STRATEGIES OF PASTURE SUPPLEMENTATION ON ORGANIC AND CONVENTIONAL GRAZING DAIRIES:

ASSESSMENT OF ECONOMIC, PRODUCTION AND ENVIRONMENTAL OUTCOMES

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Introduction

- This is a study of on-farm management strategies (principally feed management strategies) and their impacts on dairy farm production, profitability, and environmental management.

OBJECTIVES:

- (1) Describe in detail feeding management decisions on dairy farms;
- (2) Evaluate economic, production, and environmental outcomes of feeding management strategies;
- (3) Create public reports based on statistical comparisons that evaluate the logic and impacts of different feeding strategies;
- (4) Share the findings of the study through the UW-Cooperative Extension system, farmer organizations, and other networks that can make use of the findings to improve the assistance given to farmers and the quality of private and public decisions related to agriculture and society.

Farms surveyed

- **Organic farms:**

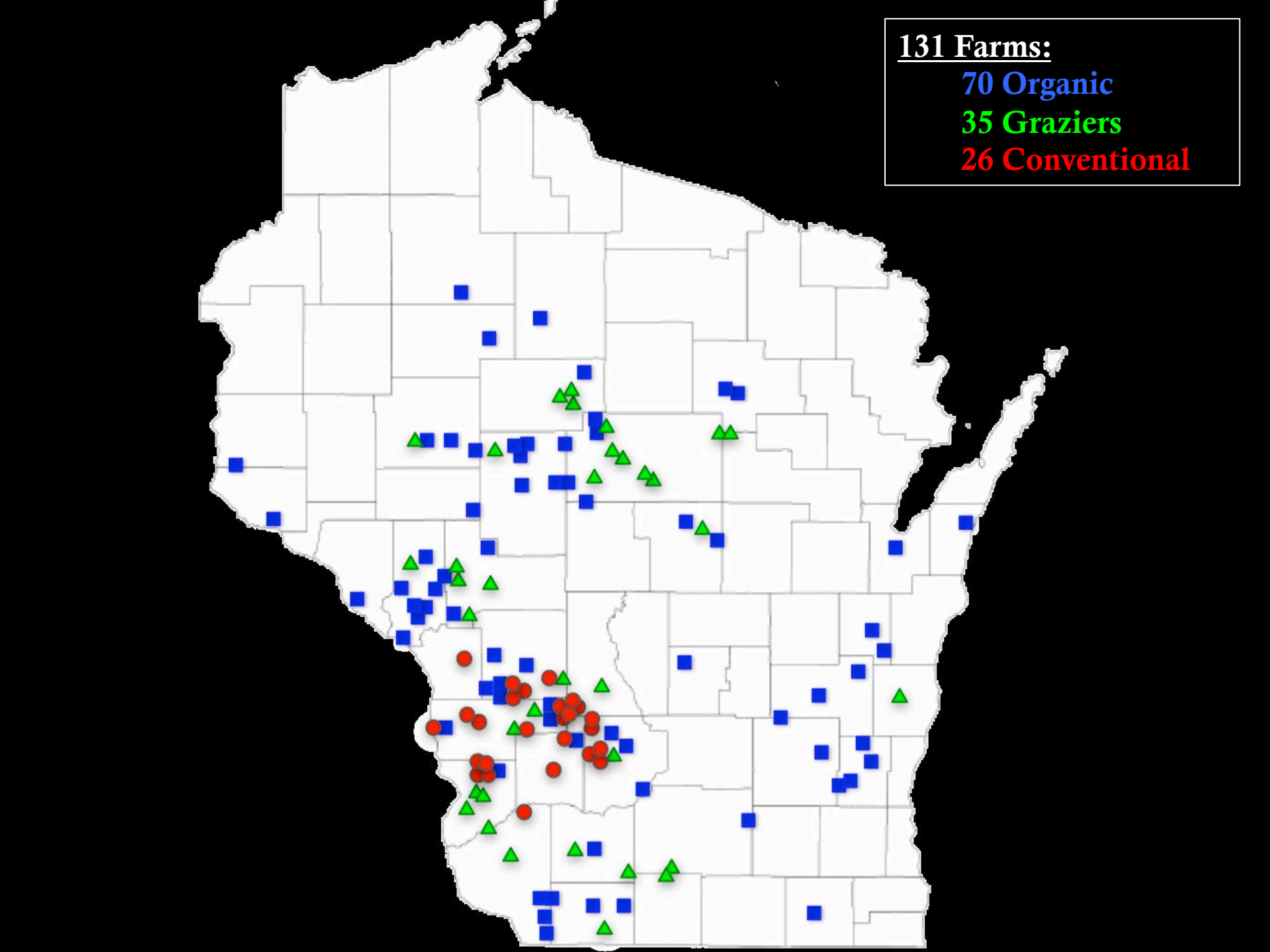
Those farms must be certified organic, must graze for at least 120 days and 30% of DMI of the cows must come from pasture.

- **Managed grazing farms:**

Those farms are using grazing intensively. The grazing season is at least 120 days long and they rotate the cows to fresh pasture at least every 3 days.

- **Conventional farms:**

Those farms are the non-organic and non-managed grazing farms. Some of them might use grazing but not intensively.


131 Farms:
70 Organic
35 Graziers
26 Conventional

QUESTIONNAIRE

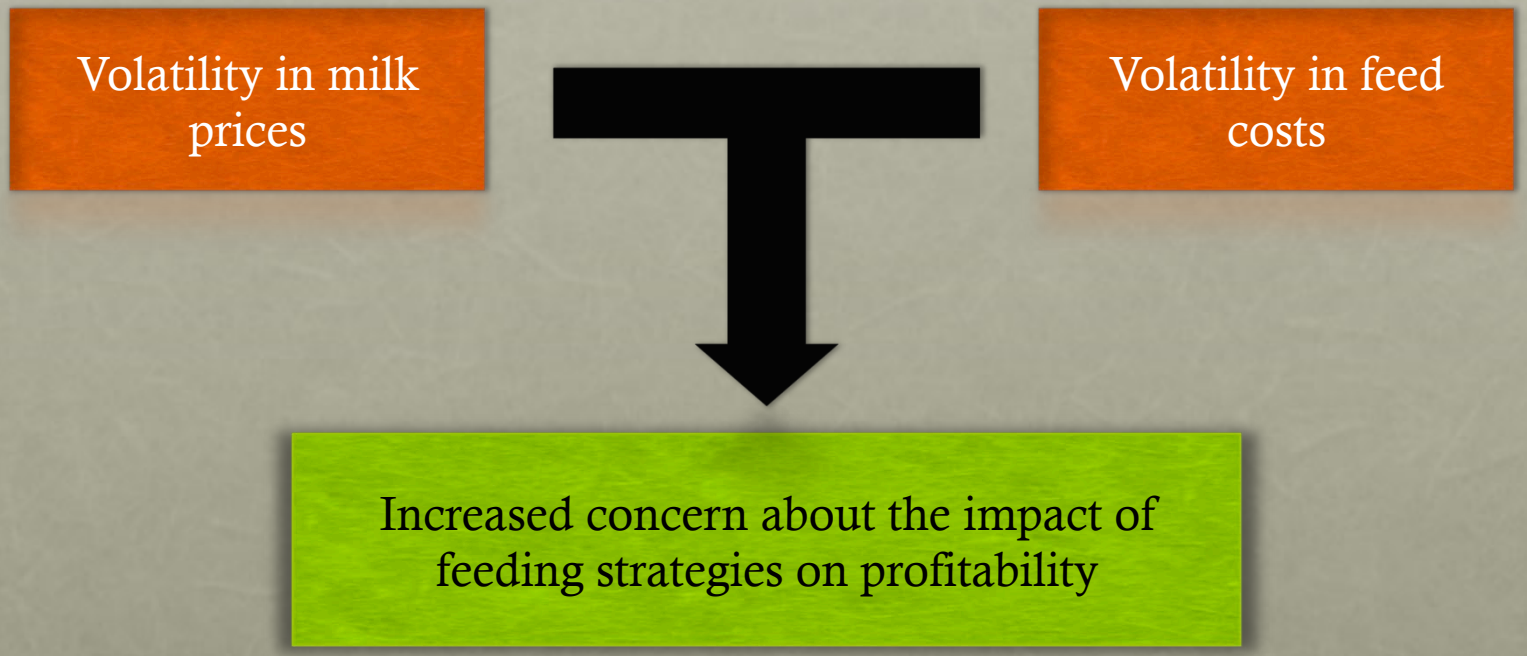
- **A survey questionnaire with 10 parts:**

  - Part A: Farm business structure
  - Part B: People on the farm
  - Part C: Dairy herd
  - Part D: Feeding management
  - Part E: Pasture management
  - Part F: Crops
  - Part G: Manure and nutrient management
  - ~~(Part H: Farmer farmer interaction)~~ Removed
  - Part I: Economy
  - Part J: Satisfaction

PRELIMINARY RESULTS

FACTORS AFFECTING PROFITABILITY ON WISCONSIN DAIRY FARMS

Introduction



Objectives

Assess the impact of feeding strategies associated with organic (ORG), grazier (GRA) or conventional (CON) practices on farm profitability

Materials and Methods

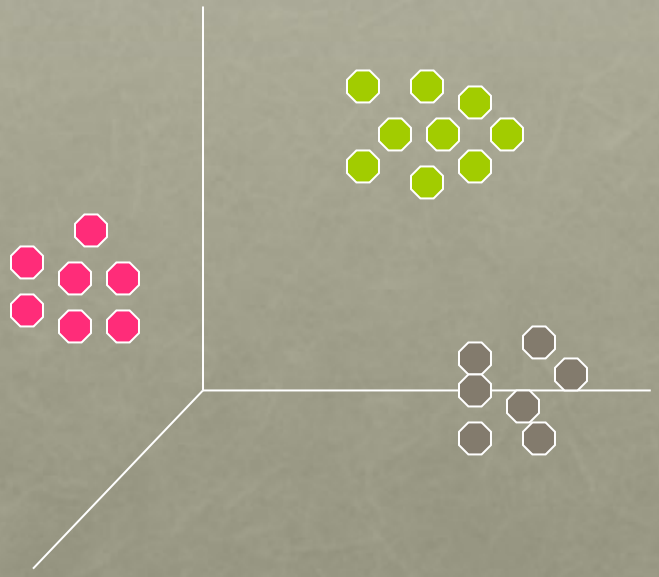
- Profitability was defined as the Income Over Feed Cost (IOFC)

IOFC = income from milk sales – feed costs

- Data were analyzed using cluster analysis by complete linkage.

Materials and Methods - What is cluster analysis?

- A **grouping** of data objects such that the objects **within a group are similar** (or related) to one another **and different from (or unrelated to) the objects in other groups**



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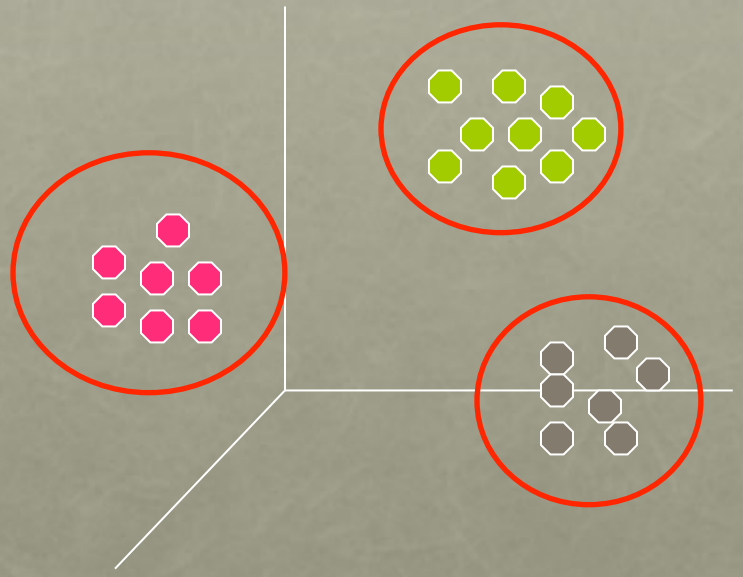

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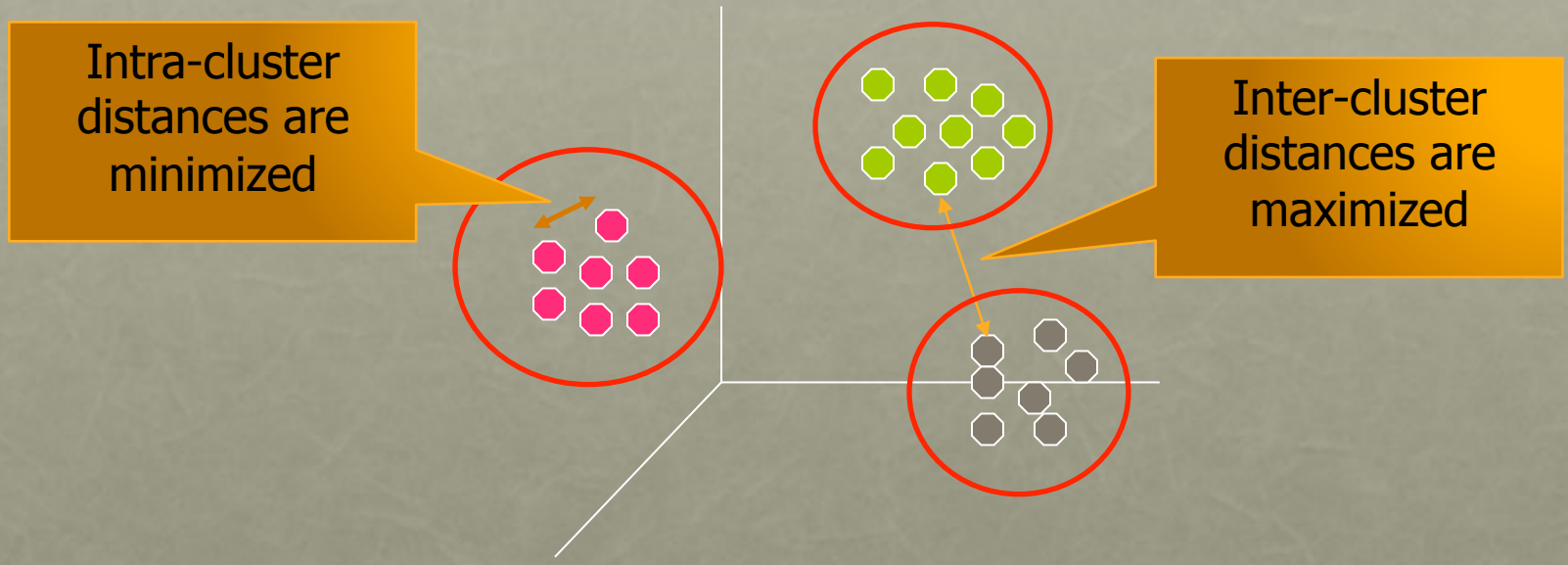
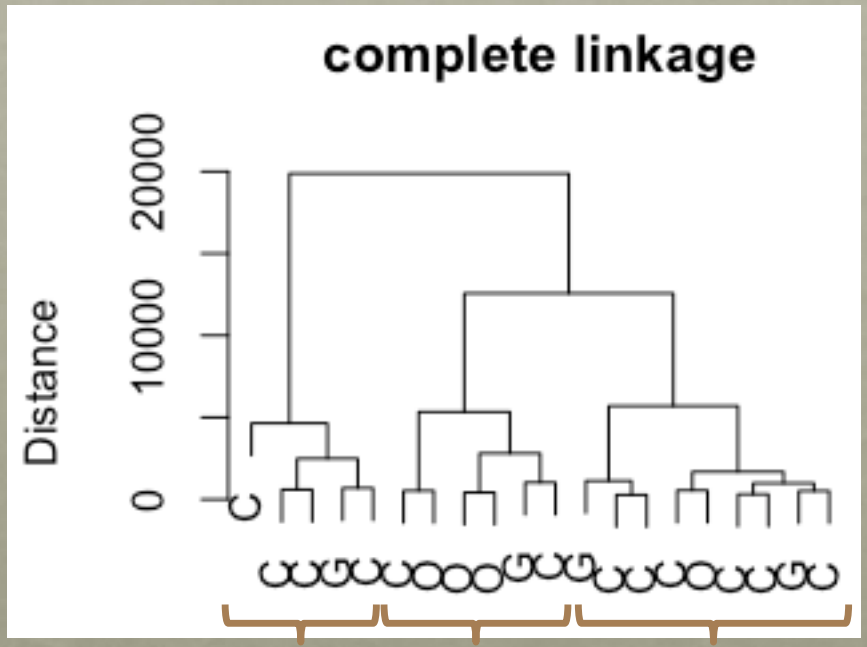


Preliminary results

- Results from 20 farms are presented here.
  - 4 ORGANIC
  - 4 GRAZING
  - 12 CONVENTIONAL

Preliminary results

C: Conventional
O: Organic
G: Grazier



Preliminary results

	Cluster 1	Cluster 2	Cluster 3
# Organic farms	1	0	3
# Grazing farms	2	1	1
# Conventional farms	6	4	2

	Cluster 1	Cluster 2	Cluster 3
Total acres			
Age of the respondent			
Number of cows			
Milk production (lbs/cow per year)			
Fat content (%)			
Protein content (%)			
SCC (x1,000 cells/ml)			
Milk price ($/cwt)			
% milk not sold			
Total DMI in winter (lbs/cow per day)			
% grass/legume silage in winter			
% hay in winter			
% corn silage in winter			
% concentrates in winter			
% vitamins and minerals in winter			
IOFC in winter ($/cow per day)			

	Cluster 1	Cluster 2	Cluster 3
Total acres	287		
Age of the respondent	49		
Number of cows	72		
Milk production (lbs/cow per year)	15,517		
Fat content (%)	3.78		
Protein content (%)	3.00		
SCC (x1,000 cells/ml)	287		
Milk price ($/cwt)	16.77		
% milk not sold	1.65		
Total DMI in winter (lbs/cow per day)	52.8		
% grass/legume silage in winter	19.3		
% hay in winter	37.8		
% corn silage in winter	12.0		
% concentrates in winter	30.0		
% vitamins and minerals in winter	0.9		
IOFC in winter ($/cow per day)	5.97		

	Cluster 1	Cluster 2	Cluster 3
Total acres	287	236	
Age of the respondent	49	44	
Number of cows	72	71	
Milk production (lbs/cow per year)	15,517	23,630	
Fat content (%)	3.78	3.56	
Protein content (%)	3.00	3.03	
SCC (x1,000 cells/ml)	287	204	
Milk price ($/cwt)	16.77	15.86	
% milk not sold	1.65	0.49	
Total DMI in winter (lbs/cow per day)	52.8	44.4	
% grass/legume silage in winter	19.3	37.8	
% hay in winter	37.8	0.9	
% corn silage in winter	12.0	18.2	
% concentrates in winter	30.0	42.4	
% vitamins and minerals in winter	0.9	0.7	
IOFC in winter ($/cow per day)	5.97	8.09	

	Cluster 1	Cluster 2	Cluster 3
Total acres	287	236	134
Age of the respondent	49	44	49
Number of cows	72	71	48
Milk production (lbs/cow per year)	15,517	23,630	9,104
Fat content (%)	3.78	3.56	4.36
Protein content (%)	3.00	3.03	3.25
SCC (x1,000 cells/ml)	287	204	317
Milk price ($/cwt)	16.77	15.86	21.88
% milk not sold	1.65	0.49	3.08
Total DMI in winter (lbs/cow per day)	52.8	44.4	39.6
% grass/legume silage in winter	19.3	37.8	15.0
% hay in winter	37.8	0.9	61.8
% corn silage in winter	12.0	18.2	4.6
% concentrates in winter	30.0	42.4	16.2
% vitamins and minerals in winter	0.9	0.7	2.4
IOFC in winter ($/cow per day)	5.97	8.09	5.22

Preliminary results

- Cluster 1:
  - Largest land base but intermediate milk production, composition and price.
  - Highest DMI but intermediate percentages of each diet ingredients compared with farms in clusters 2 and 3.

→ *"intermediate farms"* with an IOFC of $5.97/cow/day.

Preliminary results

- Cluster 2:
  - Similar in size to cluster 1 (# cows and acres).
  - Highest milk production and percentage of concentrate in the diet but lowest milk composition and price.

"*productive efficient farms*" with an IOFC of $8.09/cow per day

Preliminary results

- Cluster 3:
  - Smallest land base and smallest number of cows.
  - Highest milk composition and price but lowest milk production and estimated dry matter intake.

→ *"low input farms"* with an IOFC of $5.22/cow/day.

CONCLUSION

- The 3 clusters contained farms from different systems suggesting that the farm system is not a good indicator of farm profitability.

- The scope of inference from this analysis should be restricted to the sample population from which the data was collected. Results presented here reflect only a small portion of all the data collected with the 131 surveys.

NEXT STEPS

- Include the 131 surveys in the analysis.
- Look in more detail at feeding strategies, especially over the grazing season.
- Define feeding strategies leading to the best outcomes in terms of economy, environment and production.

QUESTIONS?

COMMENTS?