDFA DIRECTOR OF INTERNATIONAL TRADE
EXECUTIVE DIRECTOR, STATE BOARD OF FOOD AND AGRICULTURE

AMRITH (AMI) GUNASEKARA, PhD.
SCIENCE ADVISOR TO THE SECRETARY
MANAGER, OEFI
OFFICE OF ENVIRONMENTAL FARMING AND INNOVATION (OEFI)

March 4, 2019
California Agriculture Industry Briefing
Los Angeles Chamber of Commerce

- California Agriculture
- Agricultural Exports
- Trade Initiatives/Programs
- International Collaboration
California Agriculture Industry Briefing
Los Angeles Chamber of Commerce

• California Agriculture
  – Innovative, Diverse and Changing
  – Climate/Soils
  – Geography
  – Rural/Urban
  – Common Challenges
  – Quality and Safety
California Agriculture Industry Briefing
Los Angeles Chamber of Commerce

• California Agriculture
  – Regulatory Environment
    • Federal/State Partnership
    • County/State Partnership
  – Academic Partnership
    • University of California, Agricultural Extension
  – Marketing Act of 1937
    • Marketing Orders, Agreements, Councils and Commissions
California’s Agriculture Compared to Other States

• California has consistently been the top performing agricultural state in the U.S.

• The top five states in descending order are California, Iowa, Texas, Nebraska, and Minnesota.

• Comparing crop cash receipts, in 2017 alone California out performed the next two largest agricultural states (Iowa and Texas) combined.
• Opportunities/Trends
  – Food Sector
    • Growth in the Organic Category
    • Plant-based Foods/Proteins
    • Cell-based Meats
    • Value Purchasing
  – Technology/Innovation
    • Ag Tech – big data, robotics, production innovations
California Agriculture Industry Briefing
Los Angeles Chamber of Commerce

- **Key National Opportunities**
  - **Winter/Summer Fancy Food Show**
    - January in San Francisco, CA
  - **Natural Products Expo West/East**
    - March in Anaheim, CA
  - **National Restaurant Association**
    - May in Chicago, IL
  - **World Ag Expo**
    - February in Tulare, CA
California Agriculture Industry Briefing  
Los Angeles Chamber of Commerce 

Agricultural Trade: By the Numbers 

<table>
<thead>
<tr>
<th>Year</th>
<th>Export Value $1 Billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>$20.56</td>
</tr>
<tr>
<td>2016</td>
<td>$20.12</td>
</tr>
<tr>
<td>2015</td>
<td>$20.81</td>
</tr>
<tr>
<td>2014</td>
<td>$21.55</td>
</tr>
<tr>
<td>2013</td>
<td>$21.55</td>
</tr>
<tr>
<td>2012</td>
<td>$18.77</td>
</tr>
<tr>
<td>2011</td>
<td>$17.23</td>
</tr>
<tr>
<td>2010</td>
<td>$14.75</td>
</tr>
<tr>
<td>2009</td>
<td>$12.44</td>
</tr>
<tr>
<td>2008</td>
<td>$12.90</td>
</tr>
<tr>
<td>2007</td>
<td>$11.21</td>
</tr>
</tbody>
</table>
California is responsible for a large portion of U.S. exports, including:

• **31.8% of U.S. Dairy Exports in 2017**

• **36.6% of U.S. Rice Exports in 2017**

• **63.8% of U.S. Fruit and Product Exports in 2017**
California Agriculture Industry Briefing
Los Angeles Chamber of Commerce

California’s Top 10 Agricultural Export Products

#1 **Almonds:** $4.4 Billion
#2 **Dairy:** $1.5 Billion
#3 **Pistachios:** $1.5 Billion
#4 **Wine:** $1.4 Billion
#5 **Walnuts:** $1.3 Billion
#6 **Table Grapes:** $795 Mil
#7 **Oranges & Products:** $677 Mil
#8 **Tomatoes, Proc:** $645 Mil
#9 **Rice:** $637 Mil
#10 **Strawberries:** $415 Mil
Top 10 Exports in Millions $US from 2015-17

Top Five Export Markets for CA in Millions $US for 2017

- European Union, 3,407.80
- Canada, 3,286.80
- China/Hong Kong, 2,270
- Mexico, 1,057.10
- Japan, 1,451.80
California Agriculture Industry Briefing
Los Angeles Chamber of Commerce

• Trade Initiatives/Programs
  – Federal Partnerships
    • U.S. Department of Agriculture, Foreign Agriculture Service
    • U.S. Department of Commerce, Foreign Commercial Service
  – Opportunities
    • Trade Missions, Research, Business to Business Meetings
California Agriculture Industry Briefing
Los Angeles Chamber of Commerce

• Trade Initiatives/Programs
  – Regional Partnerships
    • Western United States Agricultural Trade Association (WUSATA)
  – Opportunities
    • Global Connect
    • FundMatch
California Agriculture Industry Briefing
Los Angeles Chamber of Commerce

• Trade Initiatives/Programs
  – Statewide Partnerships
    • Governor’s Office of Business and Economic Development
    • CA GROWN
    • Visit California
    • Small Business Development Centers
    • Academic Institutions
  – Opportunities – Marketing the CA Brand
California Agriculture Industry Briefing
Los Angeles Chamber of Commerce

International Affairs and Trade Development
Interagency Committee
California Agriculture Industry Briefing
Los Angeles Chamber of Commerce

• International Collaboration
  – Tri-National Agricultural Accord
  – Memorandums of Understanding
  – Letters of Intent
  – Global Soil Health Challenge
  – BARD Program
  – Attaché Visits & Tours
California Agriculture Industry Briefing
Los Angeles Chamber of Commerce

• International Collaboration
  – Climate Change & Agricultural Technology
  – Sharing of Knowledge and Policies
  – Connecting Farmers & Ranchers
  – Trade Development/Exhibition
California Agriculture Industry Briefing
Los Angeles Chamber of Commerce

• International Partnership
  – Further our collaboration/connections on agricultural trade and climate issues
  – Build resilience and sustainability for farmers and ranchers
  – Learn from each other on the shared opportunities/challenges for the agricultural sector.
The mission of the Office of Environmental Farming & Innovation is to serve California by supporting agricultural production and incentivizing practices resulting in a net benefit for the environment through innovation, efficient management and science.

https://www.cdfa.ca.gov/oefi/
Financial assistance for the installation of dairy digesters in California to reduce methane greenhouse gas emissions

$3 million grants – must have matching funds of 50%
Total $ awarded = 112 million (another $99 million allocated in 2018-19)
63 number of projects funded
Total GHG reductions annually = 1.26 million MTCO2e
First CSA program to focus on methane reduction (2015 to present)
10 year life of practice
Oversubscription rate = 200%
Gas used for both renewable electricity and renewable natural gas
AMMP provides financial assistance for the implementation of non-digester manure management practices in California to reduce methane greenhouse gases.

58 projects funded
Total GHG reductions annually = 143,300 MTCO2e
$750,000 grants – matching funds recommended but not required
Total $ awarded = 31.5 million (another $99 million allocated in 2018-19
Matching funds = $4.8 million
Oversubscription rate = 225%
DDRDP and AMMP work to achieve 2030 and 2050 GHG reduction goals set by Governor

80% reduction below 1990 levels by 2050 (2006)
40% reduction below 1990 levels by 2030 (2015)
Number one milk producing state in U.S.
~1.5 million cows and ~1,500 dairy operations of different sizes
Encourages high air and water quality environmental standards

DDRDP serves mostly large dairies while AMMP serves small and middle size dairy operations
Contributes to climate change adaptation
## Approaches for Methane Reduction

### Legislation
- **SB 1383 (Lara, 2016):** Dairy and livestock methane emissions 40% below 2013 levels by 2030.
- Regulation of methane emissions on or after 2024.

### Voluntary Reduction
- Incentive programs administered by CDFA
  - Dairy Digesters.
  - Non-digester manure management practices.
- Enteric fermentation
  - Research to determine cost-effective and feasible approaches.
Provides financial assistance in the form of grants to implement irrigation systems that reduce greenhouse gases and save water on California agricultural operations

Total $ awarded = 62.7 million (another $20 million allocated in 2018-19)
Number of projects funded = 614
Total number of acres covered = 114,000
Matching funds recommended by not required. Total match to date = $40.8 million
Total GHG reductions = 75,300 MTCO2e

Total Water Reductions = 101,000 Acre feet per year
Projects are CDFA verified
3 year reporting on GHG and water savings

First incentive program set up by CDFA (2014)
This map denotes the approximate location for each of the eight billion-dollar weather and climate disasters that impacted the United States during 2014.

Claire Chenu: ‘Take a closer look at the earth beneath your feet’
Claire Chenu speaks with authority and conviction when it comes to soils.

• Chief Editor, Soil Biology and Biochemistry
• Head of the scientific council for France’s national research programme on soils
• professor of soil sciences with AgroParisTech
• Special Ambassador for the International Year of Soils 2015
The Healthy Soils Program stems from the California Healthy Soils Initiative, a collaboration of state agencies and departments to promote the development of healthy soils on California’s farmlands and ranchlands.

Incentives Program
Demonstration Program
SPECIALTY CROPS
I. Cropland Management Practices
1) Cover Crop (USDA NRCS CPS 340)
2) Conservation Crop Rotation (USDA NRCS CPS 328)
3) Mulching (USDA NRCS CPS 484)
4) Nutrient Management (USDA NRCS CPS 590) (15% reduction in fertilizer application only)
5) Residue and Tillage Management – No-Till (USDA NRCS CPS 329)
6) Residue and Tillage Management – Reduced Till (USDA NRCS CPS 345)
7) Strip Cropping (USDA NRCS CPS 585)
8) Compost Application Practices (application rates consistent with those specified in CDFA Compost Application White Paper)
   □ Compost Application to Annual Crops
     ○ Compost Purchased from a Certified Composting Facility
     ○ On-farm Produced Compost (compliant with all requirements in the RGA)
   □ Compost Application to Perennials, Orchards and Vineyards
     ○ Compost Purchased from a Certified Composting Facility
     ○ On-farm Produced Compost (compliant with all requirements in the RGA)

III. Woody Cover Establishment
1) Alley Cropping (USDA NRCS CPS 311)
2) Hedgerow Planting (USDA NRCS CPS 422)
3) Multi-story Cropping (USDA NRCS CPS 379)
4) Riparian Forest Buffer (USDA NRCS CPS 391)
5) Tree/Shrub Establishment (USDA NRCS CPS 612)
6) Windbreak/Shelterbelt Establishment (USDA NRCS CPS 380)

II. Herbaceous Cover Establishment
1) Conservation Cover (USDA NRCS CPS 327)
2) Contour Buffer Strips (USDA NRCS CPS 332)
3) Field Border (USDA NRCS CPS 386)
4) Filter Strip (USDA NRCS CPS 393)
5) Forage and Biomass Planting (USDA NRCS CPS 612)
6) Grassed Waterway (USDA NRCS CPS 612)
7) Herbaceous Wind Barrier (USDA NRCS CPS 603)
8) Riparian Herbaceous Cover (USDA NRCS CPS 601)
9) Vegetative Barriers (601) (USDA NRCS CPS 601)

IV. Grazing Lands Practices
1) Compost Application to Grassland (application rates consistent with those specified in CDFA Compost Application White Paper)
   □ Compost Purchased from a Certified Composting Facility
   □ On-farm Produced Compost (compliant with all requirements in the RGA)
2) Prescribed Grazing (USDA NRCS CPS 528)
3) Range Planting (USDA NRCS CPS 550)
4) Silvopasture (USDA NRCS CPS 381)
Total $ awarded = $5.8 million  
(another $15 million allocated in 2018-19)

Number of projects funded = 110

Total number of acres covered = 8,600

Matching funds recommended by not required.

Total matching funds = $5.8 million

Total GHG reductions = 18,600 MTCO2e

Projects are CDFA verified

3 year reporting on GHG
Incentive programs allow growers to try and learn about management practices that they may have not done before or implemented in parts of their agricultural operation.

First in nation to tie soil management practices with carbon sequestration in soils.

Contributes to climate change adaptation, GHG mitigation and agricultural sustainability.
HSP demonstration projects collect GHG data with field trials to further inform the Dacent and DNDC models. Also required to hold demonstration days for farmers and ranchers.
# Upcoming Webinars

No webinars are scheduled at this time.

# Previous Webinars

- **California & Chile**: Exploring On-Farm Climate Change Adaptation Strategies
- **California & The International Community**: Looking to Soil as a Climate Smart Agricultural Strategy
- **California & The Netherlands**: Alternative Manure Management Practices (Perspectives & Practices)
- **California & Chile**: Opportunities for Precision Agriculture in Climate Change Adaptation and Mitigation
- **California & The Netherlands**: Business Opportunities of Greenhouse Horticulture as a Comprehensive Climate Smart Agriculture Solution
- **California & Australia**: Irrigation Water Management and Technologies – A Focus on Specialty Crops
- **California & The Netherlands**: Challenges and Opportunities for Soil Management in Climate Change Adaptation and Mitigation
- **California & The Netherlands**: The Challenges and Opportunities of Dairy Farming
- **California & Israel**: The Extent, Development and Potential of Recycled Water Use for Specialty Crop Production.
- **California & The Netherlands**: The Challenges & Opportunities of Saline Agriculture—a focus on specialty crops.

[https://www.cdfa.ca.gov/climatesmartag/](https://www.cdfa.ca.gov/climatesmartag/)
Netherlands;

Provided a foundation for specialty crop farm organizations, academia and other stakeholders to develop connections with businesses and academia in the Netherlands to support the development and advancement of climate smart agriculture in California.
December 10, 2015

Letter of Intent signed between Secretary Ross and Mr. Martijn van Dam, Netherlands Minister of Agriculture

LETTER OF INTENT ON AGRICULTURAL COOPERATION

The Department of Food and Agriculture of the State of California of the United States and the Ministry of Economic Affairs of the Netherlands (hereinafter referred to as “the Two Parties”), through friendly consultation, pledge their intent to cooperate on shared agricultural issues.

This Letter of Intent builds upon the mutually beneficial partnership of the State of California and the Netherlands on environmental cooperation, established (October 2013) and renewed (March 2015).

Article I. Climate-Smart Agriculture

The Two Parties jointly recognize the need to make agriculture, forestry and fisheries part of the solution to combat the negative impacts of climate change and environmental degradation, while also addressing the global needs of food security. This recognition aligns with the Two Parties’ policies and initiatives in addressing a changing climate. The Two Parties agree to work together to elevate the importance of Climate-Smart Agriculture within international discussions and promote further cooperation on this issue through for example the Global Alliance for Climate-Smart Agriculture. It is the intent of the Two Parties to encourage: 1) Dissemination of Research to improve agricultural adaptation on a global scale; 2) Farmer Connectivity to further international on-farm implementation of adaptation and mitigation practices; 3) Advances in Agricultural Innovation and Technology to improve the sustainability and security of food, farming and the environment.

Article II. Water Management

The Two Parties affirm the importance of water management in promoting water use efficiency and protecting groundwater quality on natural and working lands. Water and agriculture are inexorably connected and within the context of a changing climate the agricultural sector will face many challenges including an increase in saline soils, sea level rise, reduced natural groundwater recharge, and the impacts of reduced precipitation (droughts) and increased precipitation (floods). The Two Parties further understand that issues of water management are intensified by a changing climate while global demand for food increases. The Two Parties, in cooperation, agree to: 1) further outreach and education on water management through participation in national and international forums; 2) encourage public-private research and investment in water management practices and technology; and 3) learn from each other’s policy development and implementation of water management practices by exchanging expertise and jointly encourage the development of public-private research programs e.g., to enhance the on-farm technical assistance provided to farmers and ranchers for water management.

Article III. Engagement with Other Parties in Furtherance of this LOI

The Two Parties support the ongoing academic collaboration between the University of California, Davis and Wageningen UR and encourage, by common decision of the Two Parties, individuals and entities from the academic, research, private, public, and other sectors, as well as other levels of government within the Netherlands and California, to support the cooperative activities described herein.

This Letter of Intent will become effective on the date of signature and is done in duplicate in the English language.

The Hague, December 10th, 2015

Karen Ross
Secretary for Food and Agriculture
State of California, United States of America

Martijn van Dam
Minister for Agriculture
the Netherlands
Australia;
Israel;

This trip provided a foundation for farm organizations, academia and other stakeholders to develop connections with businesses and academia in Israel to support the development and advancement of water reuse in agriculture and contribute to the discussion of climate smart agriculture in California.
MOU exist between California and Israel. Signed by Governor Brown in 2014

WHEREAS the Participants seek to expand the current level of cooperation between Israel and California in, but not limited to, alternative energy, environmental technology, health, food and agriculture and other technology based industry sectors, business innovation, research and development.

3. The Participants intend to support and encourage their people and competent authorities to further develop interpersonal contacts and exchanges and to promote mutual cooperation, understanding and friendship by encouraging ad hoc task forces, trade delegations and professional exchanges between Israel and California in key sectors including, but not limited to:
   a. Water Conservation and Management
   b. Alternative Energy and related Clean Technologies
   c. Health and Biotechnology Solutions
   d. CyberSecurity
   e. Arts & Culture
   f. Education
   g. Agricultural Technologies
Climate Change Analogues

Webinars

Information Sharing

Database (open source and access)

Technology innovations

Agricultural and environmental sustainability
The Binational Agricultural Research and Development (BARD) workshop brought together scientists, extension academics, stakeholders and policy makers with the focus on the future of water use in semi-arid agriculture and the policy and economics necessary for sustainability.

The workshop focused on two wide topics during the two days of formal sessions, followed by a one day field trip.

- Scientific developments and innovations that can increase the efficiency of irrigation with water from a variety of sources, without compromising the environment
- Energy efficiency and carbon and water footprints of agricultural systems
THANK YOU FOR YOUR ATTENTION

HOW CAN WE COLLABORATE?
HOW CAN WE HELP?

JOSH EDDY
josh.eddy@cdfa.ca.gov

AMRITH (AMI) GUNASEKARA, PhD.
Amrith.Gunasekara@cdfa.ca.gov