

# This presentation premiered at WaterSmart Innovations

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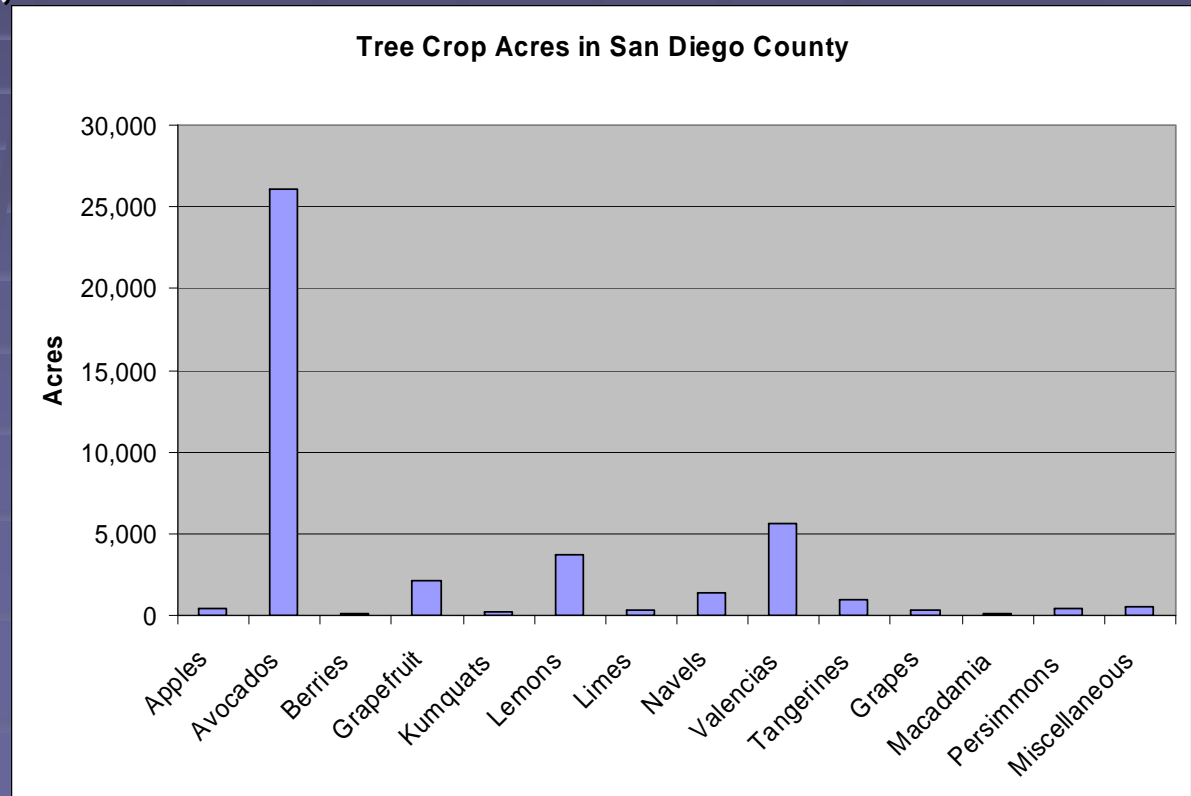


# Dealing with a 30% Cutback in Irrigation Water for Avocados

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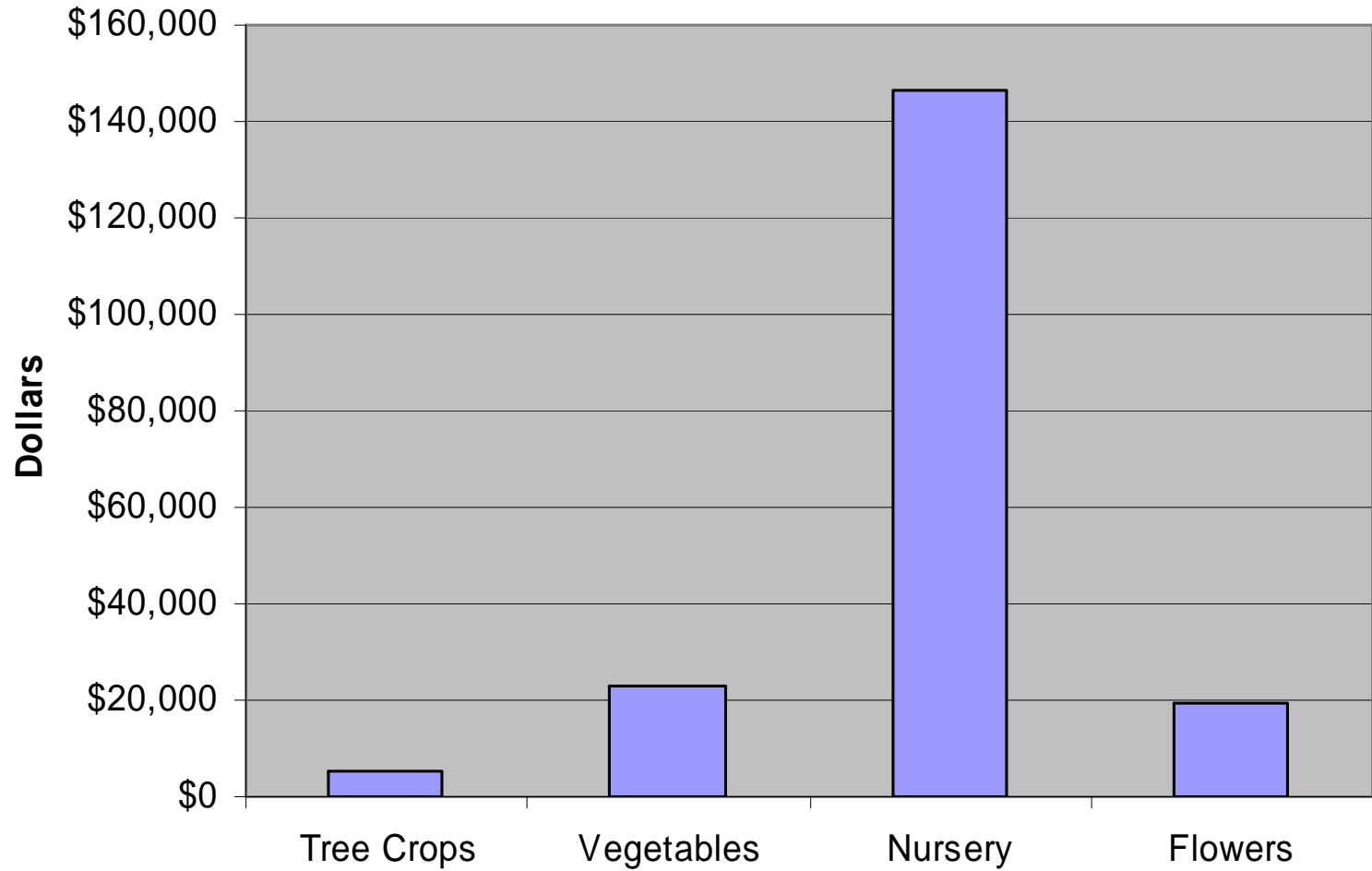
# Current Status of Commercial Tree Crops in San Diego County

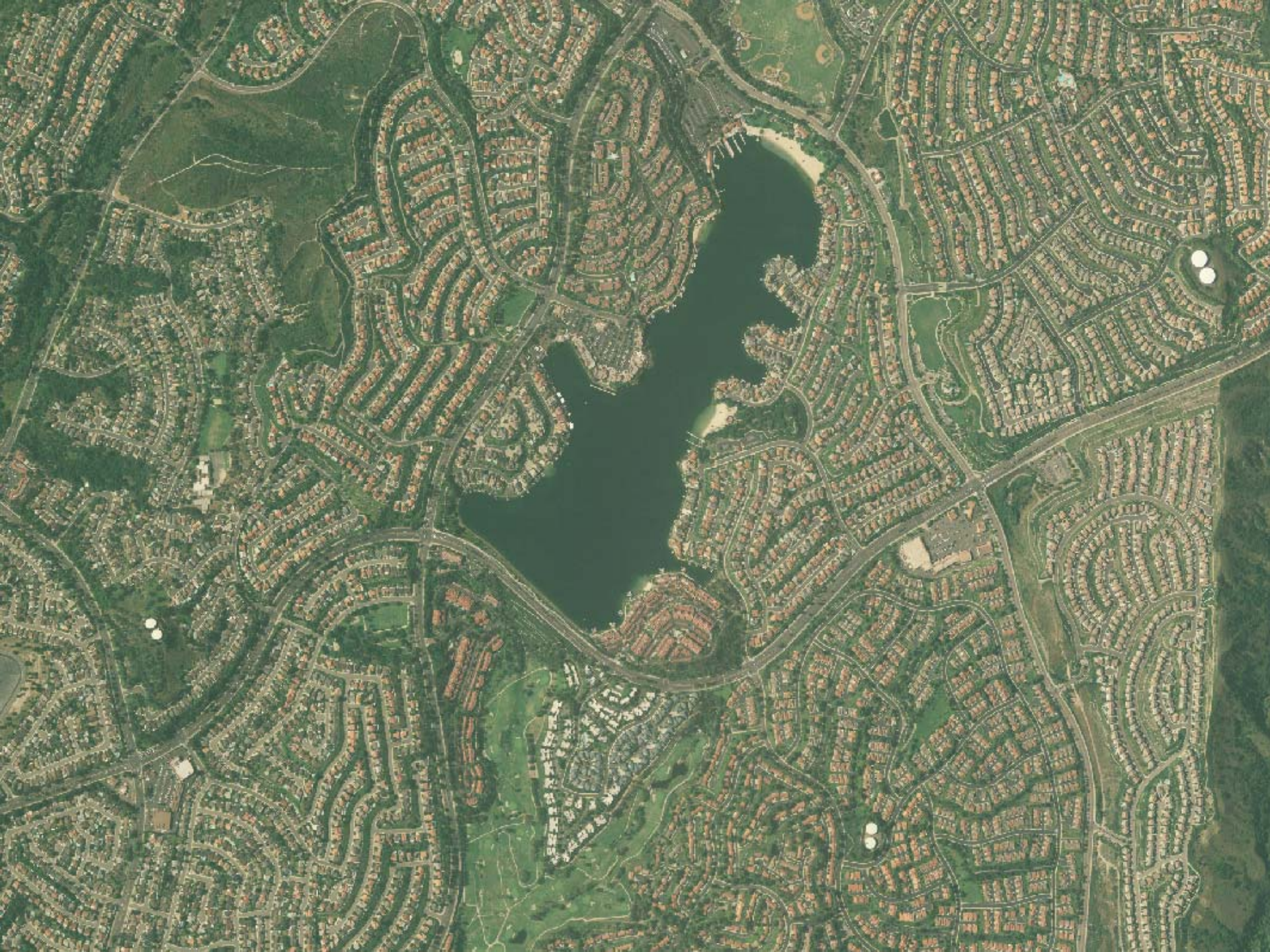
- San Diego County
  - Avocados 26,000 A
  - Citrus 12,500 A





## Total Value per Acre





# Advantages with Avocados

- Avocado has found its way into the American diet (but it took almost 100 years)
- Consumption per capita is increasing
- For growers: packinghouses, trucking, sales
- 50 years of production research

# Advantages to Tree Crops in General

- Most Trees Grow on Steep Ground (not good for houses)
  - Problems with Macadamias and Cherimoyas
- Land is Relatively Cheap
- Most Crops are under Good Biological Control (we don't have to spray)
- The Slopes are Warm Enough for Subtropical Crops
- We are close to a Huge Market



# Problems with Avocados

- We have been too successful...we've invited foreign competition
- High water costs...it's a high water user tree
- Requires low salinity water
- Canopy management
- Avocado thrips...we have to spray by helicopter
- Net income per acre is low

# Cost of Water

- Rainbow Water District is currently at \$662 per acre foot
- It takes about 3.5 af to grow an acre of avocado in one year
- Thus, water cost is \$2,317 for one acre

# Water Cutbacks

- Most avocado growers signed up to get a \$160 reduction (per acre foot) in water cost. In return they could be the first reduced in water deliveries in case of a drought.
- Growers in 2008 had to reduce applied water by 30%
- MWD discussing ending this program on January 1, 2009

# How did we Deal with the Current 30% Cutback?

- In one trial several years ago we cut the water back 10% and the yield decreased 50%
- Perhaps we could have a better strategy than just “cutting back 30% each month to all trees”.
- **Start by taking out your poorly producing trees**

# Root Rot (you can see the sky through the tree)





PROPERTY OF ECO-FARMS

# Sunblotch Viroid



# Trees in Wind-Prone Areas

- If the fruit is blown off every year, it is time to cap those sprinklers
- East facing slopes are the most susceptible



# Trees in Cold Areas

- Hass may have been planted in low areas where only Bacon, Zutano and Fuerte should be growing
- Maybe it is time to take these frost-prone trees out and plant mandarins

# Trees near Eucalyptus

- Eucalyptus steal water and fertilizer from avocado trees
- Research in lemon groves has shown eucalyptus roots six rows into the lemons
- Take the eucalyptus out!

# Healthy Trees, but Too Tall- Stumping

- Many of our groves need to be stumped because they are just too tall
- Stumps should be painted with white, water based paint for sunburn protection
- These trees will be out of production for 2 years
- 50% of the grove should be stumped in order to achieve a 40% cutback in water for one year
- An example: 10 af used on  $\frac{1}{2}$  of grove, other half is stumped and uses 20% of water = 2 af,  $12 \text{ af} / 20 \text{ af} = 60\%$  (40% cutback)

# Stumping



# A Thinned Grove



# A Low-Pruned 'Lamb Hass' produces a lot of fruit



# Other Important Approaches

- Scheduling with CIMIS
- Balance out the irrigation system
  - Fix leaks
  - Pressure regulators
  - Irrigation audits

# Future Problems

- This could go to a 50% cutback next year
- There is no new source of water for growers
- Exception: Maybe Reclaimed Water



# Should we Stick with Farming?

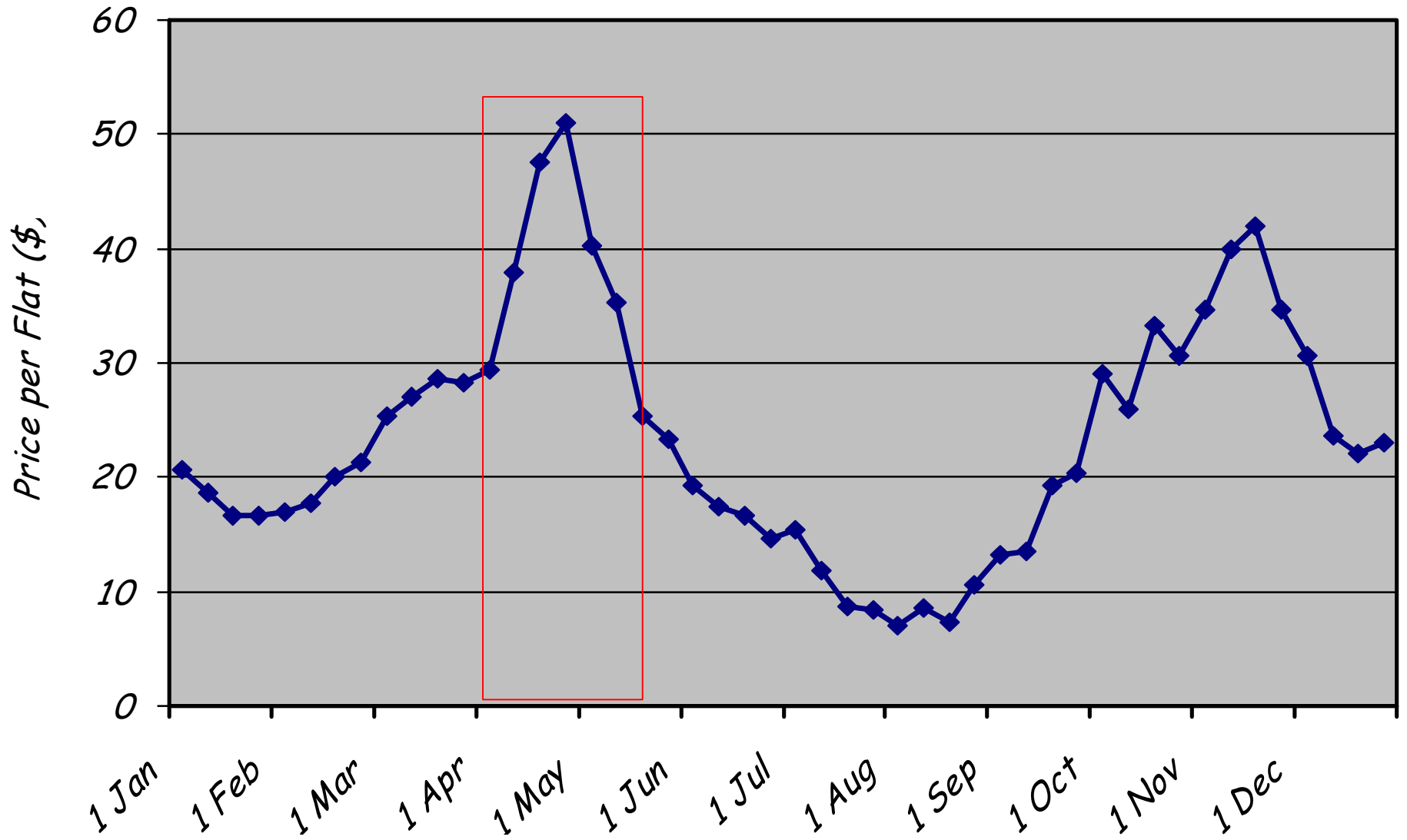
- People like to farm, but they want something that will at least pay the water bills and hopefully make a little money
- 3000 avocado growers in 1985 and 3000 avocado growers in 2008 (in San Diego County)

# Ag Water Discount

- “I just don't see how the avocado industry can make it. I have been doing this for 34 years and it looks like this is the end of the road to me,” *said Russ Hatfield, an avocado farmer in Fallbrook.*

# What else can we do?

- Look at niches
  - Timing...the blueberry story
  - Can we hold Gold Nugget mandarins into the summer...is it a super late mandarin?
  - Organic
  - Exporting to unusual markets (organic limes to New Zealand)



Three-year average wholesale price for fresh blueberries at the Los Angeles Terminal Market. 1998-2000. Red box area indicates target window for California blueberries.





