

The California Strawberry Industry: current trends and future prospects

Gerald J. Holmes

Director



California Polytechnic State University, San Luis Obispo



CAL POLY





Pres. Jeff Armstrong

Chairman Victor Ramirez

CAL POLY
SAN LUIS OBISPO

California
STRAWBERRY
COMMISSION

Mission: Increase the sustainability of California Strawberry growing through research and education that is aligned with grower needs.

Strawberry Center

Entomology

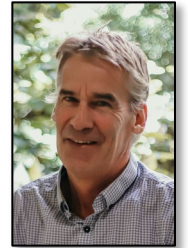
Pathology

Automation





Gerald Holmes
Director



Scott Steinmaus
PLSC Dept. Head

Automation



John Lin
Director of Production
Automation



Mojtaba Ahmadi
Senior
Automation
Engineer



Abbas Atefi
Senior
Automation
Engineer



Caleb Fink
Automation
Engineer



Will Kramer
Automation
Engineer

Operations



**Drew
Summerfield**
Farm Manager



Kyle Blauer
Field Research
Manager



Alison Stevens
Administrative
Coordinator



Julie Tillman
Acct & Comm
Coordinator

Entomology



Sarah Zukoff
Entomologist



**Jose
Alvarado Rojas**
Research
Associate

Pathology



**Shashika
Hewavitharana**
Plant Pathologist



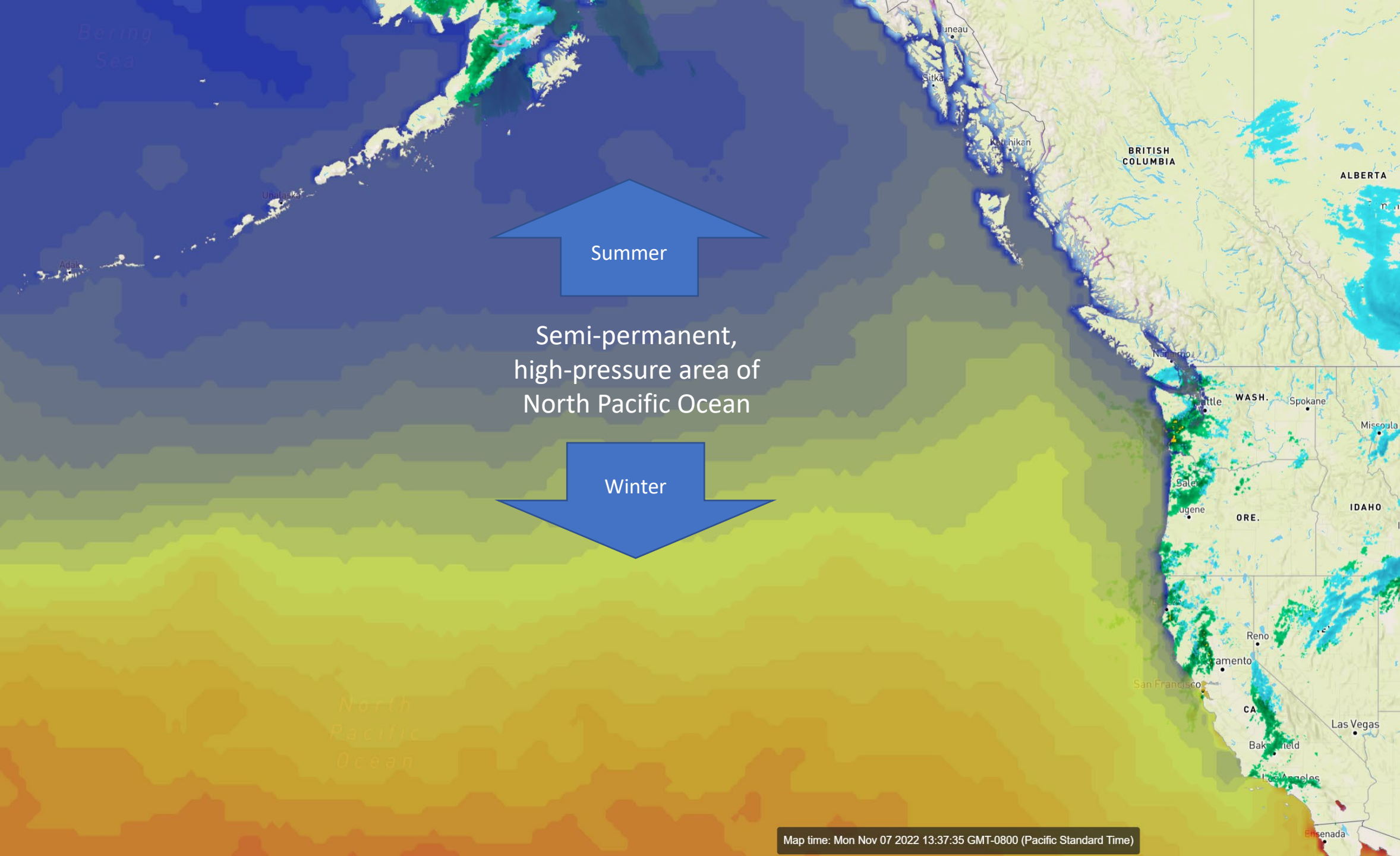
Vivian Longacre
Lab Technician
(part time)

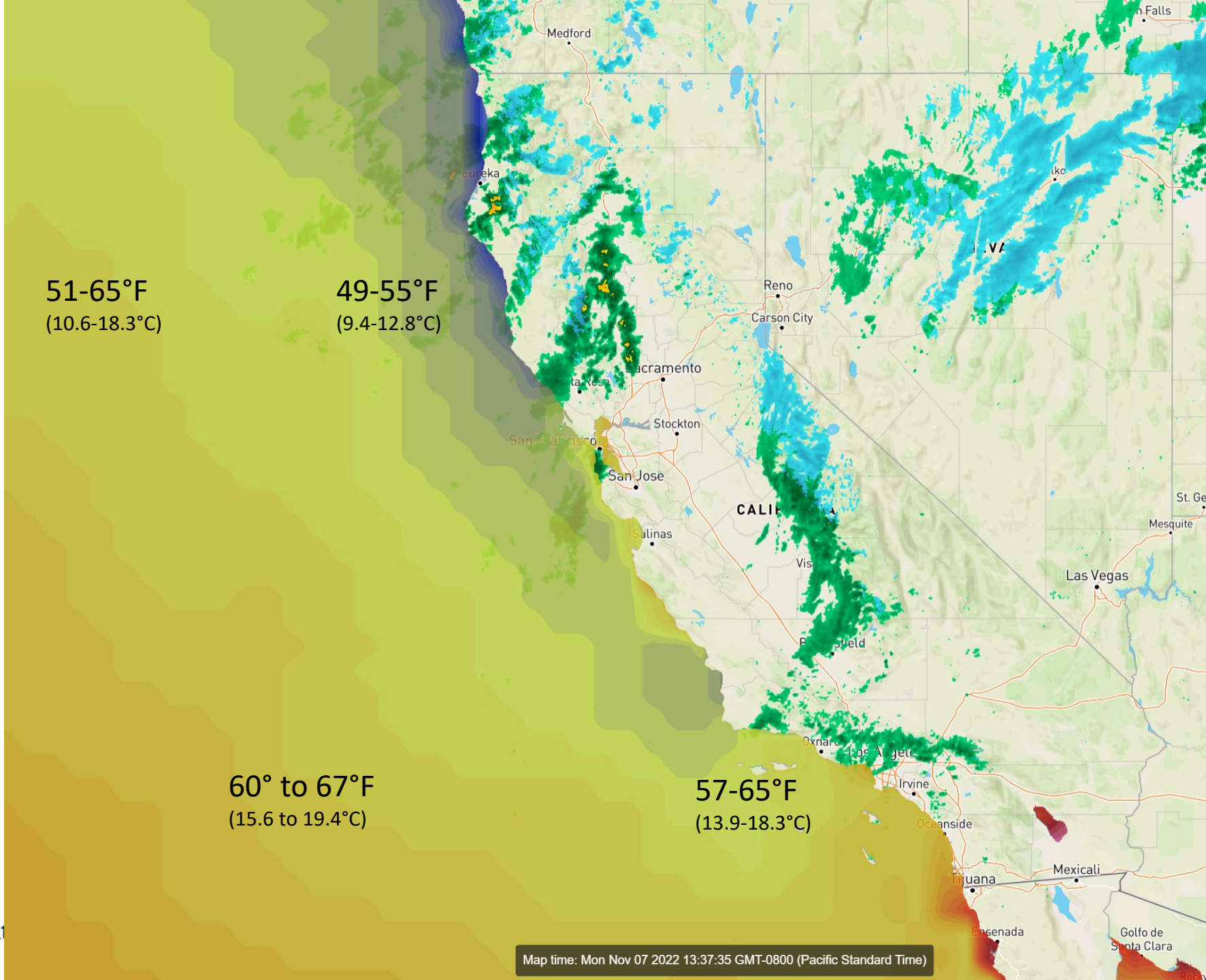


California's strawberry industry

- Climate & geography
- Value
- Acreage, production, yield
- Plant production (nurseries)
- Fruit production
- Cultural systems
- Processing
- Pests and diseases







CAL POLY
Strawberry Center

Map time: Mon Nov 07 2022 13:37:35 GMT-0800 (Pacific Standard Time)





High elevation
nurseries

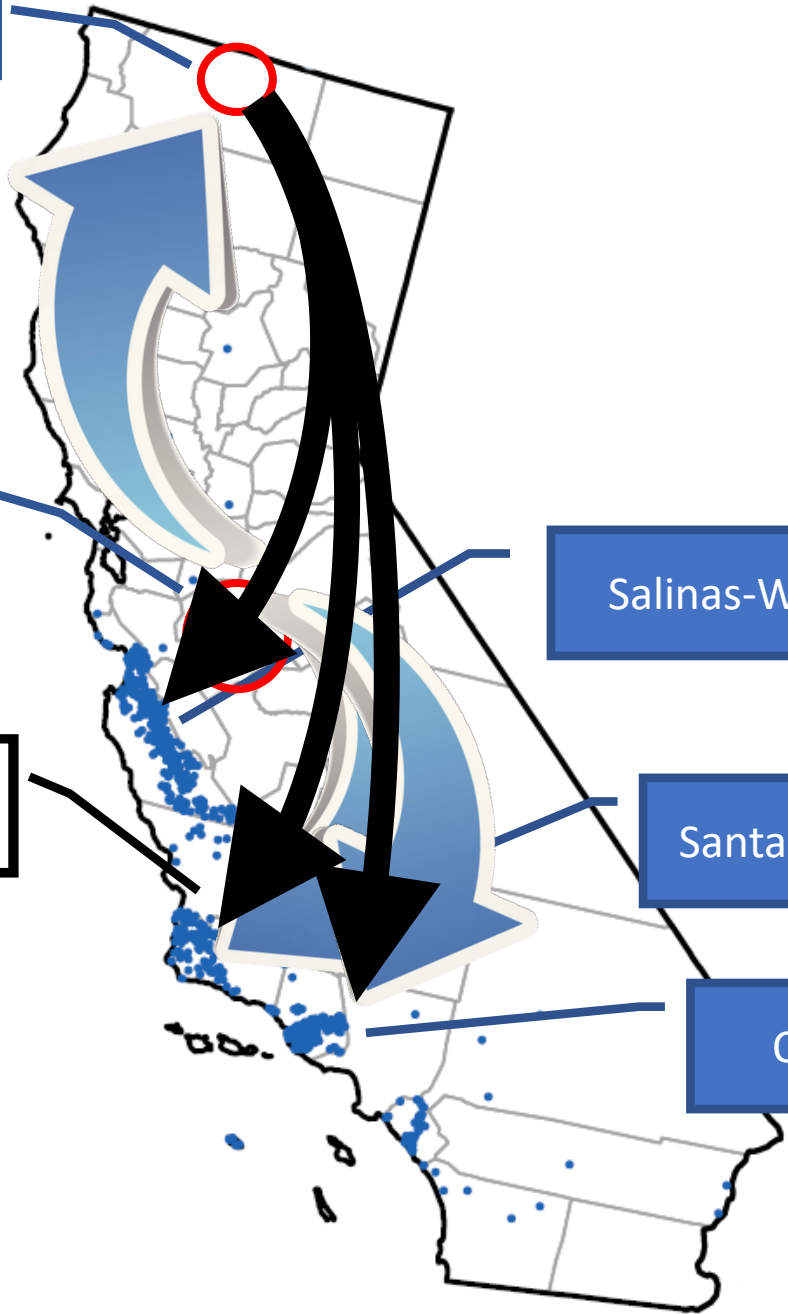
Low elevation
nurseries



Salinas-Watsonville

Santa Maria

Oxnard



CAL POLY
Strawberry Center



A wide-angle photograph of a vast agricultural field filled with rows of young green plants, likely seedlings in a nursery. In the background, a long line of small, temporary structures or stalls, possibly for workers or equipment, stretches across the horizon under a clear sky.

Plant Production (nursery)

4,021 ac (1,627 ha)

3,200 ac @ high elevation (4250 ft/1295 m)

800 ac @ low elevation

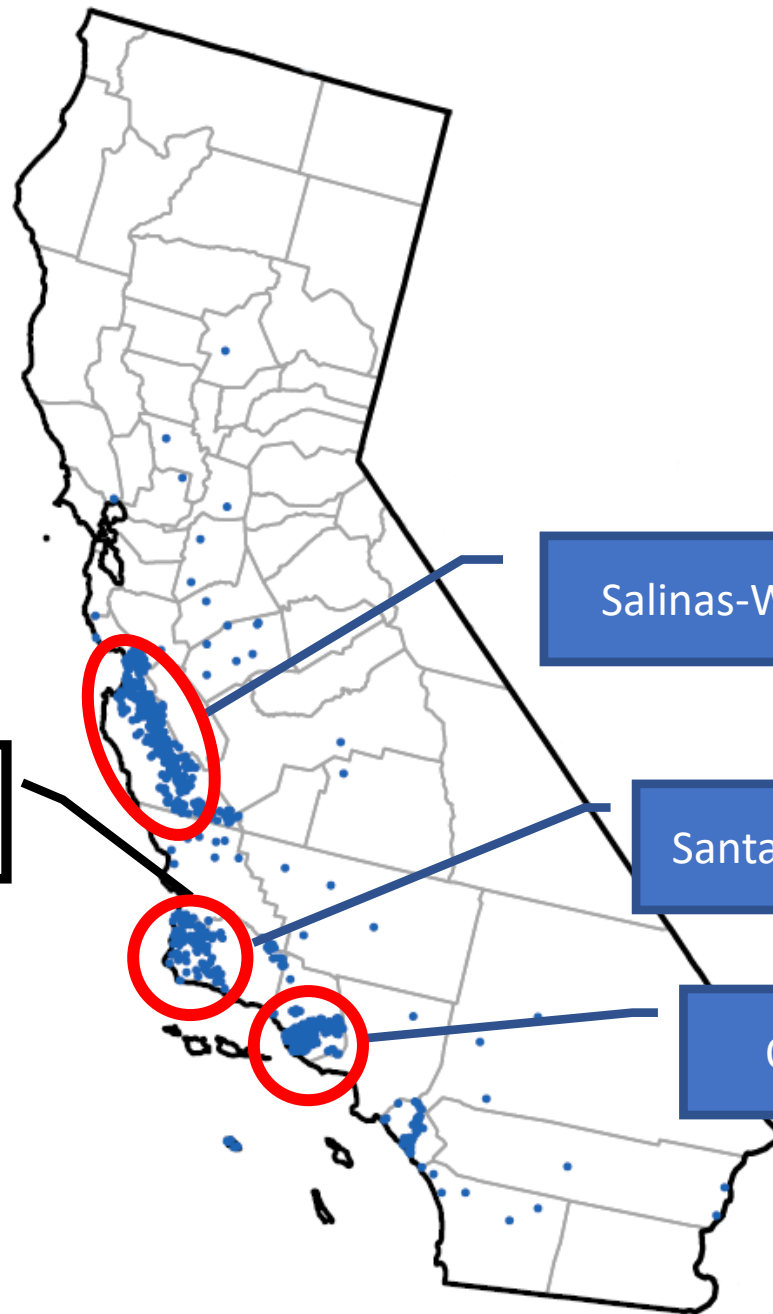


Plant production (yield)
~380,000 plants/ac

View video at:
<https://youtu.be/OdJiBTr921U>

A wide-angle photograph of a strawberry field. The rows of green strawberry plants are planted in neat, parallel lines that recede into the distance. The plants are lush and green, with some small red strawberries visible. The field is set against a backdrop of rolling, dry hills under a clear blue sky. In the far distance, a line of trees and some buildings are visible. The overall scene is bright and sunny, suggesting a clear day.

Fruit Production



Salinas-Watsonville

33%

Santa Maria

40%

Oxnard

27%



Fall + Summer
planting

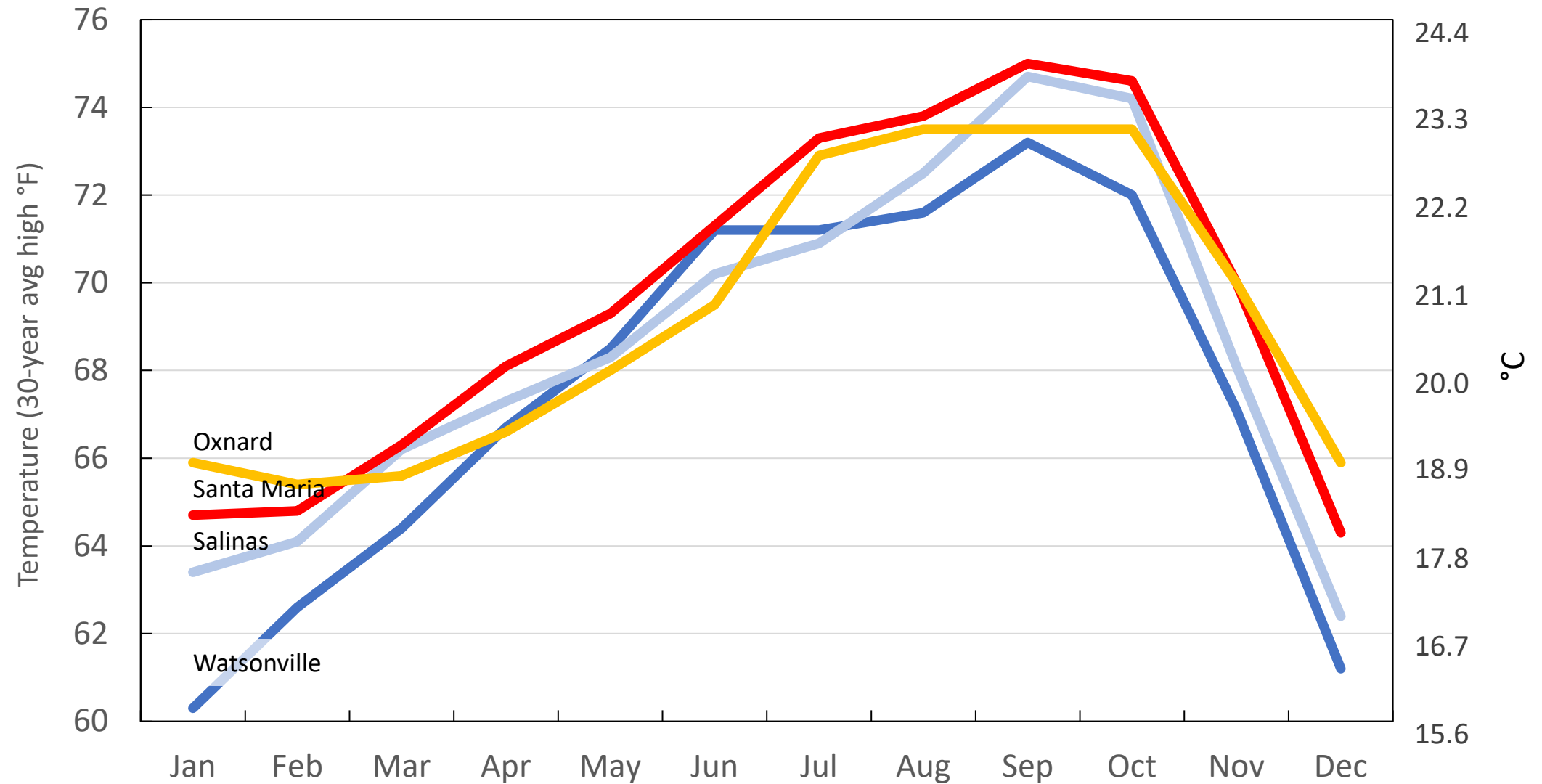
Total acres in 2023
41,570 acres



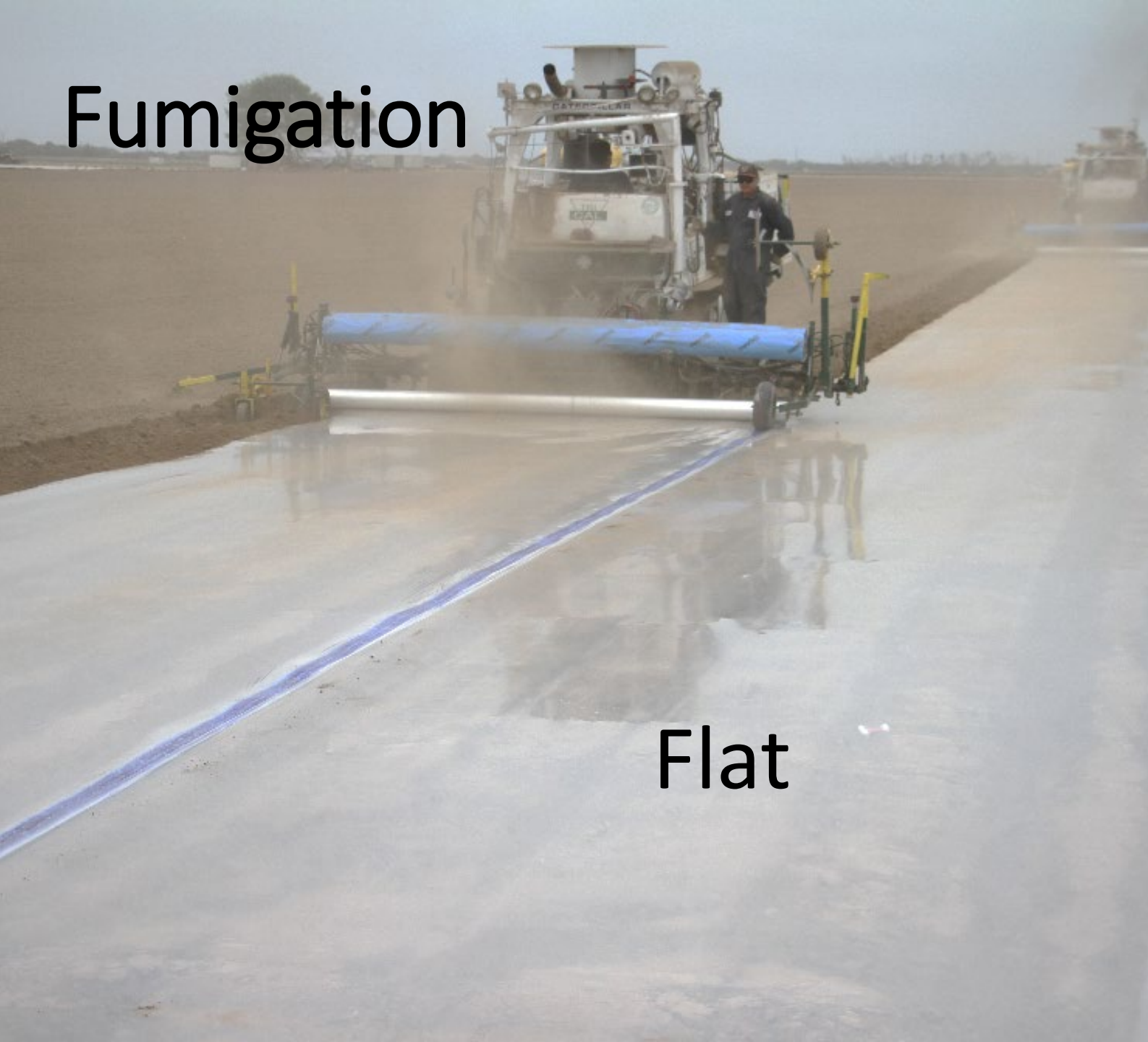
CAL POLY
Strawberry Center



30-year average high temperature



Fumigation



Flat

Drip



Production system



Southern Districts: Santa Maria and Oxnard

~26,000 plants/acre



Northern District: Salinas - Watsonville

~18,000 plants/acre





Harvesting



Mercado



"Clifford"



Harvest Pro

Harvest aids



Robotic harvesting





Plastic mulches

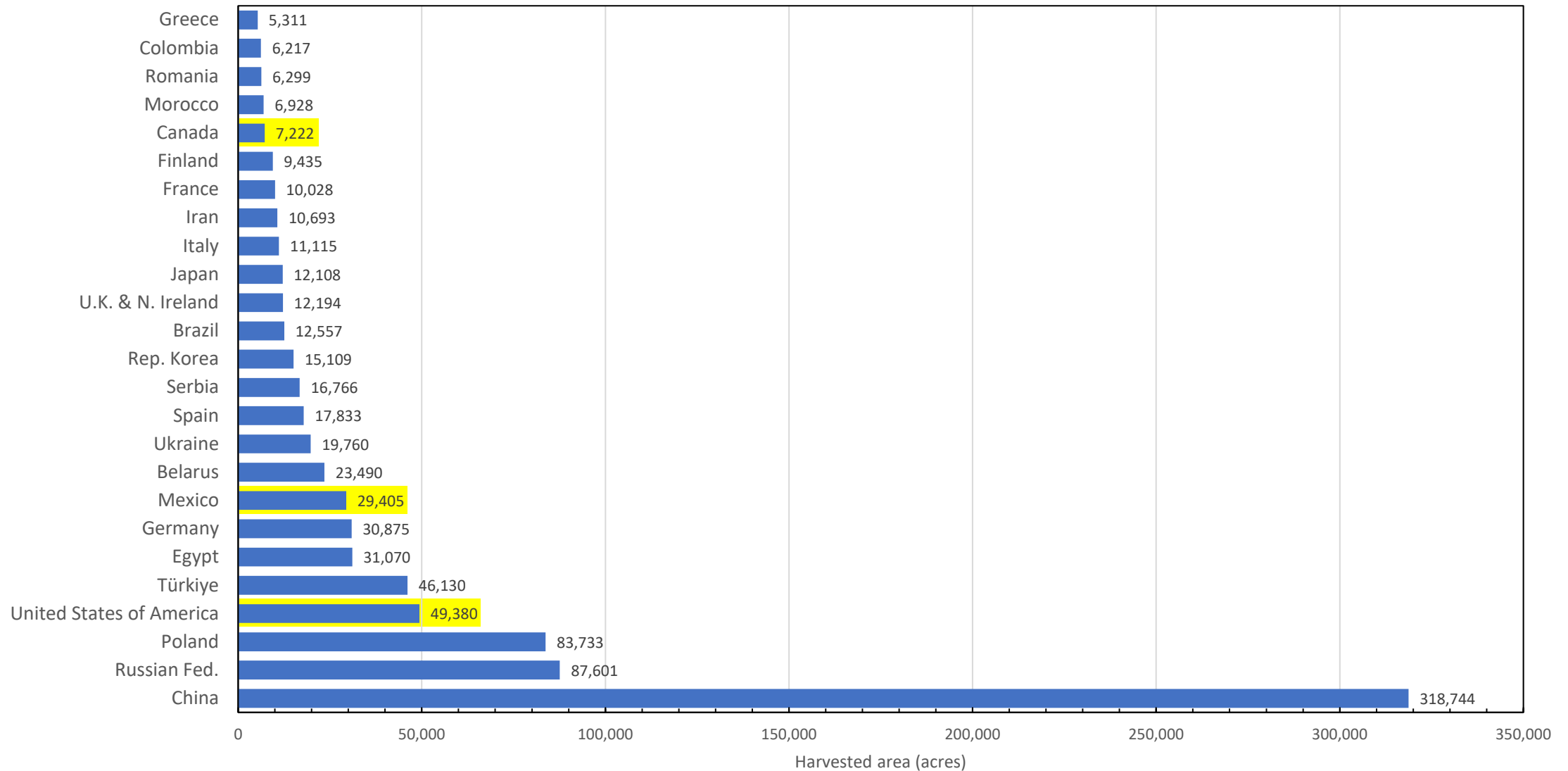


Table Tops

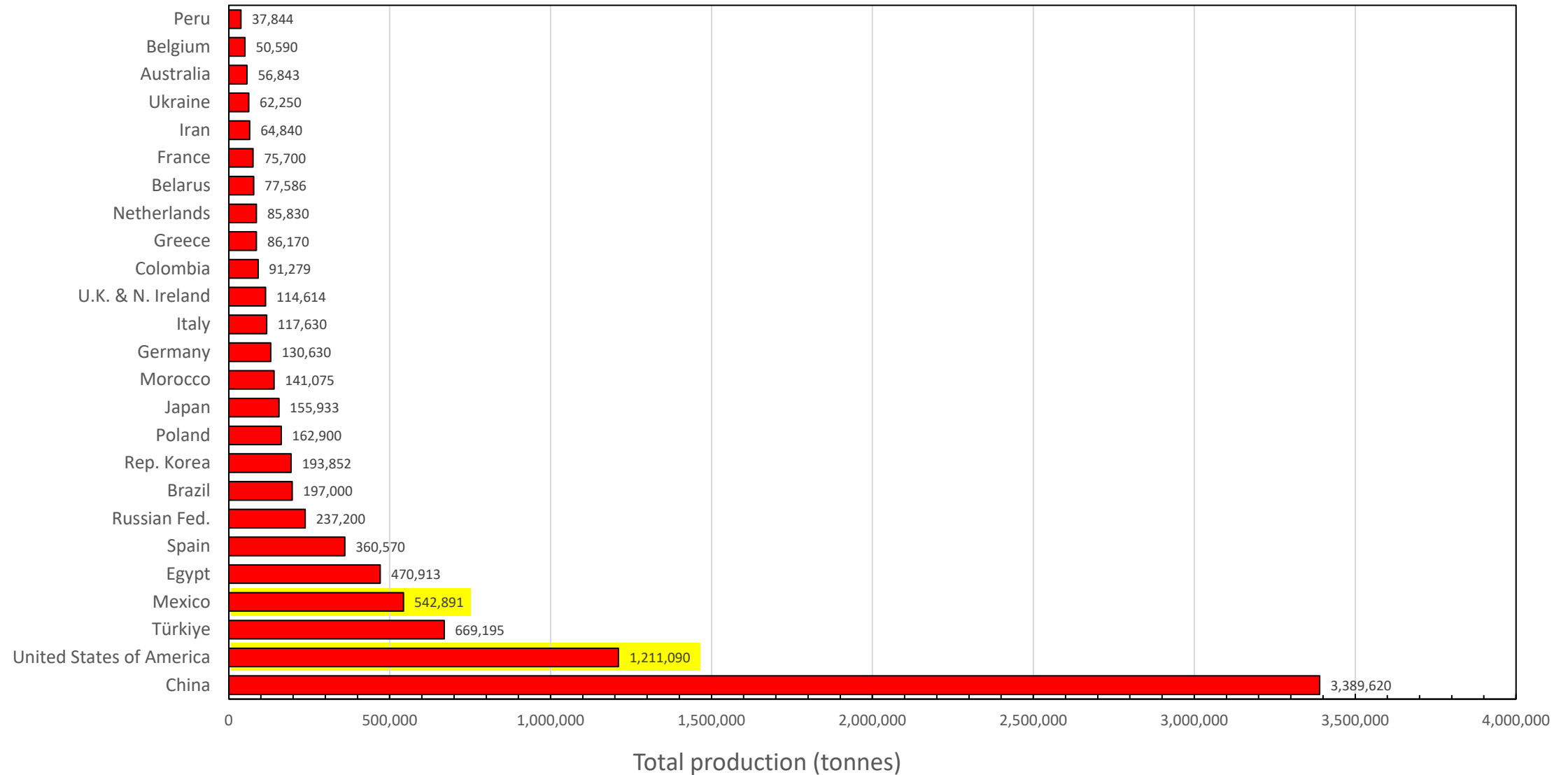
Production & yield



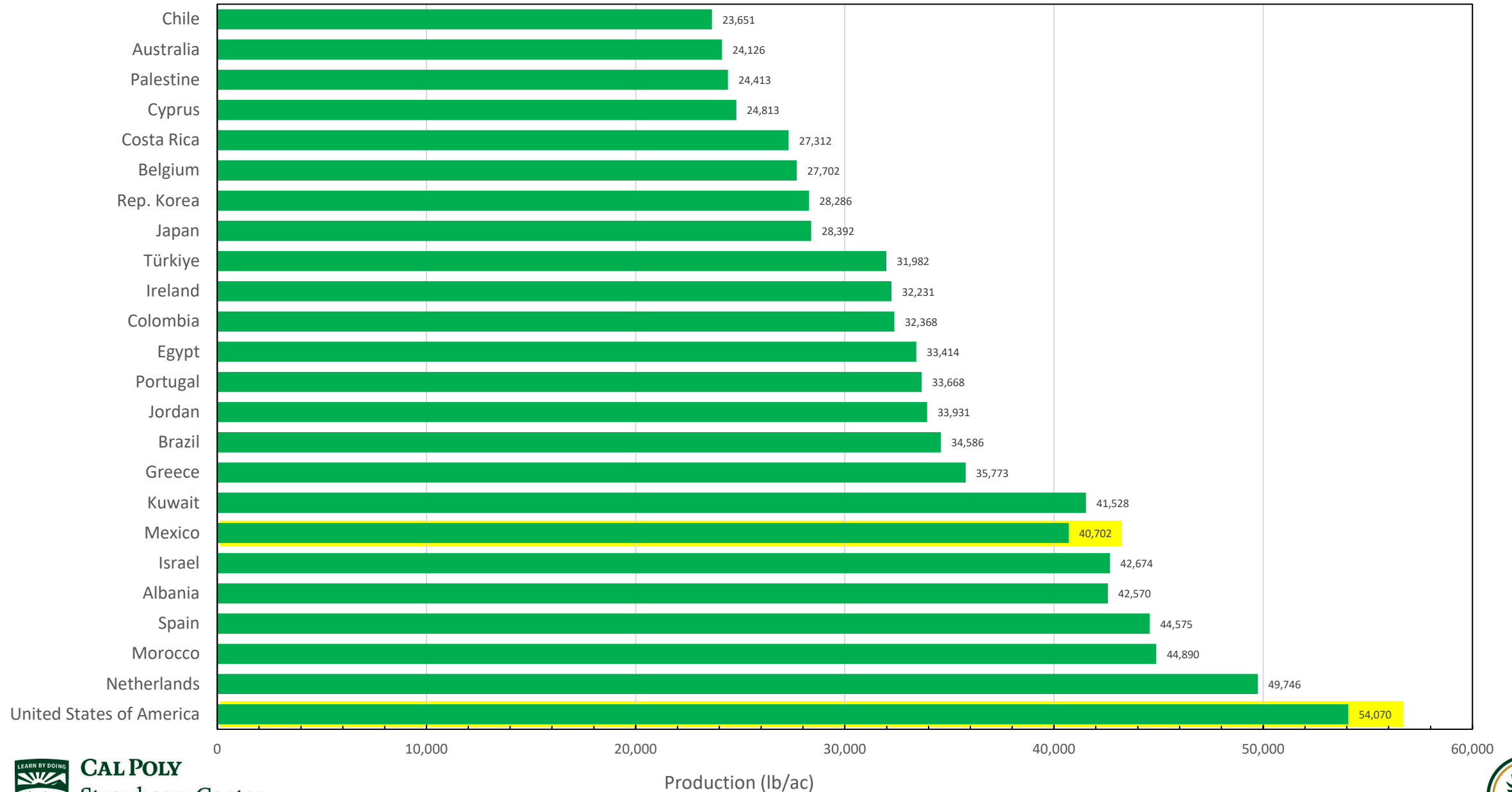
Harvested area (acres)



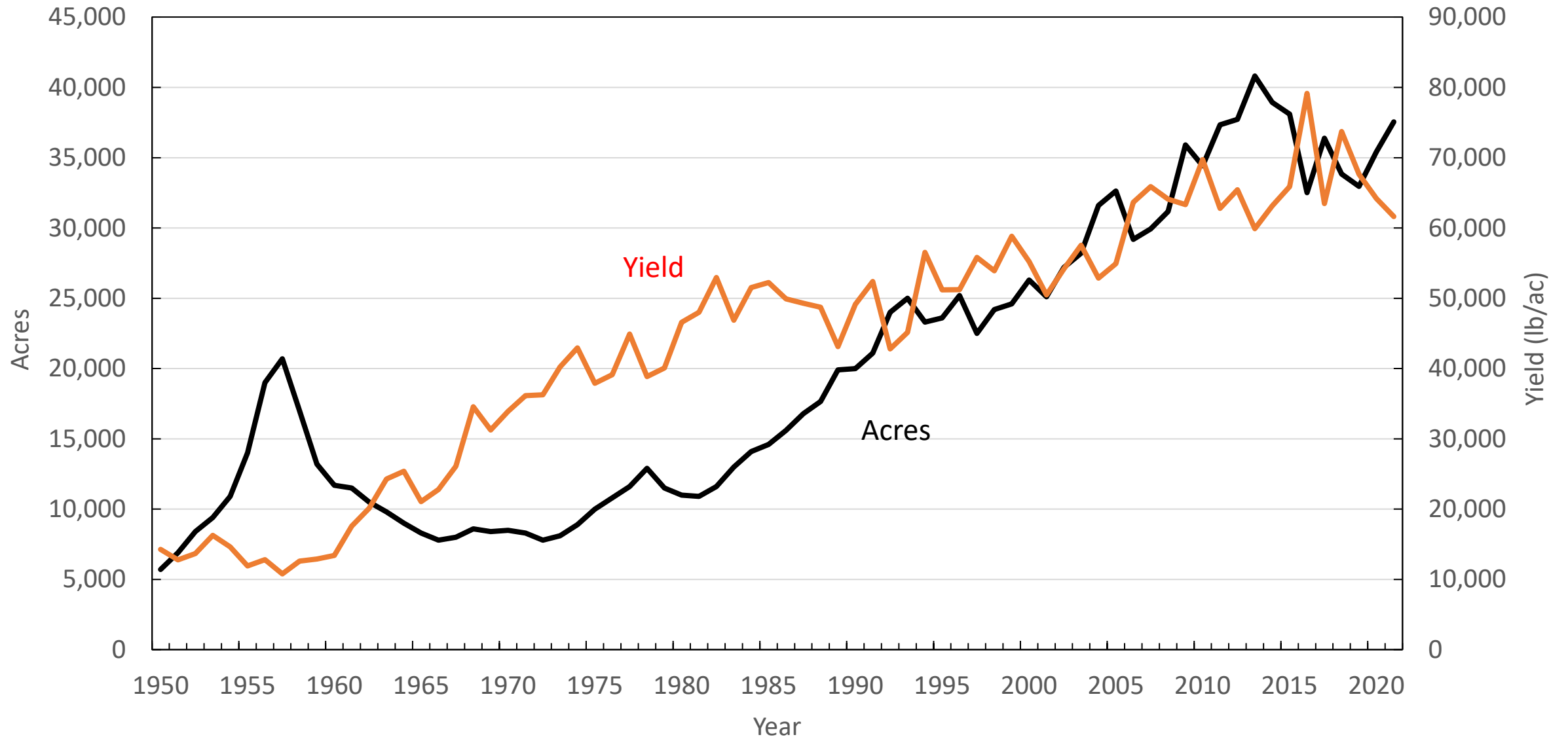
Total production (tonnes)

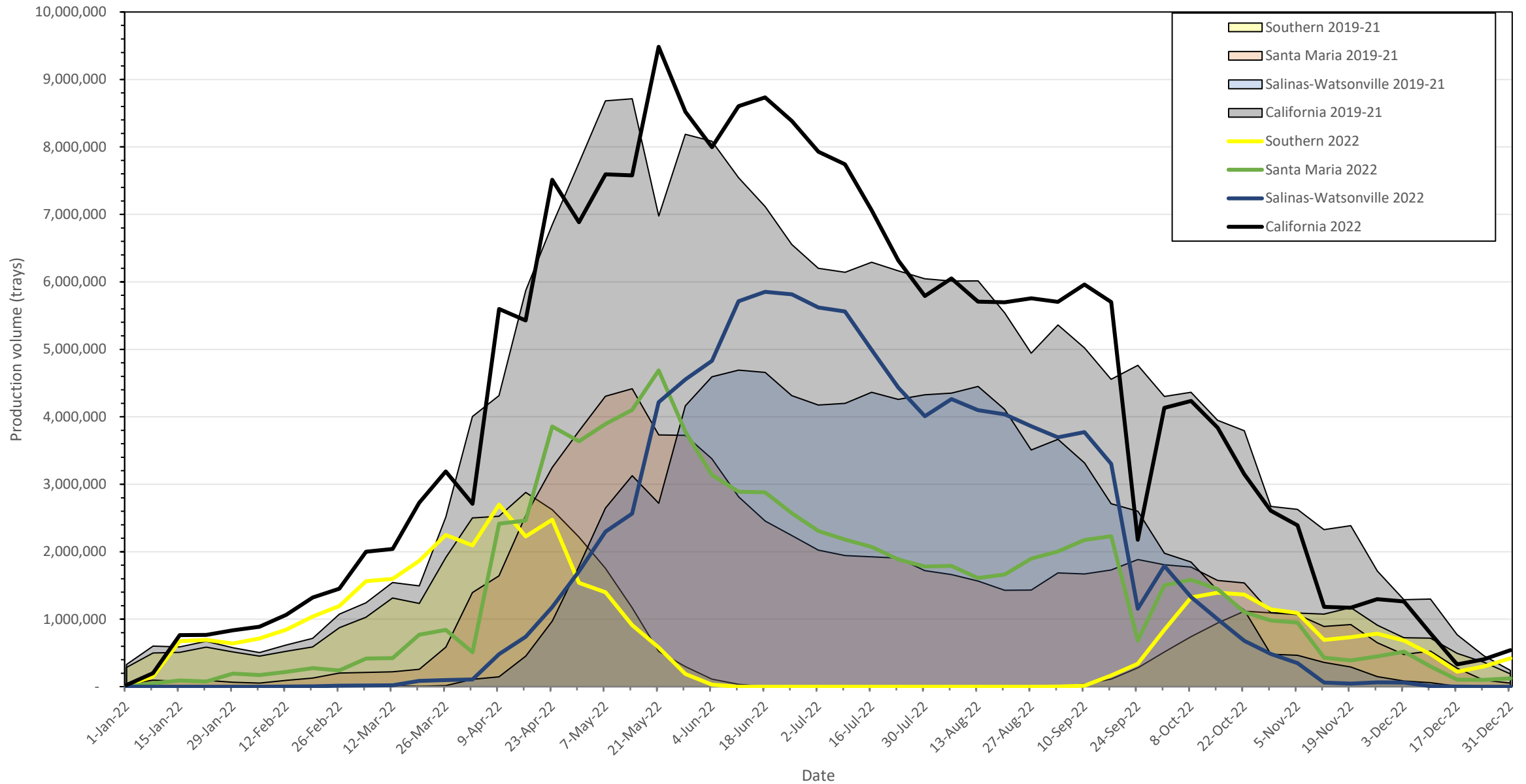


Production (lb/acre)

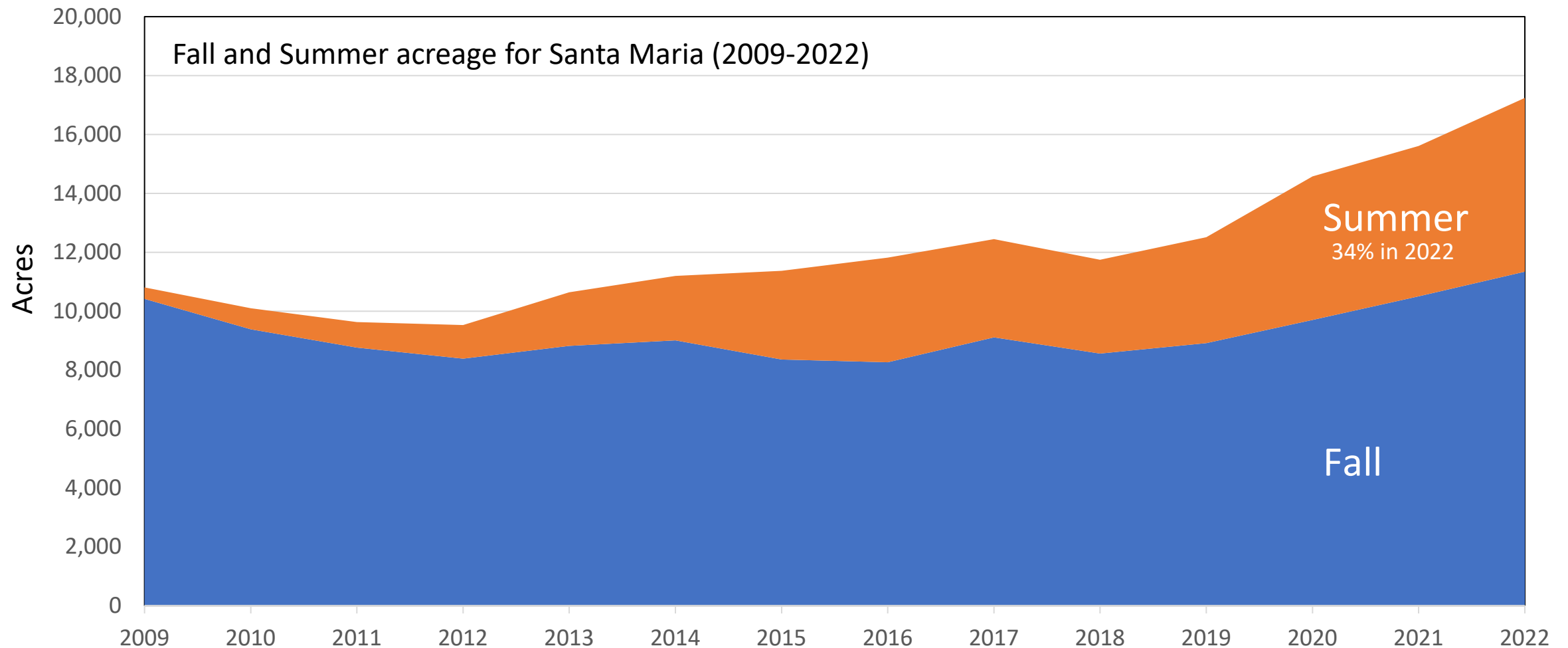


California acres & yield





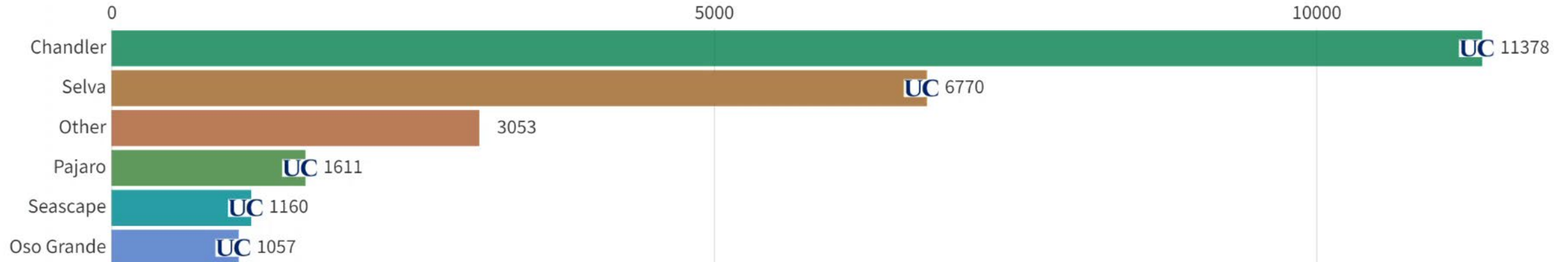
Planting timing (Fall and Summer)





California Strawberry Varieties (acres planted)

1993 to 2023



1993
Total: 25029

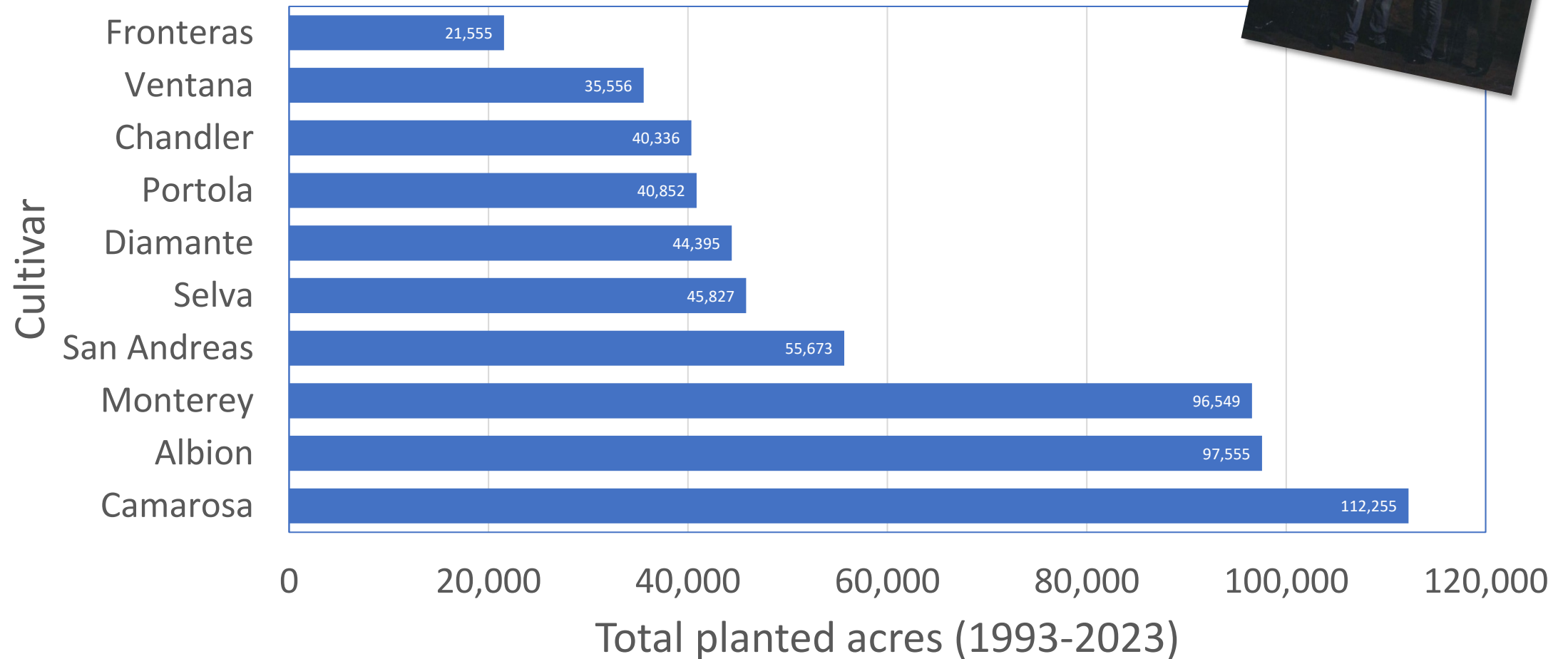
View full video at: <https://youtu.be/Jxu-S5Vlo04>



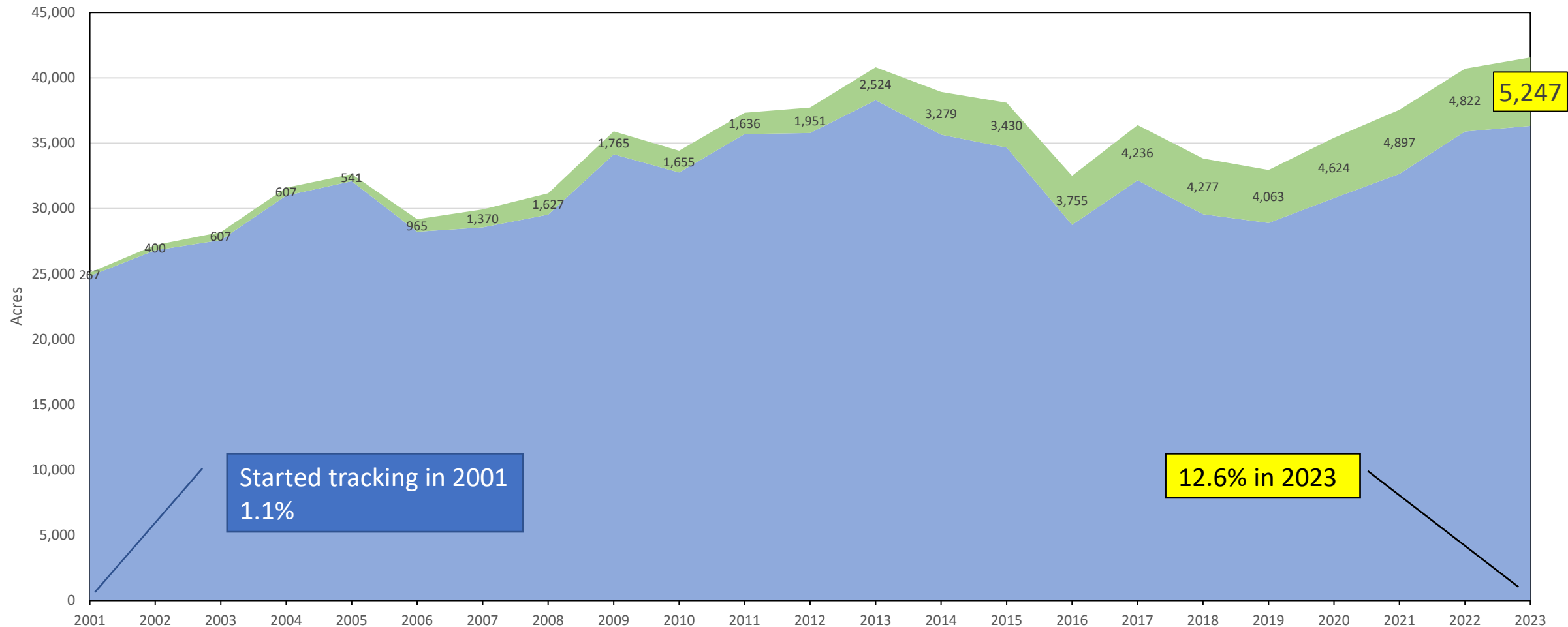
1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022

Source: [California Strawberry Commission Acreage Surveys](#)

Greatest hits (top 10 cultivars)



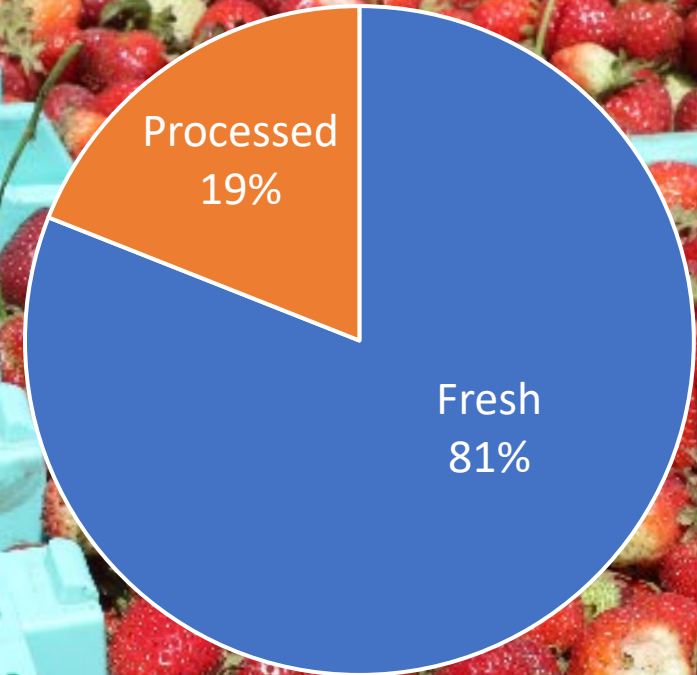
Organic acreage



Processing

- Fresh is the goal
- 13 processing plants in CA
- Products
 - Concentrates
 - IQF (individually quick frozen)
 - Purees
 - Juice stock

6-year average
(based on harvested wt.)



Pests & diseases



Lygus hesperus



Twospotted spider mite




Spotted wing Drosophila



Other arthropod pests

- Whitefly
- Aphid
- Thrips
- Cutworms





Rhizopus rot



Botrytis fruit rot



Powdery mildew

Verticillium wilt



Fusarium wilt

Race 2



Root Rots & Vascular Wilts



Phytophthora root rot



Macrophomina root rot

Other disease concerns

- Anthracnose (occasional)
- Neopestalotiopsis (not yet)
- Viruses (occasional)
- Root-knot nematodes (rare)





California Unveils Plan to Eliminate High-Risk Pesticides by 2050

Yesterday, the state joined leaders from a diverse range of backgrounds to unveil a roadmap of ambitious goals and actions to accelerate California's systemwide transition to sustainable pest management and eliminate prioritized high-risk pesticides by 2050 to better protect the health of our communities and environment, while supporting agriculture, food systems and community well-being...

- 2025: review process prioritizes and expedites alternative products to high-risk pesticides
- 2050: Eliminate use of Priority Pesticides and transition to sustainable pest management practices
- Require all PCAs to become trained in SPM



Other issues

- Water
- Fumigation regulation
- Plastic disposal
- Urban encroachment
- Labor



For additional information

- Website: <https://strawberry.calpoly.edu/>



- YouTube channel:

- <https://www.youtube.com/@calpolystrawberrycenter>



- Blog: <https://strawberrycenterblog.com/>



- LinkedIn



- Facebook:



- Instagram:



CAL POLY
Strawberry Center





Contact information:

Email: gjholmes@calpoly.edu

Office: 805-756-2120



CAL POLY
Strawberry Center

