

**Royce Larsen**  
**UC Cooperative Extension**

**Central Coast Rangeland Research Updates**  
**Zoom Webinar**  
**September 29, 2020**

**Topics:**

- **Forage Production Project 2001-2020**
- **Biomass Loss & Nutrient Quality Project**
  - **Toxic Plant Project**

*Thanks to all that have helped on these projects, and to all the landowners for allowing us to do the research*



# Forage Production Project 2001-2020

Latest Report 2001-2019



<http://cesanluisobispo.ucanr.edu/>

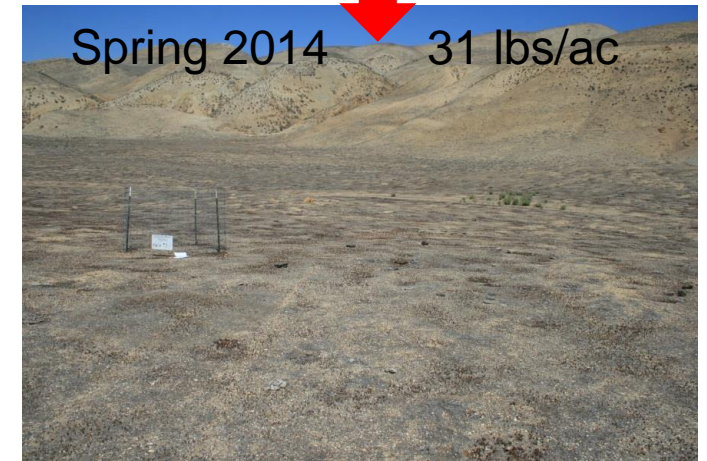
<https://ucanr.edu/sites/SLO/files/321788.pdf>



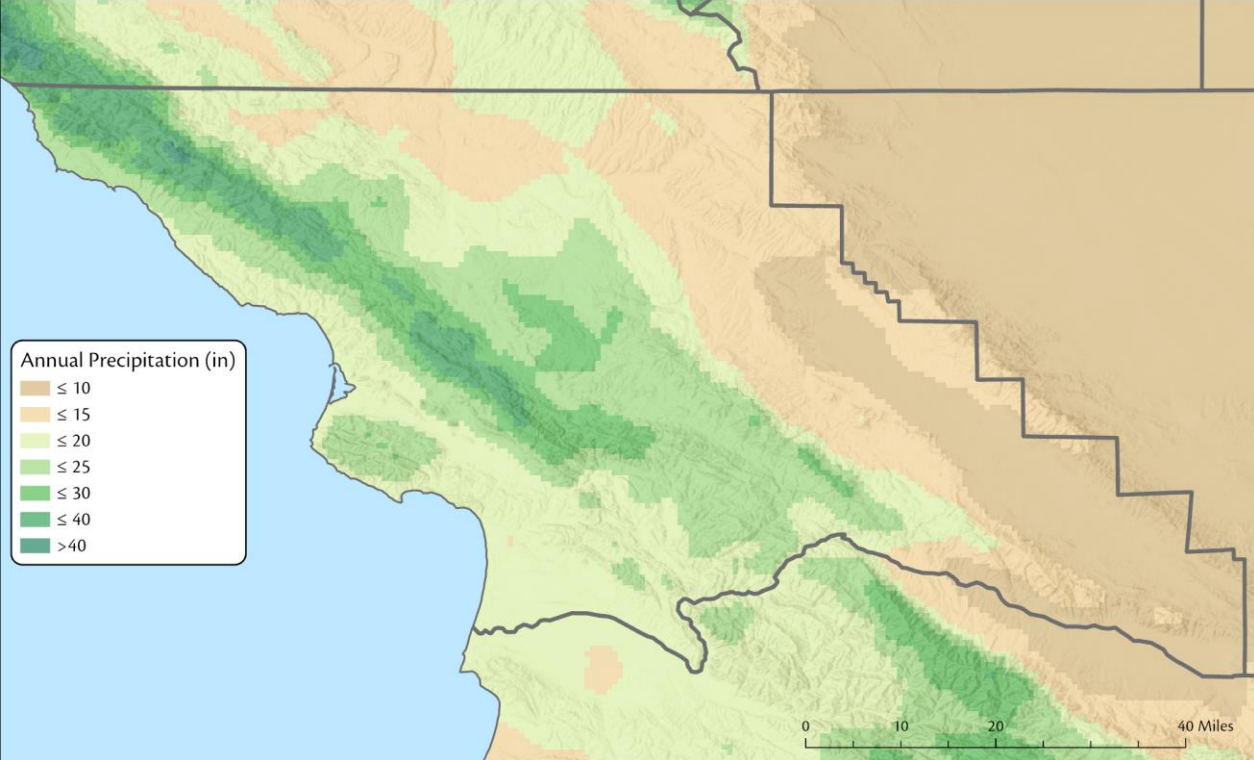
**Coast**



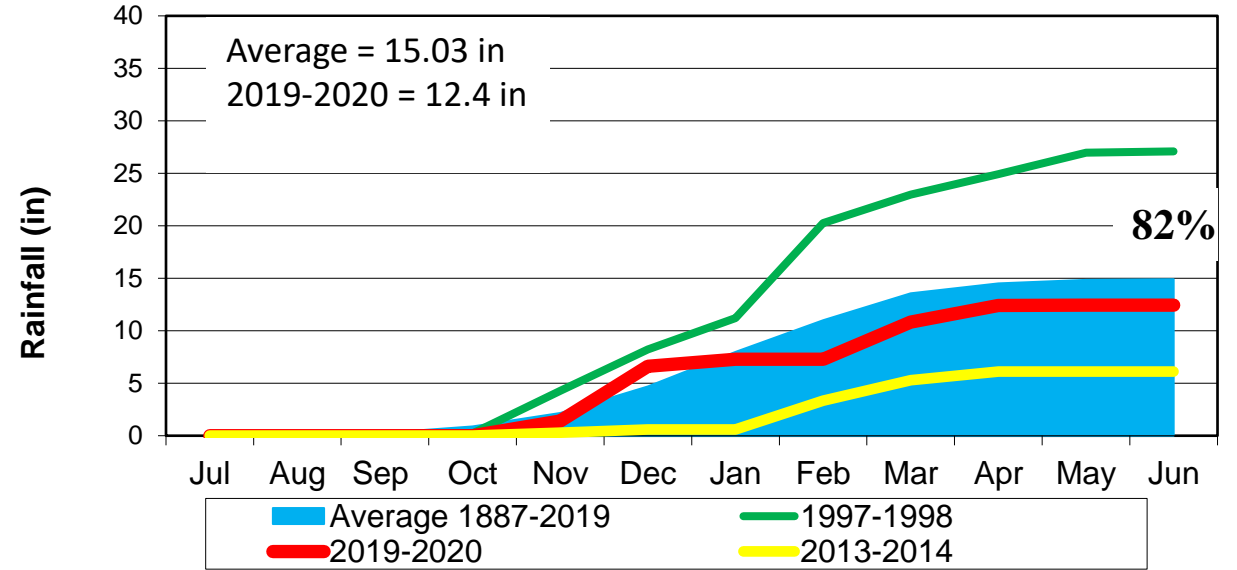
**Eastern**



Royce Larsen, Matthew Shapero, Marc Horney, LynneDee Althouse, Dan Meade, Katie Brown, Devii Rao, Karl Striby, Craig Rigby, Kevin Jensen, Don Canestro, Karl Lindsteadt, Sarah Covello



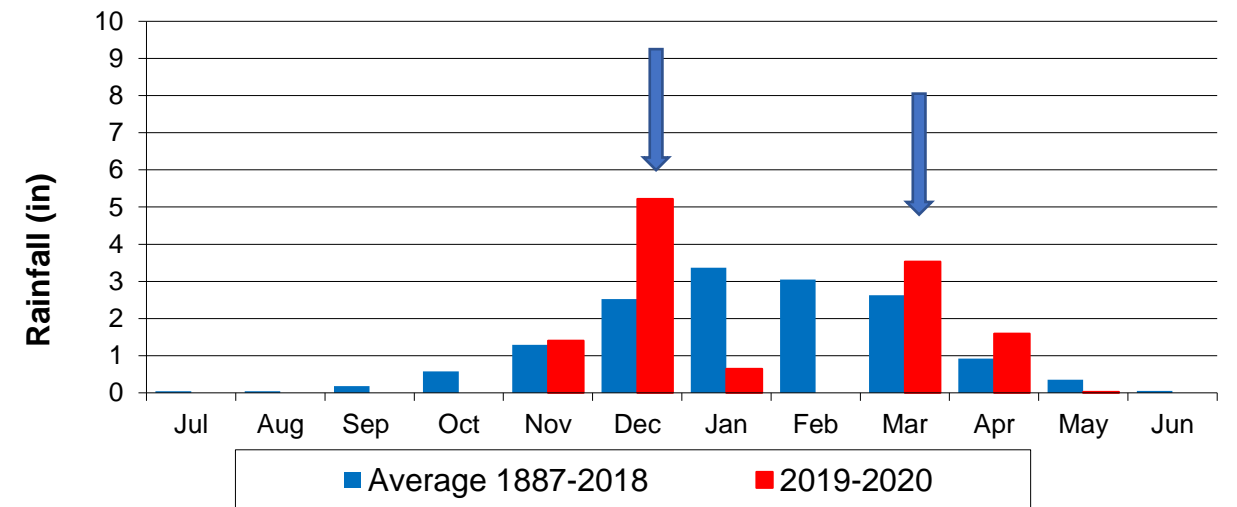
**Paso Robles Rainfall**  
**Cumulative Rainfall for Water Year (July-June)**  
 Current Water Year is July 2019-June 2020



Peak Production 2019 – BranchMtn Site

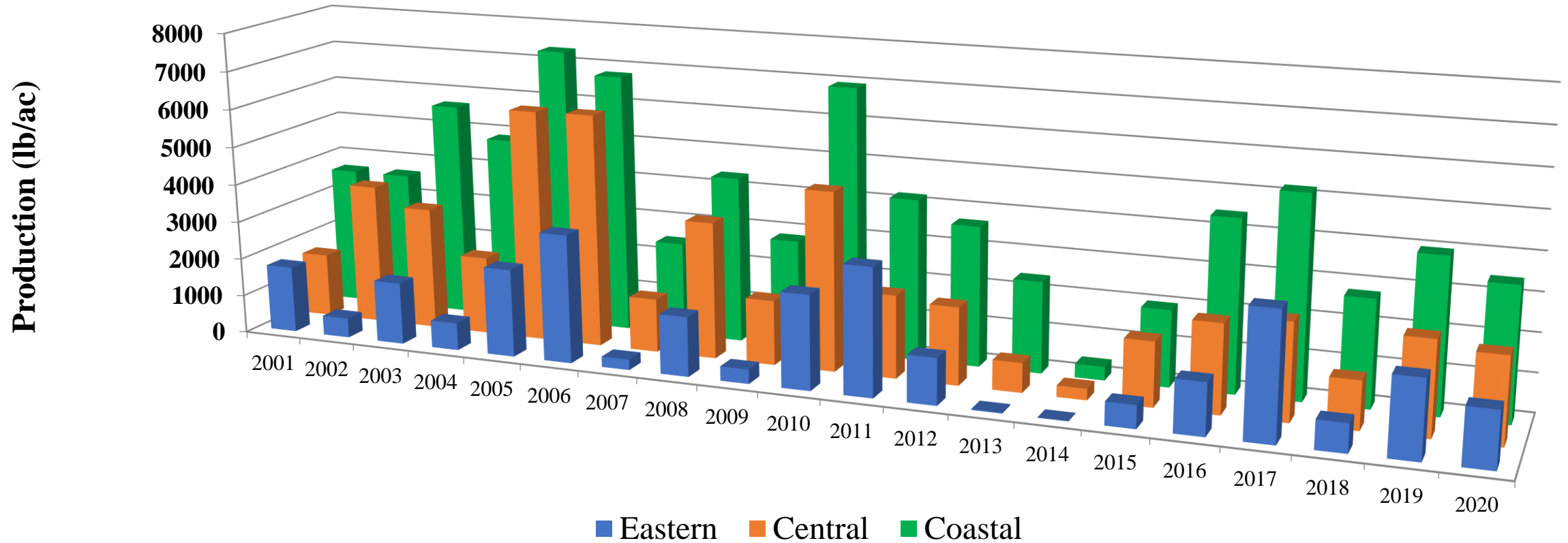


**Paso Robles Rainfall**  
**Monthly Average Distribution For Water Year (July - June)**



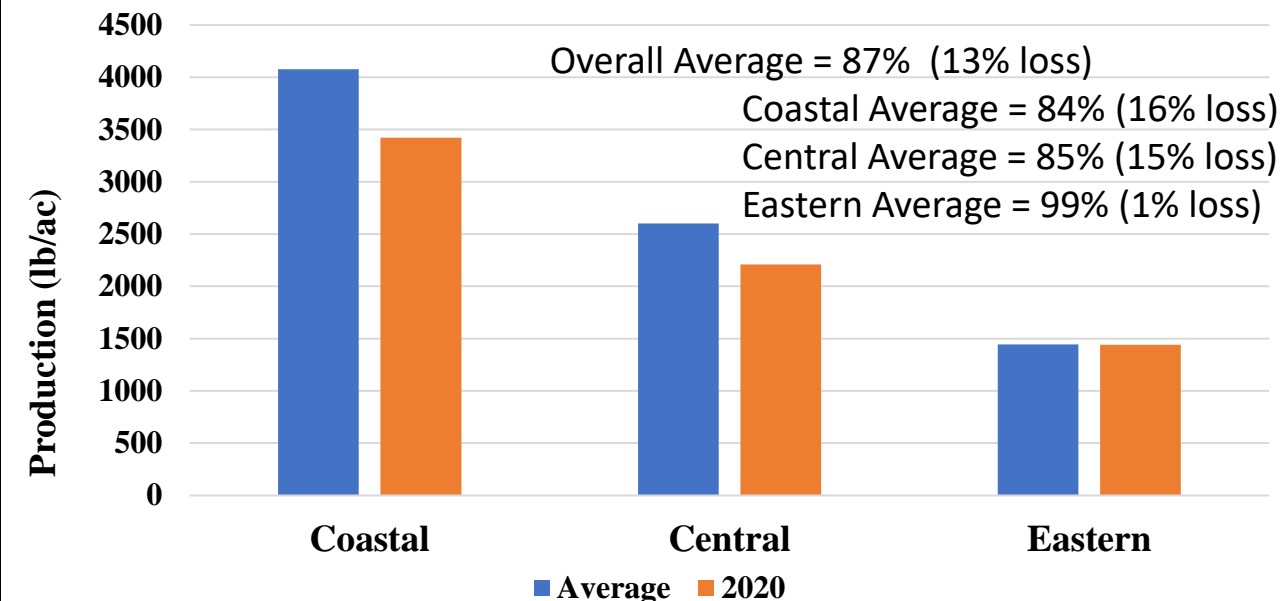
# Available Forage - Central Coast

Eastern Zone (Low Rainfall), Central Zone (Mid Rainfall), Coastal Zone (High Rainfall)

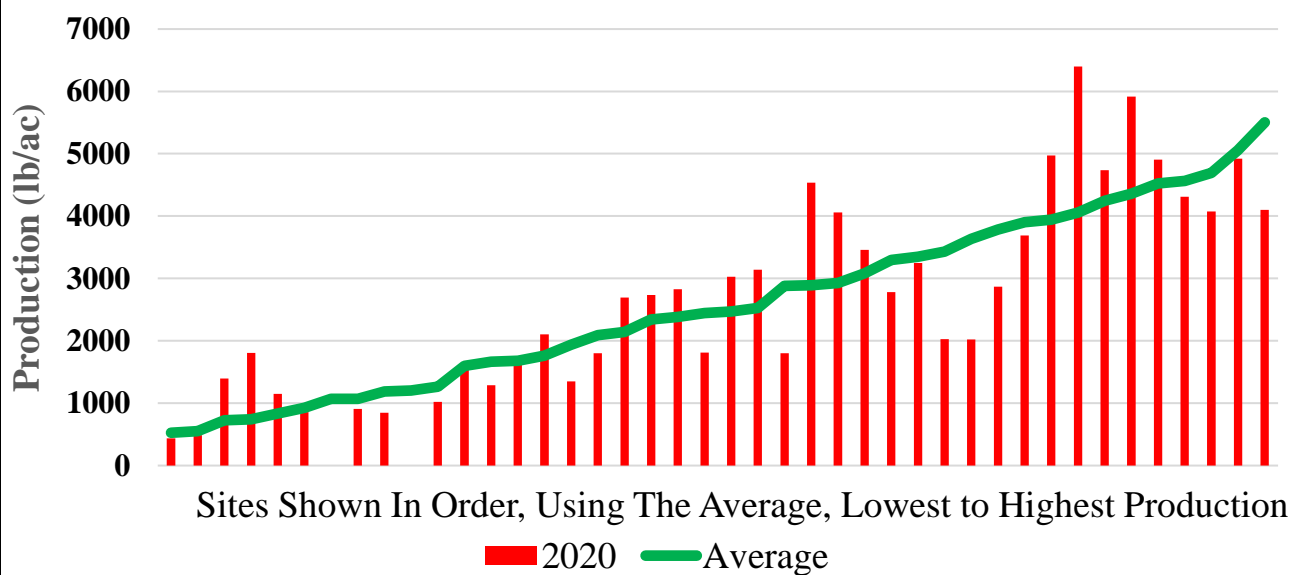


❖ Variation from year to year, and from the coastal areas to the inland areas

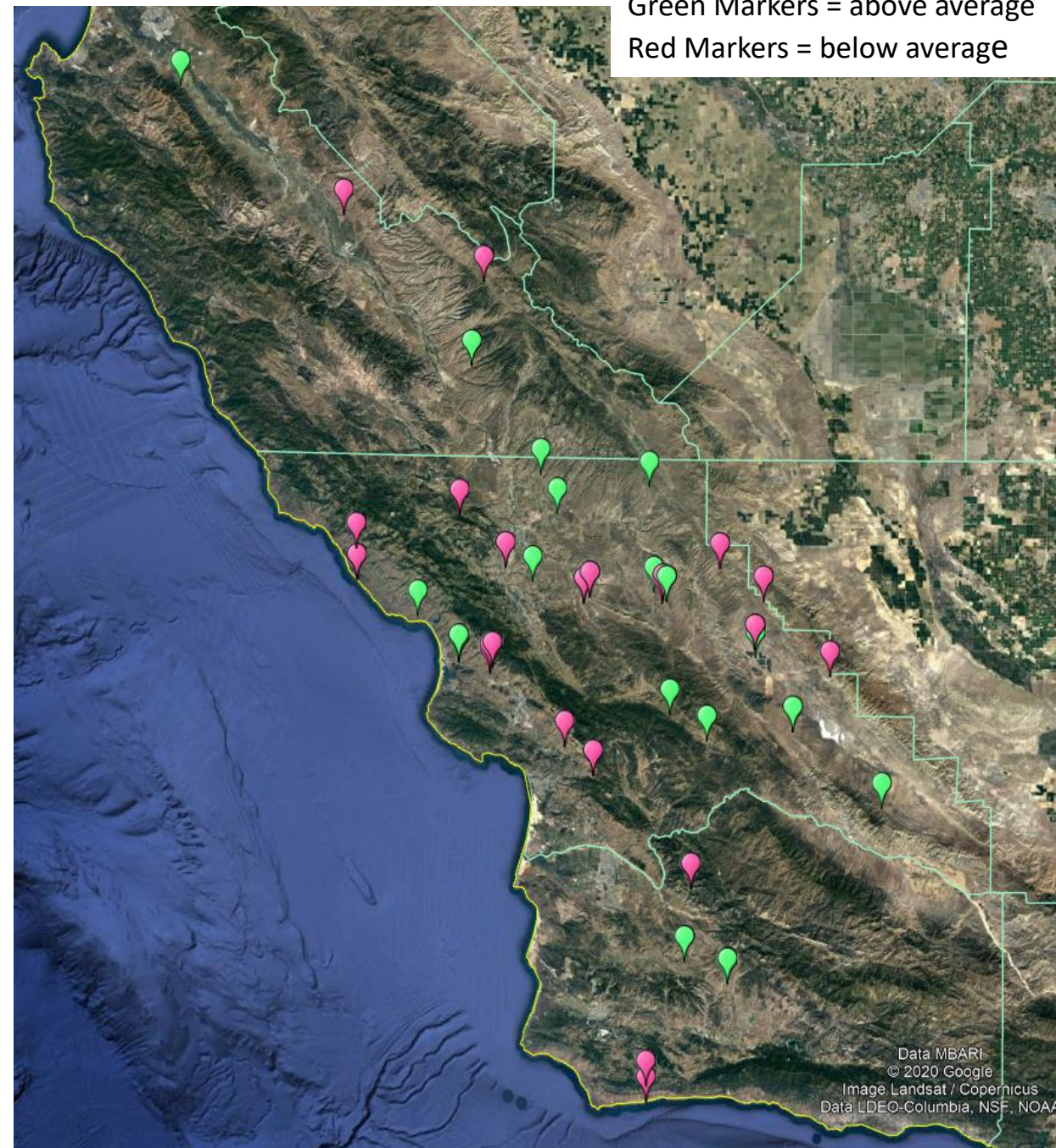
## Available Forage 2019 -2020 Growing Season



## Forage Production 2019-2020 Growing Season



Forage Production  
 Green Markers = above average  
 Red Markers = below average



# FORAGE QUANTITY AND QUALITY DYNAMICS DUE TO WEATHERING OVER THE DRY SEASON ON CALIFORNIA ANNUAL RANGELANDS

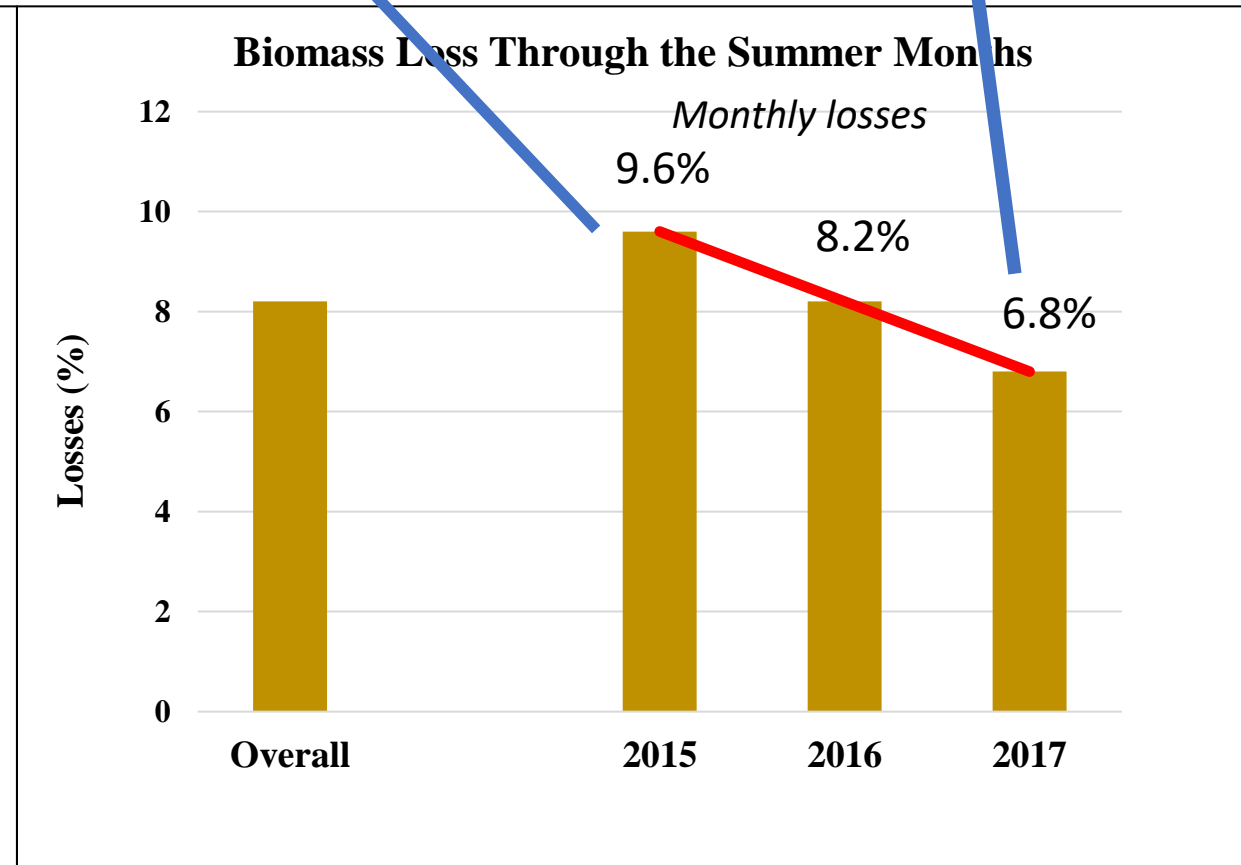
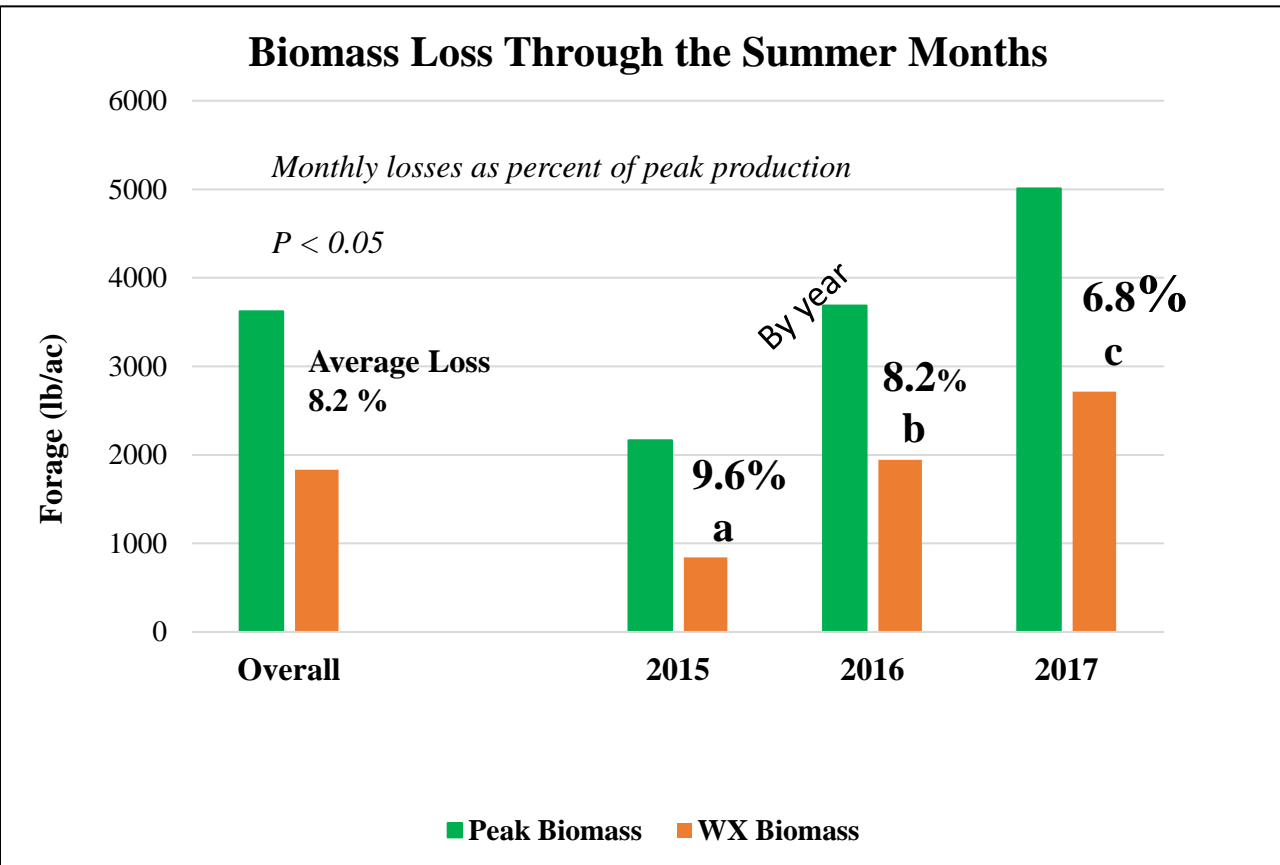
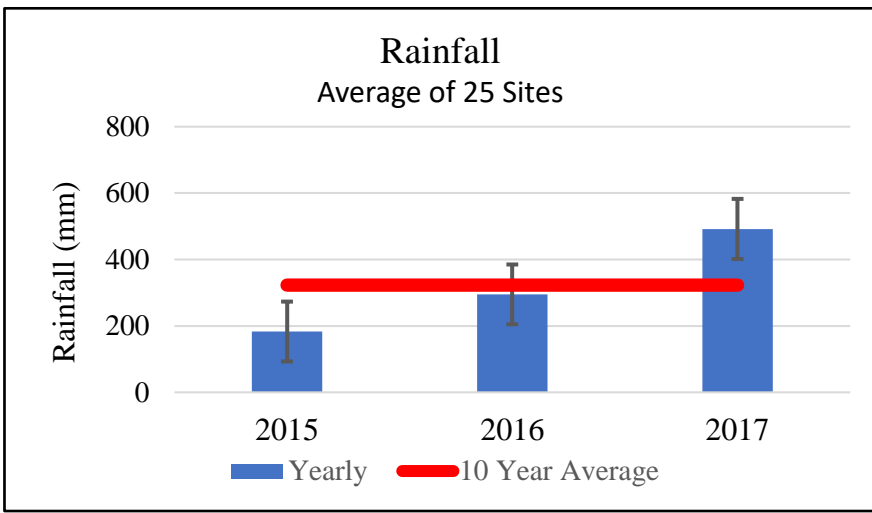
Royce E. Larsen<sup>a</sup>, Matthew W.K. Shapero<sup>b</sup>, Karl Striby<sup>c</sup>, LynneDee Althouse<sup>d</sup>, Daniel E. Meade<sup>d</sup>, Katie Brown<sup>e</sup>, Marc R. Horney<sup>f</sup>, Devii R. Rao<sup>g</sup>, Josh S. Davy<sup>h</sup>, Craig W. Rigby<sup>i</sup>, Kevin B. Jensen<sup>j</sup>, Randy A. Dahlgren<sup>k</sup>



What happens to the forage during the summer months when it is not grazed?

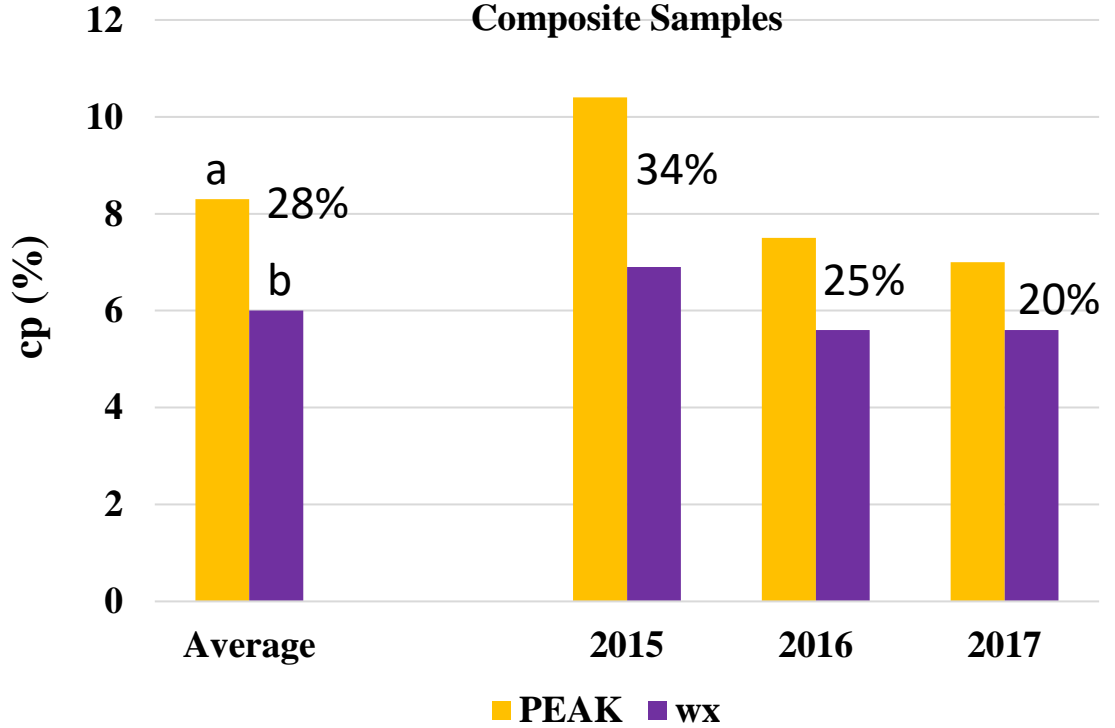
Biomass loss? Nutritional Quality loss

*Preliminary Data, Paper submitted – Expected Publication Late Fall*

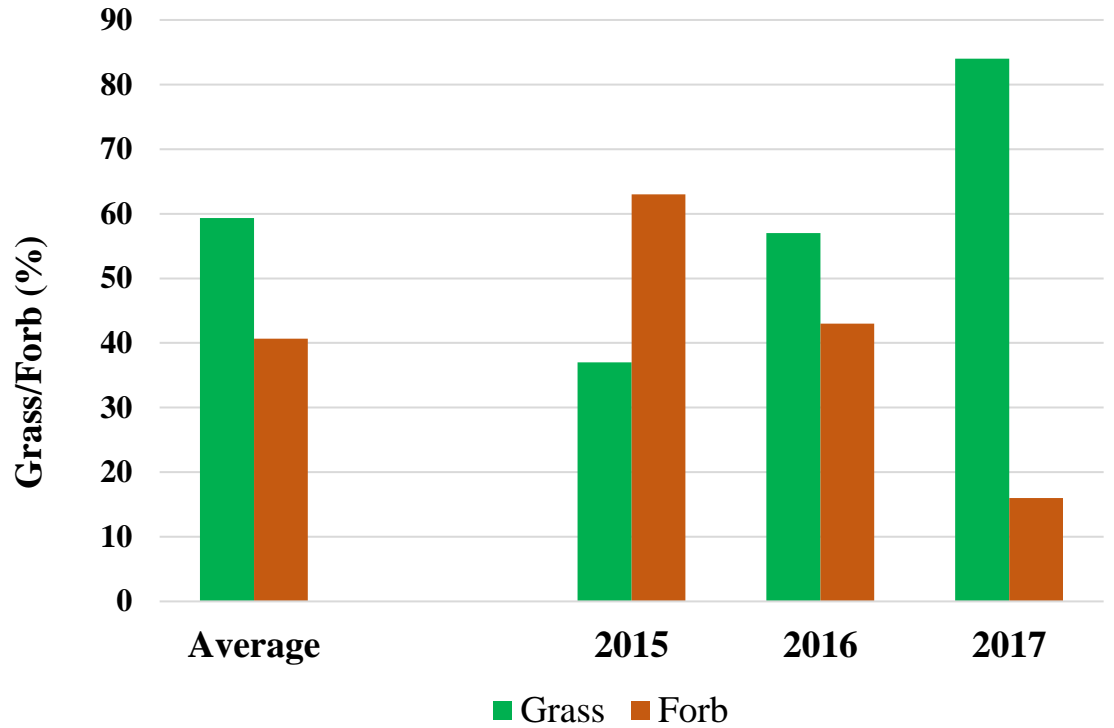


### CP Loss Through the Summer Months

Composite Samples



### Grass & Forb Percentage



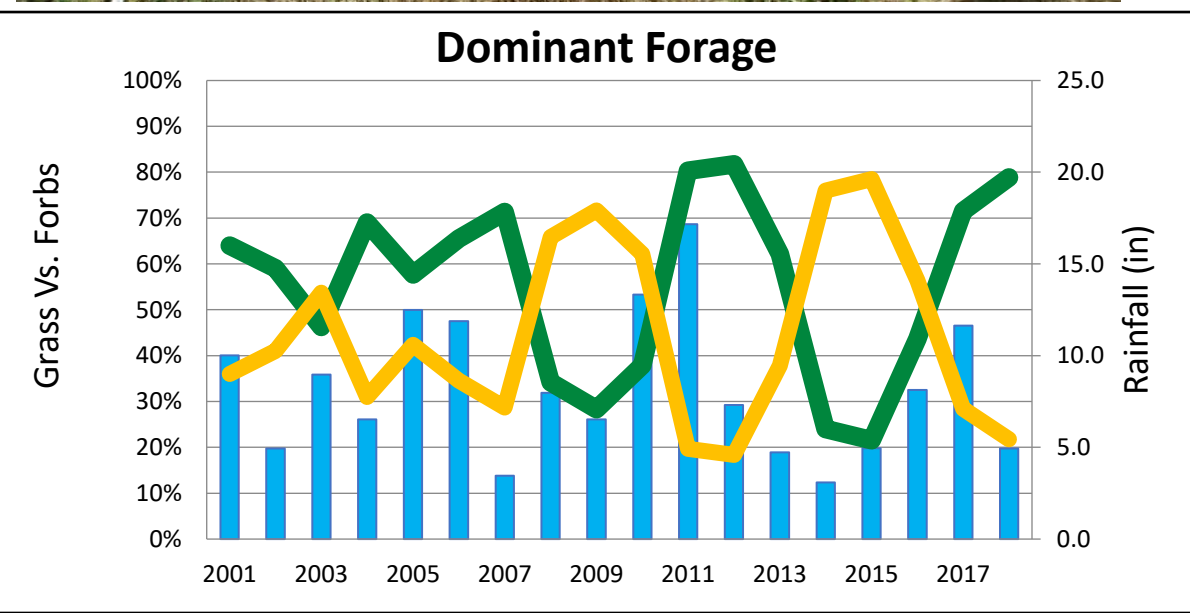
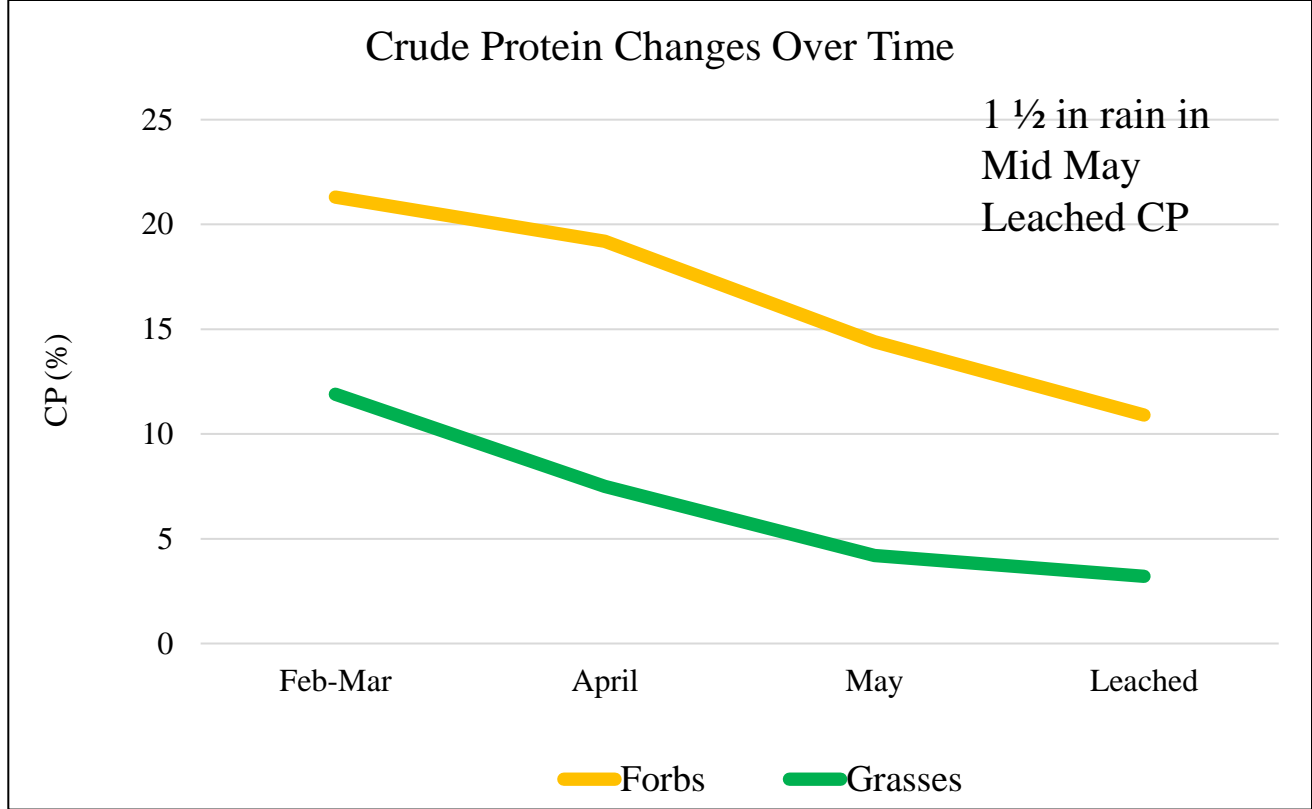
*Composite Samples included both Grass and Forbs Mixed*



# Seasonal Changes in Forage Nutrient and Toxicity Levels on California Central Coast Rangelands-A Preliminary Study

Royce E. Larsen<sup>1</sup>, Daniel Cook<sup>2</sup>, Dale R. Gardner<sup>3</sup>, Stephen T. Lee<sup>3</sup>, Matthew Shapero<sup>4</sup>, LynneDee Althouse<sup>5</sup>, Michael Dennis<sup>6</sup>, Larry C. Forero<sup>7</sup>, Josh S. Davy<sup>8</sup>, Devii R. Rao<sup>9</sup>, Marc Horney<sup>10</sup>, Katie Brown<sup>11</sup>, Craig W. Rigby<sup>12</sup>, Kevin B. Jensen<sup>13</sup>

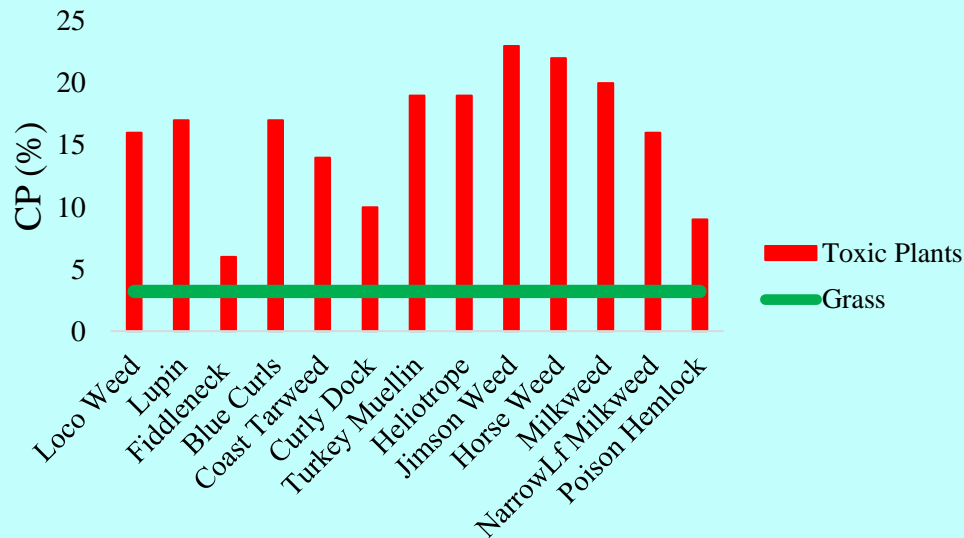




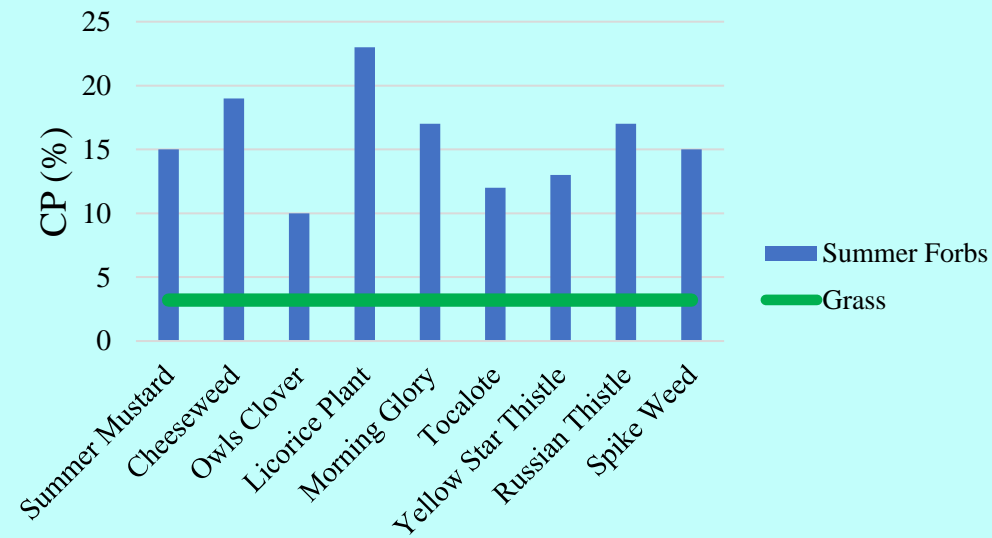


Loco Weed

### Crude Protein through the Summer Months

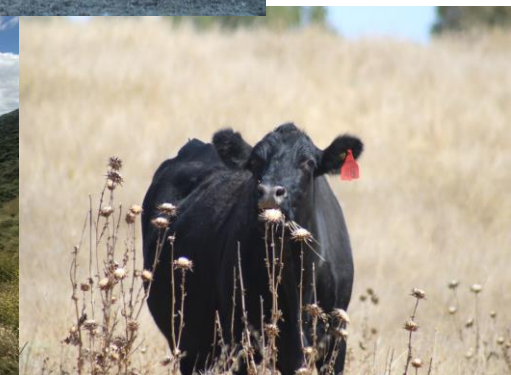
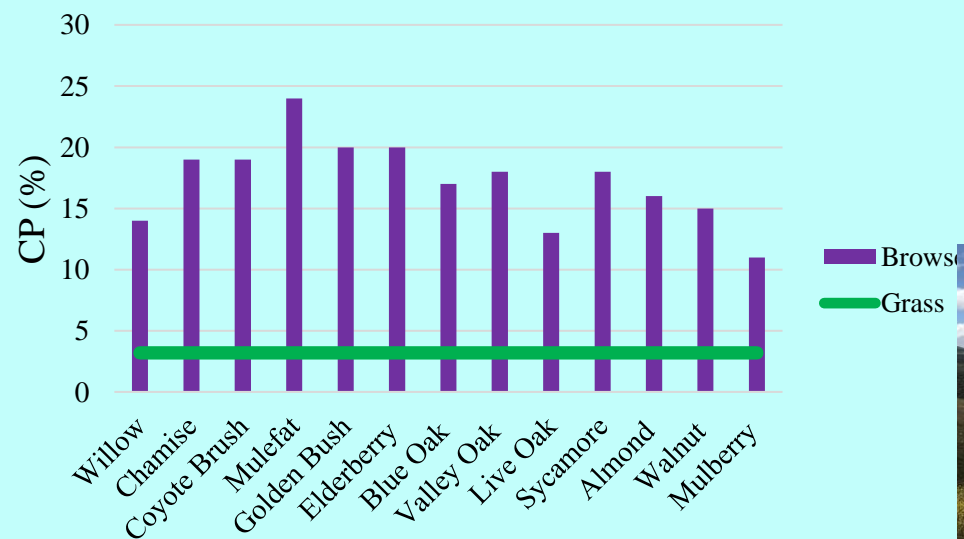


### Crude Protein through the Summer Months



Fiddleneck, Lupine

### Crude Protein through the Summer Months



For any Questions you can contact me at:

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