

UCCE Silage Research Update

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University of California

Agriculture and Natural Resources

Making a Difference for California

1. Silage Management Survey

2. Variability in corn silage DM content.

Survey of Silage Management Practices

1. Describe current silage management practices on California's Central Valley dairies.



Snapshot of Silage Management Practices on California Dairies



In summer 2009, a feed management survey was mailed to dairy producers in **Tulare, Stanislaus, and San Joaquin Counties**; the first, third and seventh largest dairy counties in California.

Methodology – CA Survey

Producers received an envelope containing:

- 1) an invitation letter to participate in the study,
- 2) a double sided one-page survey, and
- 3) a pre-paid return envelope.



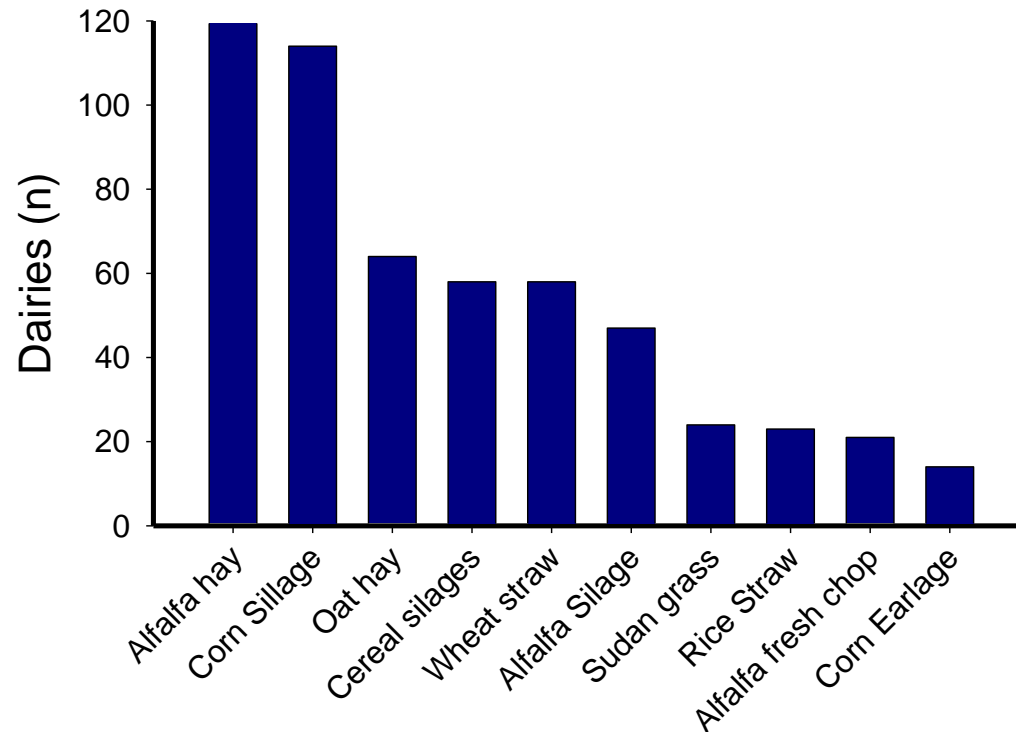
Participating Dairies

Response rate was 16.9% (120/710).

Herd size range: 160 to 6,600 lactating cows (median=950).



What forages do you feed?



Alfalfa hay and corn silage are the two most common forages fed to dairy cows on California dairies. Cereal hay and silage are also frequently fed.

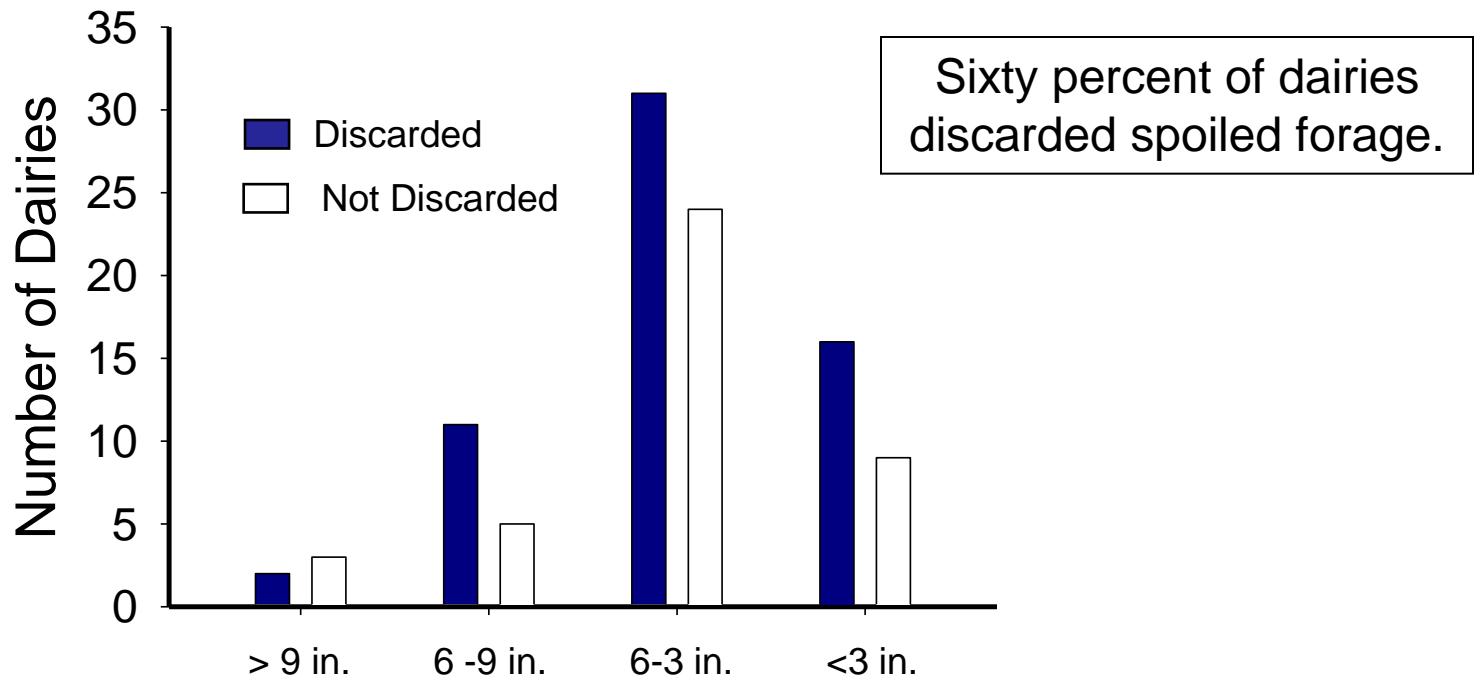
How is silage stored?

Silage in California is more frequently stored in **piles (85.0%)** and on **concrete (75.0%)**, than in bunkers or on dirt/gravel. Dairies utilizing silage **bags** often did so in conjunction with another type of storage.



How much spoiled forage is present on the top of the pile?

Is it discarded?



Twenty-five percent of dairies reported less than 3 inches of spoiled feed, 53.9 % reported 3 to less than 6 inches, 15.7 % reported 6 to less than 9 inches, and 4.9% reported at least 9 inches of spoiled feed.

Width and depth of face removed (% of dairies).

WIDTH OF FACE REMOVED		DEPTH REMOVED (in)				
		< 6	6 - 12	12 - 18	> 18	
Whole		9.6	12.0	7.2	7.2	36.1
Half		2.4	9.6	6.0	8.4	26.5
Third		4.8	10.8	10.8	3.6	30.1
Fourth		2.4	0.0	2.4	2.4	7.2
		19.3	32.5	26.5	21.7	

Silage Management Summary

- Dairy owner and manager responses are subjective.
- Results indicate areas where silage management can be improved:
 - surface spoilage
 - removal rate
 - sizing of silage structures



Silage Management Survey



Full survey results can be found at:
http://cestanislaus.ucdavis.edu/Dairy_Science/

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Jennifer Heguy is a native of California's Central Valley. She received her B.S. in Animal Science, with an emphasis in Livestock and Dairy, at the University of California, Davis. In 2006, she received her M.S. degree at UC Davis, focusing on dairy nutrition. Jennifer serves as the Dairy Farm Advisor in Stanislaus and San Joaquin Counties where milk is a major agricultural commodity. The goal of the dairy program is to contribute to the continued success of the dairy industry in Stanislaus and San Joaquin Counties, and throughout California.

[UCCE Silage Meeting 08/23/12](#)

[Click here to view the California Dairy Newsletter.](#)

Presentations:

[Feeding Management Practices on California Dairies](#)

[Silage Management Practices on California Dairies](#)



Variability in dry matter content of corn for silage

- Implications:

- buying/selling forages
- tracking feed inventory
- regulatory compliance.

- Objective:

- To determine if differences exist in calculating DM removal based on various intensities of sub-sample and composite collection.

Variability in dry matter content of corn for silage

•Procedures:

- Weights were obtained and samples collected for each truckload of forage harvested on a single corn field at three dairies.
- DM was determined.
- Actual field DM removal was determined by summing forage weight*DM for all samples from the field.
- Field DM removal totals were calculated using two composite sampling methods.



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Sampling Silage for DM Determination

Differences between estimated field DM removal and actual field DM removal based on method of sampling on one cooperator dairy.

	<u>Individual</u>	<u>Sequential</u>	<u>Interval</u>
% difference	-21.5 to + 20.4	-5.14% to + 5.15	-2.71% to + 2.40
DM difference (lbs)	± 135,000	± 33,000	± 16,500

Through more intense sampling, under- and overestimations were reduced. Interval samples across all dairies were ± 3% of actual DM harvested.

Summary

- 1. Current silage management practices aid in identifying areas where improvements can be made.**
- 2. Historically, silage management considerations focused on a quality end product. Central Valley dairy producers must consider implementation of management practices to achieve compliance with environmental regulations.**

In the future, every member of the silage team will be responsible for carrying out best management practices/mitigation measures to ensure both quality feed and regulatory compliance.

Thank You!

