Issues Driving the Outlook for Specialty Crops

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Outline of topics

• Core economic drivers:
  – global income patterns,
  – demographic changes,
  – consumer and activist trends

• Weather (year to year) and climate (long term)

• Policy: International, National, State, Local
  – Opening of markets and subsidies elsewhere
  – Subsidies for program crops,
  – Crop insurance,
  – Regulations (including greenhouse gas policy), water, labor, air quality, water quality, etc.
The University of California
Agricultural Issues Center

• AIC mission: provide broadly-based and objective information on agricultural issues and their significance for California
• We study a variety of practical topics with an emphasis on public policy and economic concerns
• A small staff that draws on researchers from throughout the UC system and beyond and a half dozen associate directors
• An active and committed advisory board
• Located at Davis since 1986
• http://aic.ucdavis.edu/
The Measure of California Agriculture

An AIC compilation of useful statistics from various sources for those interested in California agriculture and its role in the economy
"How do you want it — the crystal mumbo-jumbo or statistical probability?"
Most important take-away messages

• Current economics of specialty crop agriculture are driven by weather, exchange rates, policy and slowly evolving economic trends of technology, demographics and economic development.

• But, besides our commodity specific and local issues, national and global cross-commodity issues affect specialty crop agriculture.

• None of these drivers are easy to forecast.

• Anyone who claims crystal ball is either fooling themselves or trying to fool you.

• So, decisions must be made, but they cannot be made with certainty, so pay attention to long term risk management and hold on to your wallet.
California cash receipts and acreage, by commodity grouping

**Cash receipts**
- Dairy: 16%
- Other livestock: 10%
- Fruits: 23%
- Tree nuts: 14%
- Vegetables and melons: 19%
- Nursery/greenhouse: 10%
- Grains and cotton: 9%
- Hay and forage crops: 19%

**Acreage**
- Hay and forage crops: 19%
- Grains and cotton: 38%
- Fruits: 15%
- Tree nuts: 13%
- Vegetables and melons: 9%
- Nursery/greenhouse: 0.004%
Geographic diversity of tomato acreage

• Most tomato acreage is for processing tomatoes

• Tomato acreage is mainly in the Central Valley from Chico to Bakersfield

• Production takes place in several different climate zones
Index of real prices of wine grapes, lettuce and almonds
Index of total production, acreage and inflation-adjusted (real) value of principal California agricultural commodities, 1960-2008
Historical maximum average temperature in summer and winter months for the period of 1909-2008 for Davis, CA.
Historical minimum average temperature in summer and winter months for the period of 1909-2008 for Davis, CA
California agricultural exports to the top 10 destinations, by value, 2011

- **Canada**: 24%
- **EU-27**: 16%
- **China/Hong Kong**: 12%
- **Japan**: 10%
- **Mexico**: 6%
- **South Korea**: 5%
- **United Arab Emirates**: 2%
- **Turkey**: 2%
- **Taiwan**: 2%
- **India**: 2%
- **Rest of the World**: 18%

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<table>
<thead>
<tr>
<th>Produce</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grapes, all</td>
<td>27 %</td>
</tr>
<tr>
<td>Almonds</td>
<td>72 %</td>
</tr>
<tr>
<td>Lettuce</td>
<td>10 %</td>
</tr>
<tr>
<td>Strawberries</td>
<td>12 %</td>
</tr>
<tr>
<td>Hay</td>
<td>7 %</td>
</tr>
<tr>
<td>Tomatoes, processed</td>
<td>14 %</td>
</tr>
<tr>
<td>Walnuts</td>
<td>45 %</td>
</tr>
<tr>
<td>Cotton</td>
<td>96 %</td>
</tr>
<tr>
<td>Oranges</td>
<td>38 %</td>
</tr>
<tr>
<td>Rice</td>
<td>40 %</td>
</tr>
</tbody>
</table>

Olive oil: About zero exports and 97% imports!

*Source: Agricultural Issues Center, Ca Export Data*
World population is now 7 billion and will reach 8.2 billion by 2030.

U.S., China and India population, with projections until 2030.
World map weighted by population in 1960

Total population = 3.04 billion
World map weighted by estimated population in 2050

Total population (est.) = 9.07 billion
China’s population by age, 2011 and 2050 (projected)

Population: 1.34 billion in 2011

Population: 1.30 billion in 2050
Real Gross Domestic Product (GDP), with projections

- **World**
- **Developed economies less USA**
- **United States**
- **Developing economies**

$trillions

- 1980
- 1982
- 1984
- 1986
- 1988
- 1990
- 1992
- 1994
- 1996
- 1998
- 2000
- 2002
- 2004
- 2006
- 2008
- 2010
- 2012
- 2014
- 2016
- 2018
- 2020
- 2022
- 2024
- 2026
- 2028
- 2030

$ billions
World map weighted by GDP in 1960
Consumer-side regulations for production and processing

- Food safety ... New federal law not yet implemented
- Drive for labeling COOL

Generally the demand for more label data even if it contains no information.
“Let’s never forget that the public’s desire for transparency has to be balanced by our need for concealment.”
The GMO issue is still alive

• Every badly designed survey confirms that consumers want and assert the “right” to know what is in their food.

• We know labels can be misleading
• And labels are not free

• And, segregations and traceability have large costs in any operation with any scale.

• But, it seems free to activists, if not to actual buyers.
“Local” can be a profitable niche for some

• When “local” provides useful data on seasonality or freshness or some other interesting characteristic it provides added value.

• When it becomes a political driver to block comparative advantage, “local” can be costly to sellers and buyers.

• Most environmental or sustainability claims about local have no support in the data.

• And, of course, when fashion and Political Correctness take over, real buyers can become overwhelmed.
Some Consumers are paying for added services and information with their food, other are not so sure.

“We think it’s terribly important that you meet the people responsible for the food you’re eating tonight.”
Adaptation of Specialty Crops to Climate Policy

• NOT effects of agriculture on climate change or the effects of climate change on agriculture.
• Our focus here is on the effects of climate policy on and specialty crops adaptation to policy.
• Facilities that emit more than 25,000 tCO2eq must report their emissions to ARB and face a cap under AB 32.
• Emissions from many food processing plants (tomato processing, dairy butter/powder plants) meet the threshold and have been “capped”.
• They must adjust or pay for credits.
• Moreover, input prices for fuel, fertilizer and other goods will become more expensive.
AFFECTED AG-RELATED FACILITIES

- Some well known names:
  - CDI, Hilmar and other dairy plants
  - Anheuser-Busch breweries, Gallo winery
  - Spreckels sugar, Olam tomato processing
  - Liberty and Ingomar packing plants

- Over 40 ag-related facilities produced about 1.6% (1.9 million tons) of all reported emissions in 2010\n
- Fruit and nut processing plants don’t yet qualify, but when cap is lower...

- But costs rise with higher energy costs, and

- Effects on the relative economics of alternative crops. A drop in tomato prices relative to tree crops, fewer cows, less hay and more acres of other crops.
WELL KNOWN: EVEN AN EFFECTIVE AB 32 MAY INCREASE GLOBAL AGRICULTURAL GHG EMISSIONS

- Agricultural markets are global and Californians will continue to consume food
- Raising costs here shifts food production out of state,
- Production practices elsewhere are often *more* land intensive and therefore more GHG intensive per unit of output
- Thus reducing GHG emission here along with less output here would not reduce *global* emissions unless it raises costs enough that people eat less food or less GHG-intensive foods
Current “farm safety net” programs

Projected avg. current program outlays FY2012-FY2021: $15.2 billion/yr

Commodity programs
  • Direct government payment ($5 billion per year)
  • Price-based payments for eligible commodities
    (about $1 billion per year)

Risk management (about $8 billion per year)
  • Federally subsidized insurance for yield shortfalls
  • Federally subsidized insurance for revenue shortfalls

New “Farm Bill” Programs
  • Make commodity programs similar to insurance (or in the case of cotton actually insurance)
Government costs of U.S. crop insurance, 2012 through the roof

- Total government costs
- Premium Subsidy

Billion dollars
California participation in U.S. crop insurance

- **Net Acres (millions)**
- **Liabilities (billion $)**
- **Policies Sold (thousands)**

Chart showing trends from 1995 to 2011 for Net Acres, Liabilities, and Policies Sold, with specific line and bar data points.
Thank you.
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www.aic.ucdavis.edu