Future of Food
Transformation and Inclusive Economic Development

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Vice President, UC ANR
May 20, 2021
UC Cooperative Extension
- 158 Advisors conduct research in local communities
- 350 Community Educators delivering programs
- 120 campus/county-based Specialists

Research and Extension Center System
- Nine locations statewide; 13,000 acres
- Over 375 research projects annually

Agricultural Experiment Station
- 540+ researchers on 3 campuses
- 1,300+ research projects annually

Over 26,500 volunteers contribute 1,144 FTE — the equivalent of $71 million in donated public service each year
Agriculture and Food Systems Face Huge Challenges

- Climate Change
- Less Arable Land
- More & New Pests
- Drought
- Substandard Nutrition & More Disease
- Lack of Labor
- Food Safety & Food Waste

Shifting Consumer Preferences & Supply Chain Fails
Food Supply Chains in Chaos: Empty Shelves, Crops Wasted

Grocery Stores
+27%
March 2020

Food Service & Drinking
-25%
March 2020
The 2018 California Economy

$4,015,337,714,945 — just over $4 Trillion

$333 Billion Sales
- Agriculture: $263.5 B
- Mining: $32.2 B
- Forestry: $23.2 B
- Outdoor Recreation: $6.3 B
- Renewable Energy: $5.9 B
- Fishing: $1.7 B

1.5 Million Jobs

$85 Billion Earnings

SOURCE: Report by California Community Colleges Centers of Excellence using 2018 data from the North American Industry Classification System (NAICS)
California’s Agricultural Sectors
$264 Billion in Direct Sales in 2018

<table>
<thead>
<tr>
<th>Segment</th>
<th>Number of Jobs</th>
<th>Earnings</th>
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</thead>
<tbody>
<tr>
<td>Agricultural Production</td>
<td>325,231</td>
<td>$16.2</td>
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<tr>
<td>Agricultural Support</td>
<td>319,961</td>
<td>$17.9</td>
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<tr>
<td>Agricultural Distribution</td>
<td>304,199</td>
<td>$17.8</td>
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<tr>
<td>Agricultural Processing</td>
<td>244,399</td>
<td>$16.1</td>
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UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources
Opportunities for Synergy & Leveraging
Elements of an Economic Ecosystem

WORKFORCE & TRAINING

TRADE / NEW MARKETS

INFRASTRUCTURE

SUPPLY CHAINS

ACCESS TO CAPITAL

RESEARCH AND INNOVATION
Catalyzing Collaboration on Ag + Food + Health Innovation

178 Cooperative Extension Researchers and Farm Advisors in 57 counties across the state

9 Research and Extension Centers spanning all relevant climate zones
$20 Million Grant Received from USDA NIFA and NSF

...empower the next generation to produce and distribute sustainable, nutritious food with fewer resources through transformative AI technologies

Molecular Breeding  Agricultural Production  Processing & Distribution  Nutrition

...and the people behind it

...with AI and technology as an enabler
Eureka’s Redwood Acres Fairgrounds – an Innovative Business Incubator – Currently the Home of Over 15 Business
Building the Future of Agriculture, Food, Nutrition & Health

**Food 1.0**
19th Century
- Basic food safety begins
- Early industrialization of product manufacturing
- Scientific understanding of agriculture grows

**Food 2.0**
20th Century
- Nutrition science constantly changing
- Shelf-life extended & more processing
- Globalization of brands & supply chains
- GMO's, inputs & mechanized agriculture
- Globalization of obesity & diabetes
- Calorie security but NOT nutrition security

**Food 3.0**
21st Century
- Precision nutrition: food-for-health
- Supply chain integrity & traceability
- Sustainable agricultural production
- Caloric & nutritional security
- Decreased food waste
- Connected farmers & consumers