



University of California
Agriculture and Natural Resources

Making a Difference for California

Byproduct usage in California dairy rations

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Introduction

- **Water & Forage Production**
 - Current & future water regulation
 - Reduced water availability
- **Commodity Deliveries**
- **Sustainability Conversations**



Objective & Methods

OBJECTIVE:

Byproduct feeding trends & opportunities

METHODS:

Electronic Survey

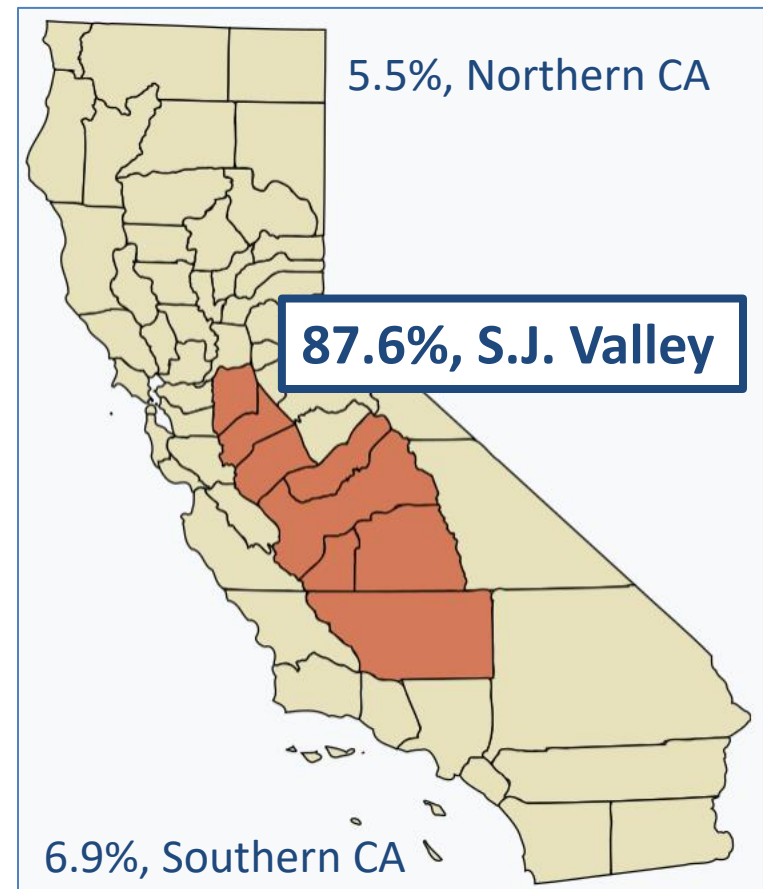
- California dairy nutritionists (n=61)



Demographics

California dairy nutritionists

- 26 returned surveys (43%)
- 498 dairies
- 936,700 lactating cows (n=25)



Results

Byproduct	Nutritionists (n=26)
1. Almond Hulls	25
1. Whole Cottonseed	25
3. Canola Pellets	24
3. Soybean Meal	24
5. Dry Distiller's Grains	23
6. Almond Hull & Shell	22
6. Canola Meal	22
6. Wheat Straw	22
9. Wheat Midds/Millrun	21
10. Corn Gluten Feed	20
10. Molasses	20



Feeding Levels



BYPRODUCT FEEDING LEVELS

Thinking across your California herds, what % of cows consume byproducts?

Lactating cows (%):

Feeding Levels



BYPRODUCT FEEDING LEVELS

Thinking across your California herds, what % of cows consume byproducts?

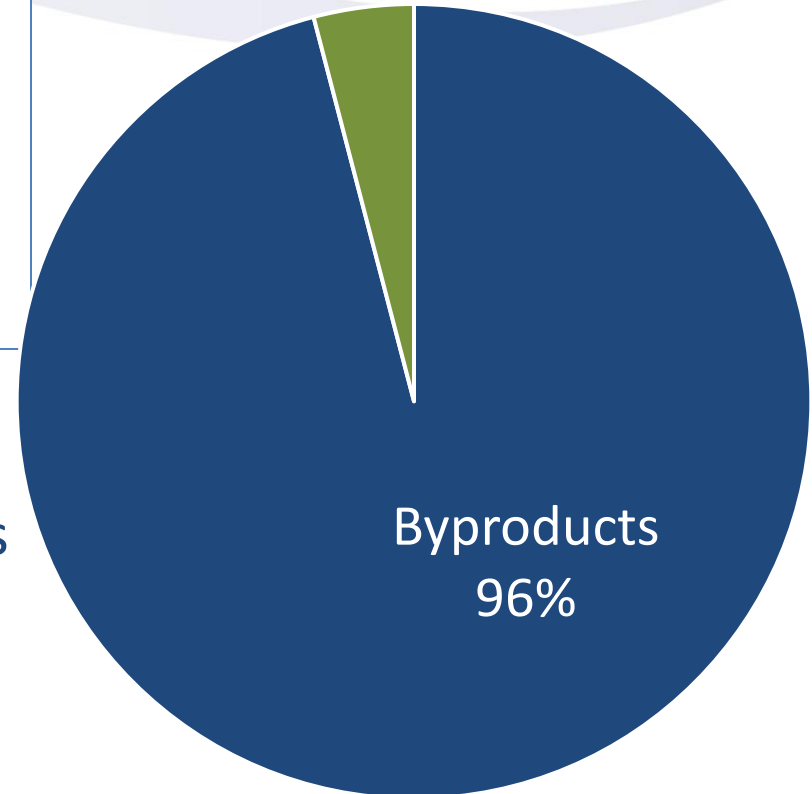
Lactating cows (%):

ALL lactating cows received byproducts

- 898,600 cows* (n=23)

DO NOT consume byproducts

- 38,100 cows (n=3)



Feeding Levels

UCDAVIS
UNIVERSITY OF CALIFORNIA

In your **LOWEST** byproduct fed herds, what % of the ration is byproducts (DM basis)?

UCDAVIS
UNIVERSITY OF CALIFORNIA

In your **HIGHEST** byproduct fed herds, what % of the ration is byproducts (DM basis)?

% LACTATING ration:

% DRY ration:

% HEIFER ration:

Feeding Levels

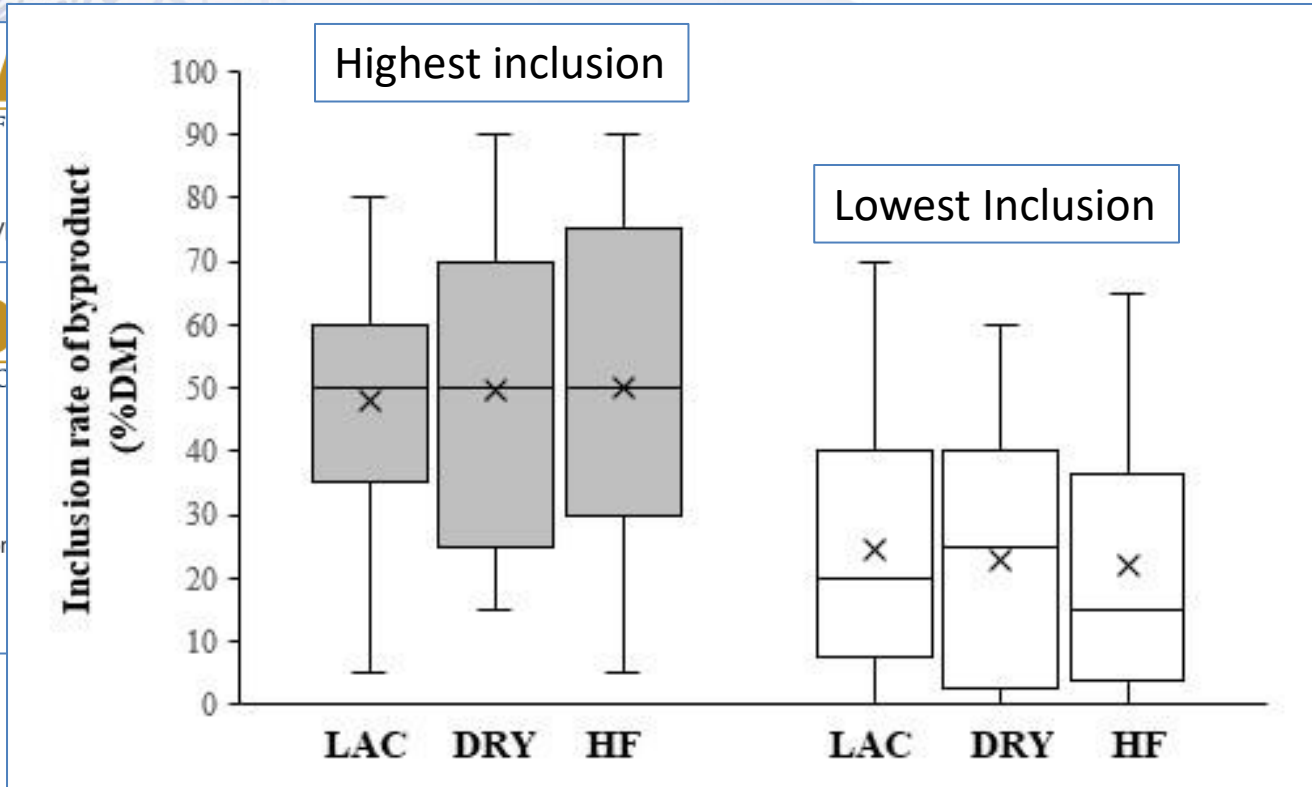
UCDA
UNIVERSITY OF CALIFORNIA

In your **LOWEST** by

UCD
UNIVERSITY OF CALIFORNIA

In your **HIGHEST**

% LACTATING ration:
% DRY ration:
% HEIFER ration:



Inclusion rate of byproducts (DM%) in lactating cow (LAC), dry cows (DRY), and heifer (HF) diets



On **AVERAGE** (across all your client herds), what % of the **ration** is byproducts (DM basis)?

% LACTATING ration:

% of the ration from byproducts, AVERAGE (all herds)

**Weighted Average
Byproduct Inclusion Rate = 41%**



BYPRODUCT MANAGEMENT

Why do you incorporate byproducts into rations (select all that apply)?

Price (they're cheap)

Availability

Value (they're worth the price)

Other:



BYPRODUCT MANAGEMENT

Why do you incorporate byproduct

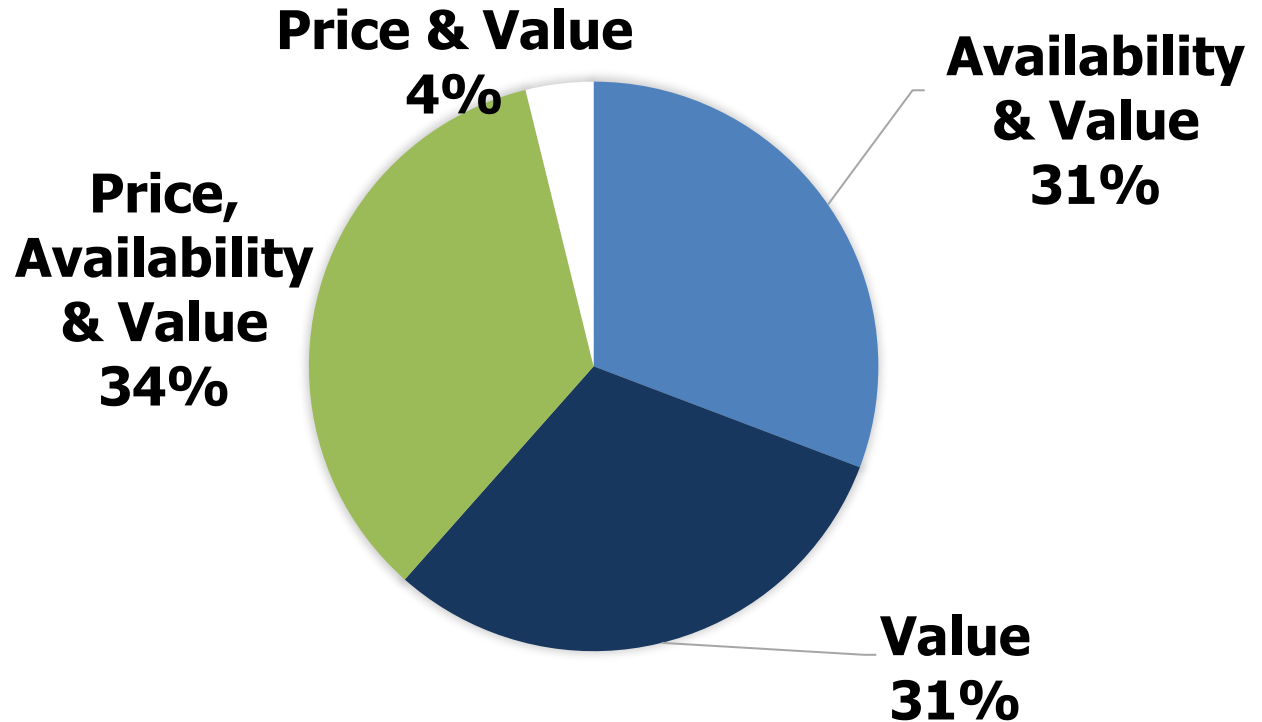
Price (they're cheap) **38%**

Availability **65%**

Value (they're worth the price)

100%

Other:





Do you replace forages with byproducts in **LACTATING** cow rations?

Yes

No

If yes, what are your most frequently used byproducts for replacing forages in **LACTATING** rations?

1.

2.

3.



Do you replace concentrates with byproducts in **LACTATING** cow rations?

Yes

No

If yes, what are your most frequently used byproducts for replacing concentrates in **LACTATING** cow rations?

1.

2.

3.



& concentrates

Do you replace forages with byproducts in **LACTATING** cow rations?

Yes	Forage, yes	96%
No	Concentrate, yes	96%

If yes, what are your most frequently used byproducts for replacing forages in **LACTATING** rations?

1.
2.
3.



Concentrates	Forages
Citrus (31%)	Almond Hulls (89%)
Whey (27%)	Straw (31%)
Millrun (23%)	Citrus (23%)

If yes, what are your most frequently used byproducts for replacing forages in **LACTATING** rations?

1.
2.
3.



& concentrates



BYPRODUCT USAGE TRENDS

How has your use of byproducts changed in the last 5 years?

Increased use

Decreased use

Use remained the same

Do you see byproduct usage changing in the next 5 years?

Yes, increased use

Yes, decreased use

No, usage will remain the same

Usage Trends



BYPRODUCT USAGE TRENDS

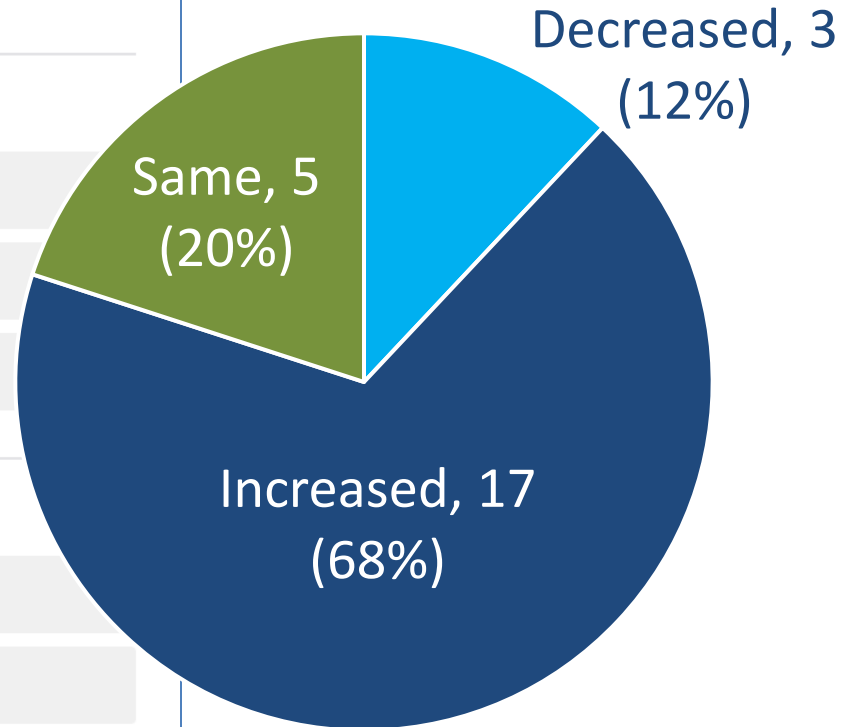
How has your use of byproducts changed in the last 5 years? n=25

Increased use
Decreased use
Use remained the same

Do you see byproduct usage changing in the next 5 years?

Yes, increased use
Yes, decreased use
No, usage will remain the same

Last 5 years



Usage Trends



BYPRODUCT USAGE TRENDS

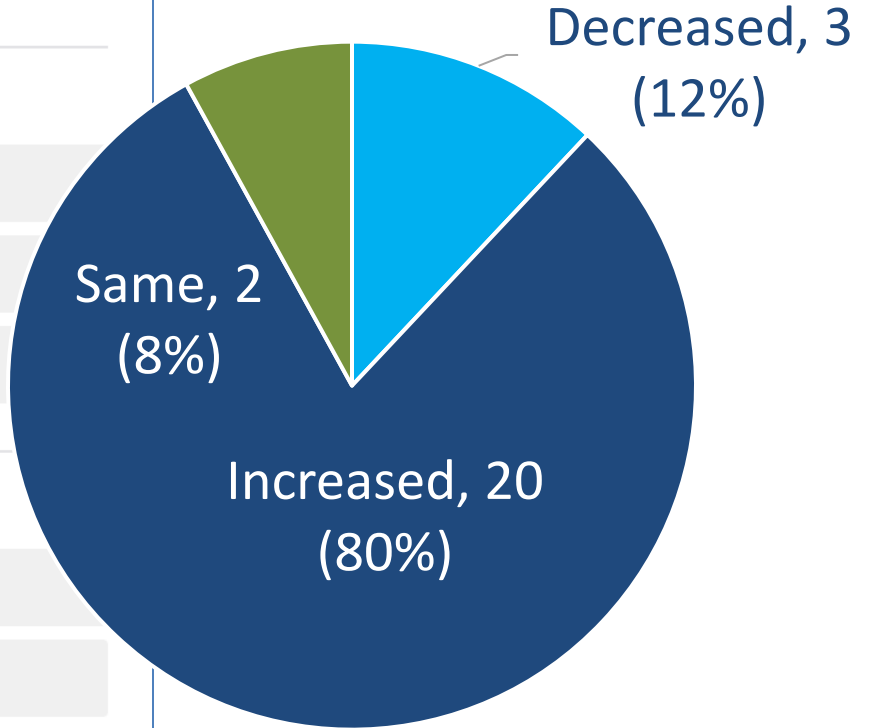
How has your use of byproducts changed in the last 5 years?

Increased use	<input type="checkbox"/>
Decreased use	<input type="checkbox"/>
Use remained the same	<input type="checkbox"/>

Do you see byproduct usage changing in the next 5 years? n=25

Yes, increased use	<input type="checkbox"/>
Yes, decreased use	<input type="checkbox"/>
No, usage will remain the same	<input type="checkbox"/>

Next 5 years



Take Homes

- **Results describe the sustainability & resiliency of the California feeding program**
 - **41% of the LACTATING ration (DM basis) is composed of byproducts**
- **Opportunities exist to increase byproduct inclusion rates in California dairy rations**
 - Large feeding range: 0-80%
 - Water availability; Current & future regulation; Other



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Thank You



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