Production System Changes: Where Are We Going And Why

Richard Smith, Farm Advisor
University of California Cooperative Extension
Monterey County
What Will Agriculture in the Salinas Valley Look Like in 10 Years

• Will it be more or less as it is now?
• What will be the result of
  – Economic pressures
  – Regulatory pressures
  – Resource availability
  – Societal demands
Current Trends

- Increase in cost of labor
- Decrease in the availability of labor
- Increased costs of inputs (water, fertilizer, pesticides, etc)
- Increased cost of and competition for land
- Uncertainty over water availability
- Increased cost of transportation
- Increased concerns over food safety
- Need to intensify the use of land to cover costs
- Increased regulations regarding water use, water discharge, air quality, pesticides, etc
- New developments in technology which may help offset labor shortages
Other Issues

- Climate Change
- Changes in the market
- Foreign and domestic competition
- Pesticide regulations
- Disaster
- Drought
- Changing societal wants/needs
  - Do people need lettuce and strawberries
- Self contained water supply from two reservoirs to the south
- Salinas River drains into the MBNMS
- Intensive crop production with high water, fertilizer and pesticide use
- Distinct, but limited crop rotations
What Do I Know About the Future of Agriculture???

- My fortune teller said there were three sure things in the future “death, taxes and weeds”
Things that May Change Salinas Valley Agriculture in the Near Future

- Resource use efficiency
- Land intensification
- Labor saving technology
- Water quality regulations
Resource use efficiency

• More use of drip irrigation
  – Irrigation based on ET and soil characteristics

• More efficient use of fertilizers
  – Fertilizer use based on soil test
  – Living closer to the edge of deficiency

• Cycling of nutrients on farmland
  – Composts, manure, etc
    • Food safety concerns
• Expansion in the acres of drip
• Germinate crops with drip
Increased use of soil tests to manage N & P for water quality concerns
In addition to water quality concerns, economic concerns may change the way nutrients and water are used.
More on Nitrogen Fertilizer

• 100\textsuperscript{th} anniversary of the Haber Bosch process in 2009
• \textit{Enriching the Earth}
  – By Vaclav Smil
Land Intensification

- More profitable crops based on market demands
- Increase in number of crops per season
  - Uses of transplants
Wholesale change to 5-6 seedlines and dense plantings on 80-inch beds
Use of transplants

- Cauliflower
- Pepper
- Celery
- Lettuce
- Broccoli

Lettuce and broccoli are not currently transplanted.
Labor saving technology

- New technology on horizon
- Thinning/weed
- Harvest machinery
- Transplanters
Mechanical Harvesters
Mechanical Transplanter
Water quality regulations

- Changes in the use of pesticides
- More restrictions on discharges from agriculture
Water quality regulations regarding discharge of pesticides, nutrients, and sediments
Winter Strategies

- Cover crops
- Effective winter rotations

Need for cultural practices to reduce water impairments
Other Considerations that Will Shape Salinas Valley Ag
Food Safety
Energy
• The changes that come may be a gradual extensions of the changes and trends that we now see
• There could also be dramatic changes due to unforeseen circumstances
• Growers generally will not change unless the change is to their advantage or forced due to regulation or economics
• UCCE is very much involved with many of these issues