

# Climate Change Impacts to Agriculture in the Tulare Basin Watershed



Jennifer Morales



- ∞ Leads the Nation in agricultural production with \$6.9 billion- 2015 total crop value
- ∞ Top dairy production in the nation- with \$1.7 billion- 2015 milk production
- ∞ +120 commodities
- ∞ Exports to +90 countries

# Tulare County Agricultural Statistics

<b>2015 Ranking</b>		<b>Total Value</b>
<b>1</b>	<b>Milk</b>	<b>\$ 1,718,001,000</b>
<b>2</b>	<b>Cattle &amp; Calves</b>	<b>\$ 941,280,000</b>
<b>3</b>	<b>Oranges- Navels &amp; Valencias</b>	<b>\$ 819,134,000</b>
<b>4</b>	<b>Grapes</b>	<b>\$ 643,621,000</b>
<b>5</b>	<b>Almonds Meats &amp; Hulls</b>	<b>\$ 322,943,000</b>
<b>6</b>	<b>Tangerines - Fresh</b>	<b>\$ 302,470,000</b>
<b>7</b>	<b>Corn - Grain &amp; Silage</b>	<b>\$ 282,952,000</b>
<b>8</b>	<b>Silage - Small Grain</b>	<b>\$ 224,991,000</b>
<b>9</b>	<b>Pistachio Nuts</b>	<b>\$ 208,199,000</b>
<b>10</b>	<b>Walnuts</b>	<b>\$ 197,100,000</b>

**\$5,660,691,000**

- **Livestock**
- **Citrus**
- **Grapes**
- **Silage**
- **Nuts**

# Livestock

## Productivity-Fertility-Mortality



### Direct

Milk Loss

Reduced weight gain

Reproductive Stress (days open, abortion, calf mortality)

### Indirect

Increased disease and pest pressures

Increased cost of production

Increased water demand

Decreased forage and feed quality

Increased mortality

# Citrus and Nuts

- ❧ “false spring”
- ❧ Chilling hours
- ❧ Plant stress
- ❧ Disease and pest pressure

AG WATCH

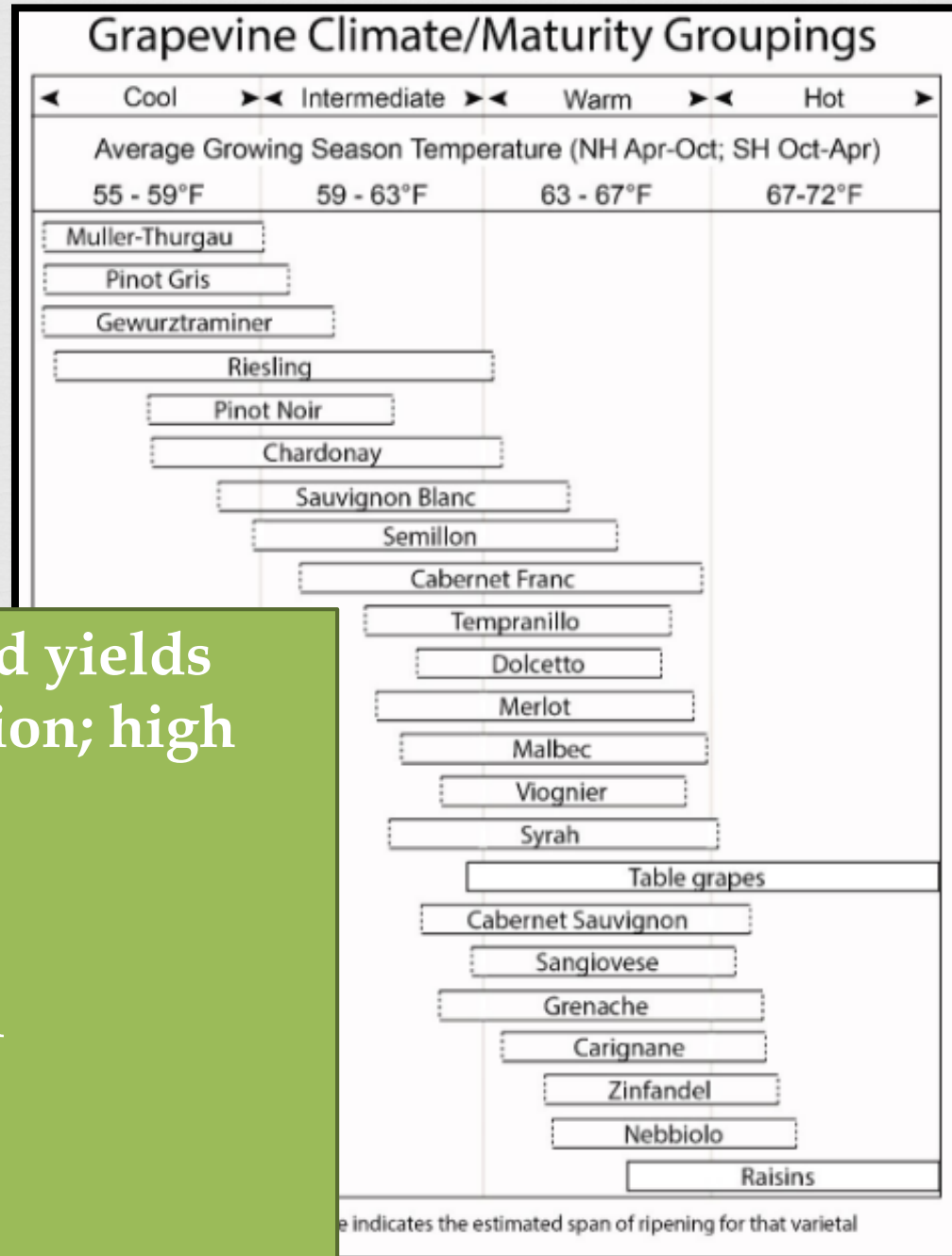
**EARLY HEAT MEANS  
EARLY HARVEST**

Crops & Markets

**USDA declares Tulare  
County a disaster area**

Low chill hurts California cherry crop  
Lack of winter tule fog impacted fruit set.

# Grapes



- Modified harvest times and yields
- Increases sugar concentration; high wine alcohol levels
- Lower acidities
- Modified aroma and color
- Inhibited vine metabolism
- Overripe flavor
- Berry shrivel
- Sunburn

# Silage



## Increased Temperatures and Longer Growing Season

- ❧ Pests, disease, weeds
- ❧ Reduced yields
- ❧ Lower quality
- ❧ Water demand

# 2014 CROP REPORT: TULARE COUNTY REMAINS NATION'S TOP AG PRODUCER

[Share](#) [G+](#) [Tweet](#) [Email](#)

## Tulare County Projected to Stay Number One in Agriculture

Posted on August 31, 2016 by Catherine Doe



abc30 SECTIONS TRAFFIC WATCH

AG WATCH

### RECENT AG REPORTS SHOWING TULARE COUNTY STILL ON TOP

[Share](#) [G+](#) [Tweet](#) [Email](#)

## It's official: Tulare County tops in California ag

David Castellon, [dcastell@visaliatimesdelta.com](mailto:dcastell@visaliatimesdelta.com) 5:51 p.m. PST January 28, 2016

