

# UCCE Silage Day

**10:00a** – Program begins

Topics:

**Are You Paying Too Much for Corn Silage?**

*Jennifer Heguy, UCCE Dairy Farm Advisor – Merced,  
Stanislaus and San Joaquin Counties*

**California Corn Silage Piles –Adventures in Measuring  
Real Shrink**

*Dr. Peter Robinson, UCCE Dairy Nutrition Specialist*

**Silage Management Practices on California Dairies**

*Dr. Noelia Silva-del-Rio, UCCE Dairy Production  
Medicine Specialist*

**Keys to Planning for a Successful Harvest – PANEL**

*Grower and Custom Harvester Panel*

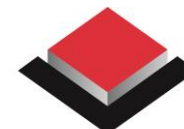
**12p** – Industry Sponsored Lunch



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# Are You Paying Too Much for Corn Silage?

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**Jennifer Heguy** – UC Cooperative Extension  
Merced, Stanislaus & San Joaquin Counties



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# **Are You Charging Too Little for Corn Silage?**

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**Jennifer Heguy** – UC Cooperative Extension  
Merced, Stanislaus & San Joaquin Counties

# Outline

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- **Correcting for Dry Matter (DM) at Harvest**
- **Determining Whole Field DM**
  - Challenges and Proposed Solutions
- **Other monitoring**
  - Length of cut
  - Kernel processing



# Corn Silage 2014

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- **Prices? \$75 - \$95/ton**
  - 70/30 basis: 70% moisture & 30% DM
- **How much would you pay for corn silage delivered at 28% DM?**
- **What about 32% DM?**



# Correcting for DM

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$$\frac{\text{Actual DM \%}}{30\%} \times \$/\text{ton} = \text{Corrected } \$/\text{ton}$$

So, at **28% DM & \$75/ton:**

$$\frac{28\%}{30\%} \times \$75/\text{ton} = \text{\$70/ton}$$

30%

And, at **32% DM & \$75/ton:**

$$\frac{32\%}{30\%} \times \$75/\text{ton} = \text{\$80/ton}$$

30%

# Correcting for DM

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$$\text{Actual DM \%} \times \$/\text{ton} = \text{Corrected } \$/\text{ton}$$

**30%**

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Three fields of corn followed:

Average DM	23%	28%	30%
Corrected \$	\$57.50	\$70	\$75
Difference	\$12.50	\$5	\$0
Tons Harvested	1406	673	989
Total Savings	\$17,576	\$3,364	\$0

# Sampling Corn Silage for DM Content

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<b>Average</b>	<b>23%</b>	<b>28%</b>	<b>30%</b>
<b>Minimum</b>	18%	25%	25%
<b>Maximum</b>	28%	33%	35%

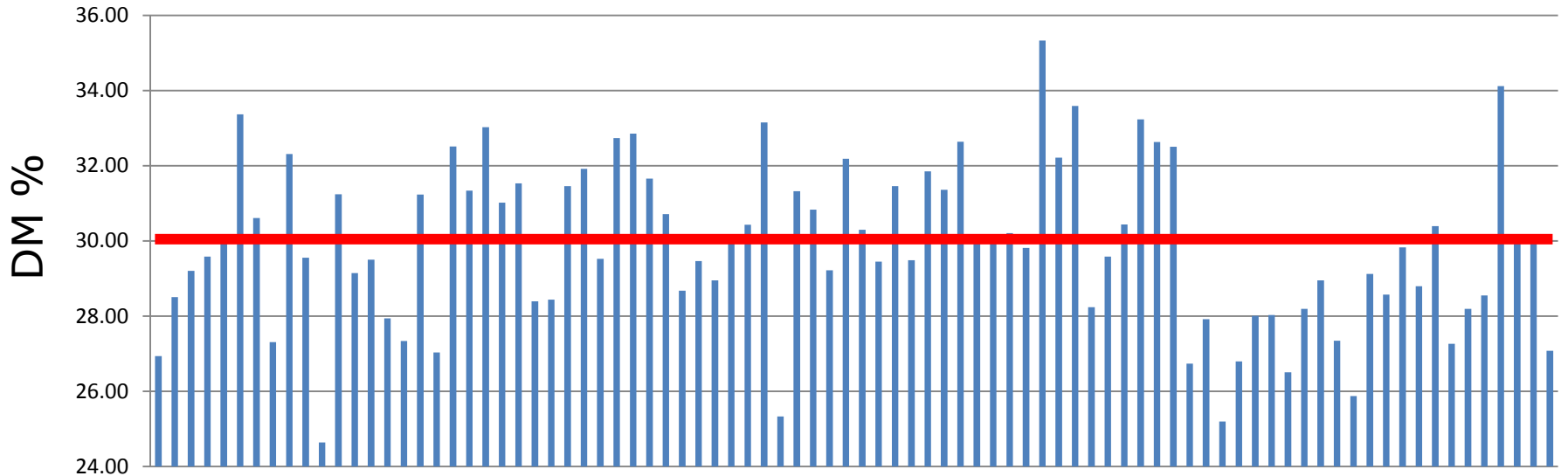
**Dry matter can range widely**

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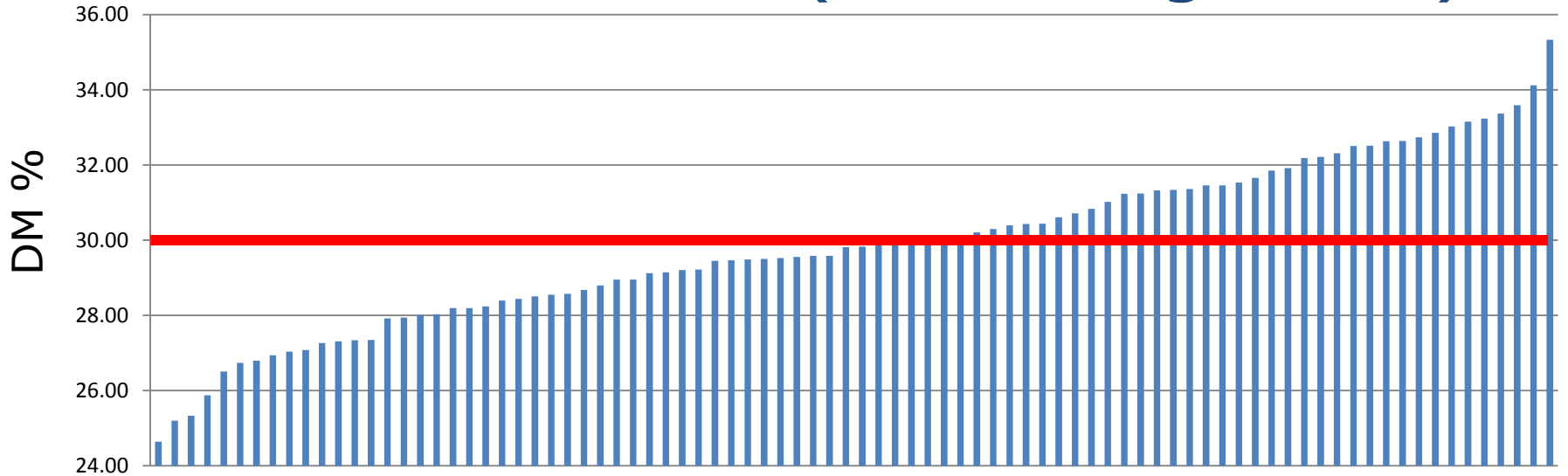
Differences in soil type, fertilization, irrigation, insect pressure and variety genetics may explain the large variation in DM observed.



# Individual DM (from the field)

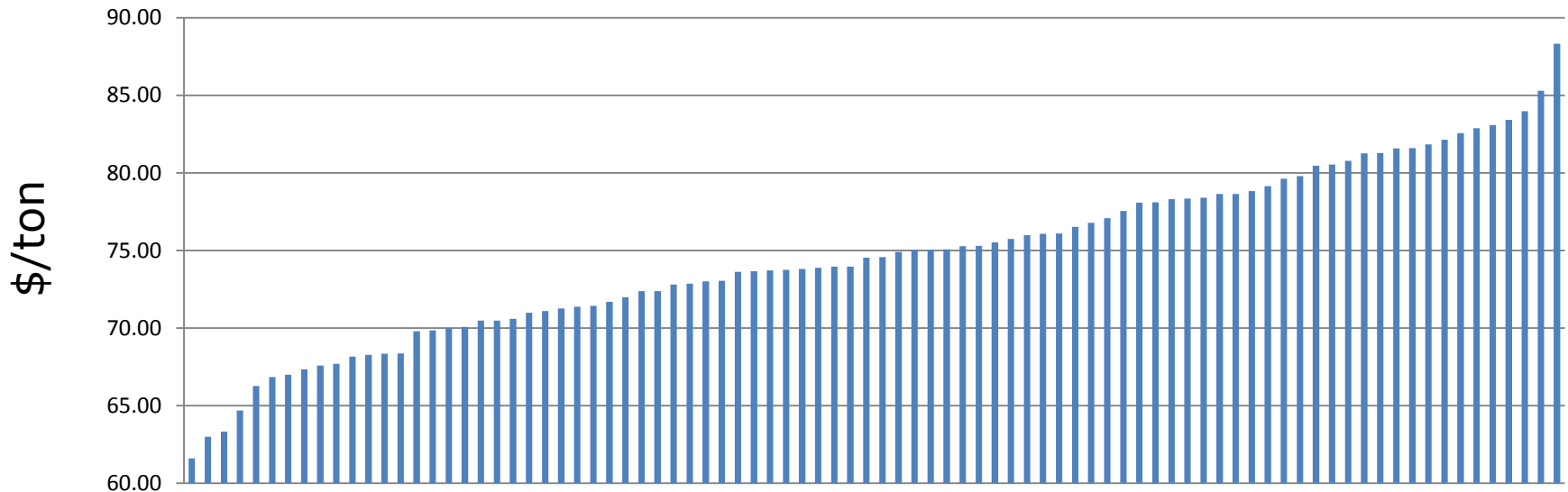


# Individual DM (ascending order)



# Corrected \$ per Load of Harvested Corn Silage

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Extremes would set the price at **\$62/ton** & **\$88/ton**.

# How to reduce error in estimating DM

Sample the field often!

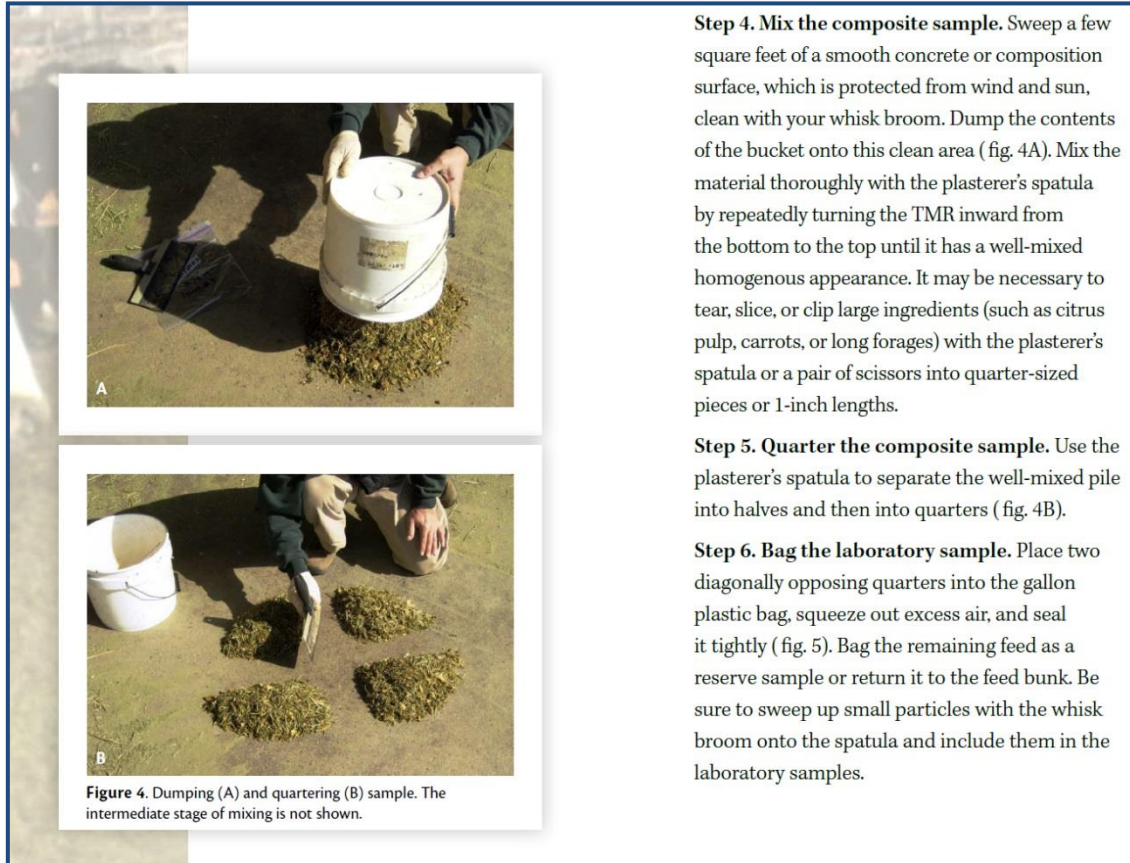
	\$57.50/ton		\$70/ton		\$75/ton	
\$/ton	Min	Max	Min	Max	Min	Max
Individual	\$45	\$69	\$63	\$82	\$62	\$88
10 Samples Consecutively	\$53	\$61	\$68	\$73	\$71	\$78
Hourly Samples	\$55	\$59	\$67	\$74	\$72	\$76



**23 acre field, only 6 hours of harvest**

For fields harvested in a short amount of time, pulling samples more often than hourly may make sense.

# Compositing Samples



**Step 4. Mix the composite sample.** Sweep a few square feet of a smooth concrete or composition surface, which is protected from wind and sun, clean with your whisk broom. Dump the contents of the bucket onto this clean area (fig. 4A). Mix the material thoroughly with the plasterer's spatula by repeatedly turning the TMR inward from the bottom to the top until it has a well-mixed homogenous appearance. It may be necessary to tear, slice, or clip large ingredients (such as citrus pulp, carrots, or long forages) with the plasterer's spatula or a pair of scissors into quarter-sized pieces or 1-inch lengths.

**Step 5. Quarter the composite sample.** Use the plasterer's spatula to separate the well-mixed pile into halves and then into quarters (fig. 4B).

**Step 6. Bag the laboratory sample.** Place two diagonally opposing quarters into the gallon plastic bag, squeeze out excess air, and seal it tightly (fig. 5). Bag the remaining feed as a reserve sample or return it to the feed bunk. Be sure to sweep up small particles with the whisk broom onto the spatula and include them in the laboratory samples.

Protocol on mixing and sampling the composite sample can be found at: <http://anrcatalog.ucdavis.edu/pdf/8413.pdf>

# Dry Matter

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## Why monitor DM?

- Payment when buying/selling
- Inventory
- RB5 Compliance (field basis)
- Variety trials



## On-farm measurement options

- Koster
- Microwave
- NIR



# Other Monitoring

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## Kernel Processing & Length of Cut

### **Importance –**

corn silage is fed year round, but put up in a week's time

# Suggested Monitoring

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**Hourly. Sample a truckload of forage for:**

**1. DM**

- On-farm (microwave, koster tester, NIR)

**2. Length of cut**

- Penn State Shaker Box
- Tape measurement

**3. Kernel Processing**

- Bucket method (handout available)
- Cup method





# Questions?



Reynolds





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## **Jennifer Heguy**

Farm Advisor - Merced, Stanislaus &  
San Joaquin Counties

[jmheguy@ucdavis.edu](mailto:jmheguy@ucdavis.edu)

(209)525-6800