

# **Leaf and Yard Waste Diversion Update**

**March 16, 2010**

**Natasha Page**

# Introduction

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- Committee Members
- Timeline of Leaf and Yard Waste Diversion Technical Committee
- Draft Strategy
- Results from Feasibility Study – part 1
- Next Steps



# Team Members

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- **Natasha Page**  
Alberta Environment

- **Allan Yee**  
City of Edmonton, CCC

- **Daryl McCartney**  
University of Alberta

- **Don Davies**  
Stantec

- **Donna Chaw**  
Alberta Environment

- **Doug Wilson**  
University of Calgary

- **Jim Moore**  
BFI Canada

- **Jodi Tomchyshyn**  
Alberta Environment

- **Joanne Walroth**  
Recycling Council of Alberta

- **Linda McDonald**  
Alberta CARE

- **Lindsay Lofthouse**  
City of Calgary

- **Mary Curtis**  
City of Red Deer

- **Neil Weins**  
Bio-Cycle Nutrient Solutions Inc.

- **Richard Binder**  
City of Calgary

- **Rob Olenick**  
Top Spray

# Committee Timeline

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2009

- Apr: committee revived
- May – Jun: updated committee terms of reference
- Jun – Jul: clarified outstanding questions for feasibility study for draft strategy
- Sep: hired contractor to address Feasibility Study – part 1



# Committee Timeline

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2010

- Jan: hired contractor to address Feasibility Study – part 2
- Feb: have results for Feasibility Study – part 1
- Mar: have results for Feasibility Study – part 2
- Apr – Jun: committee to review information and update draft strategy
- Jun – Jul: workshops for greater feedback on strategy
- Jul – Sep: finalize strategy and prepare report for Minister

# Leaf and Yard Waste Diversion Strategy

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- Proposed Outcomes
  - Diversion of leaf and yard waste from the waste stream to a beneficial resource stream.
  - Fundamentally, Albertans understand the benefits of managing leaf and yard waste as a resource. Albertans are engaged and participating.



# Draft Strategy Recommendations

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- Requires Government leadership (municipal and provincial)
  - Implement strategy
  - Develop government procurement policies
  - Implement standardized waste measurement system
  - Report back to Albertans on strategy
  
- Need to implement:
  - Sustainable grant fund
  - Disposal ban on I&y waste
  - Communication, education, and training program
  - Accountability system to measure success

...but...committee still had outstanding questions

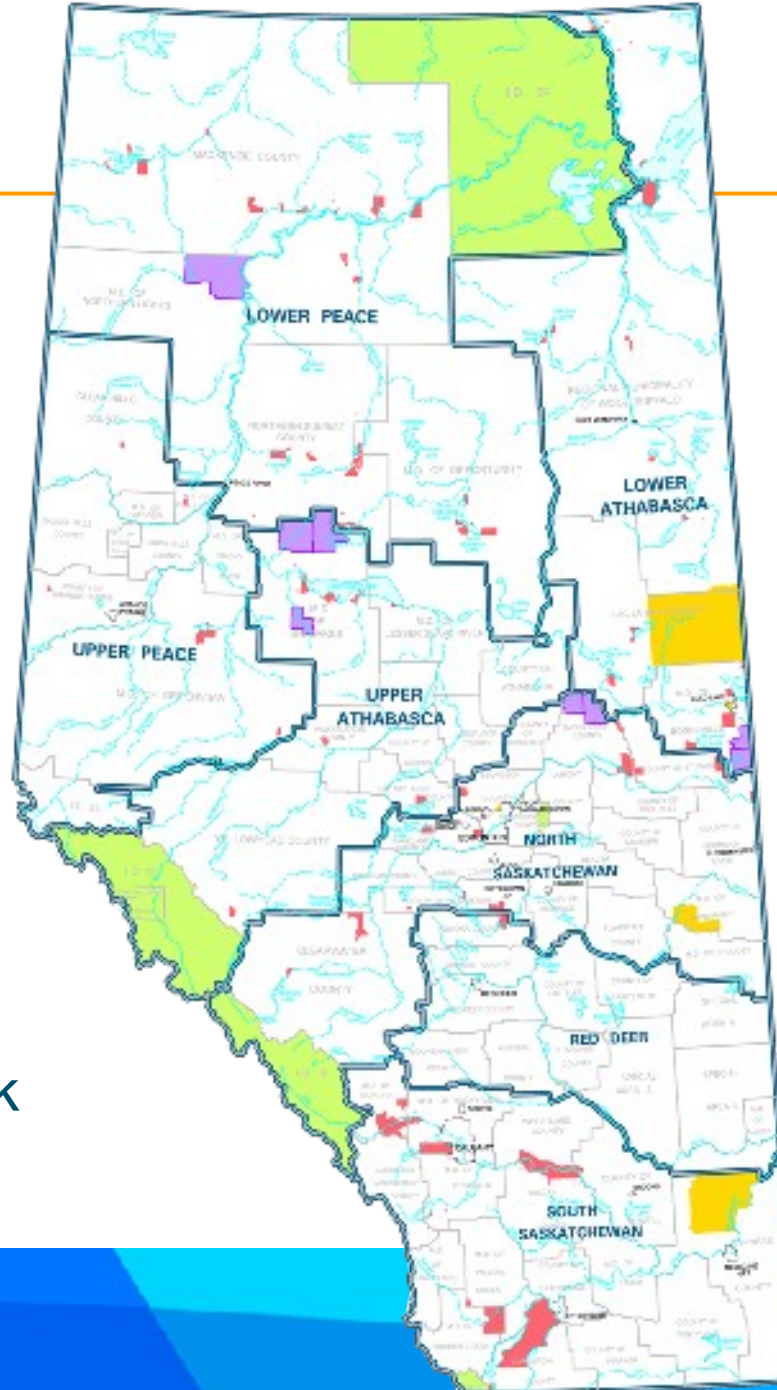
# Feasibility Study – Part 1

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- Outstanding questions
  - Amount of material to be managed?
  - Infrastructure needs?
  - Processing options and costs?
  - Management of final product?



# Regions

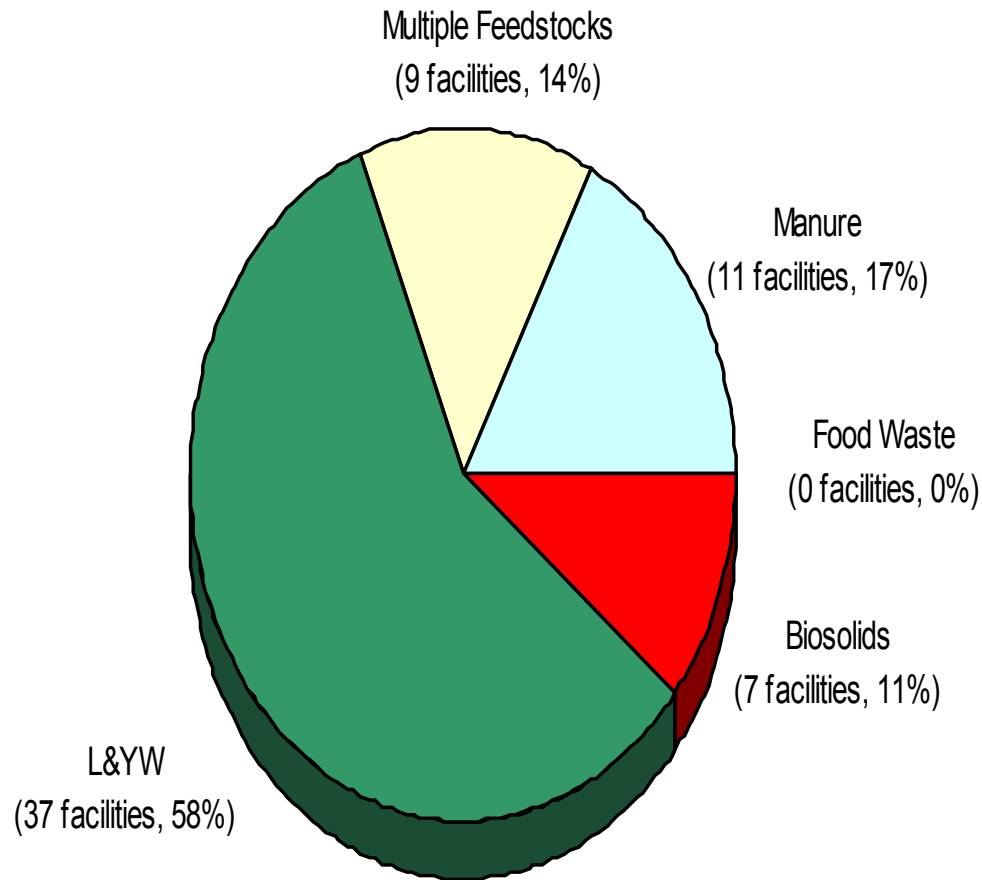


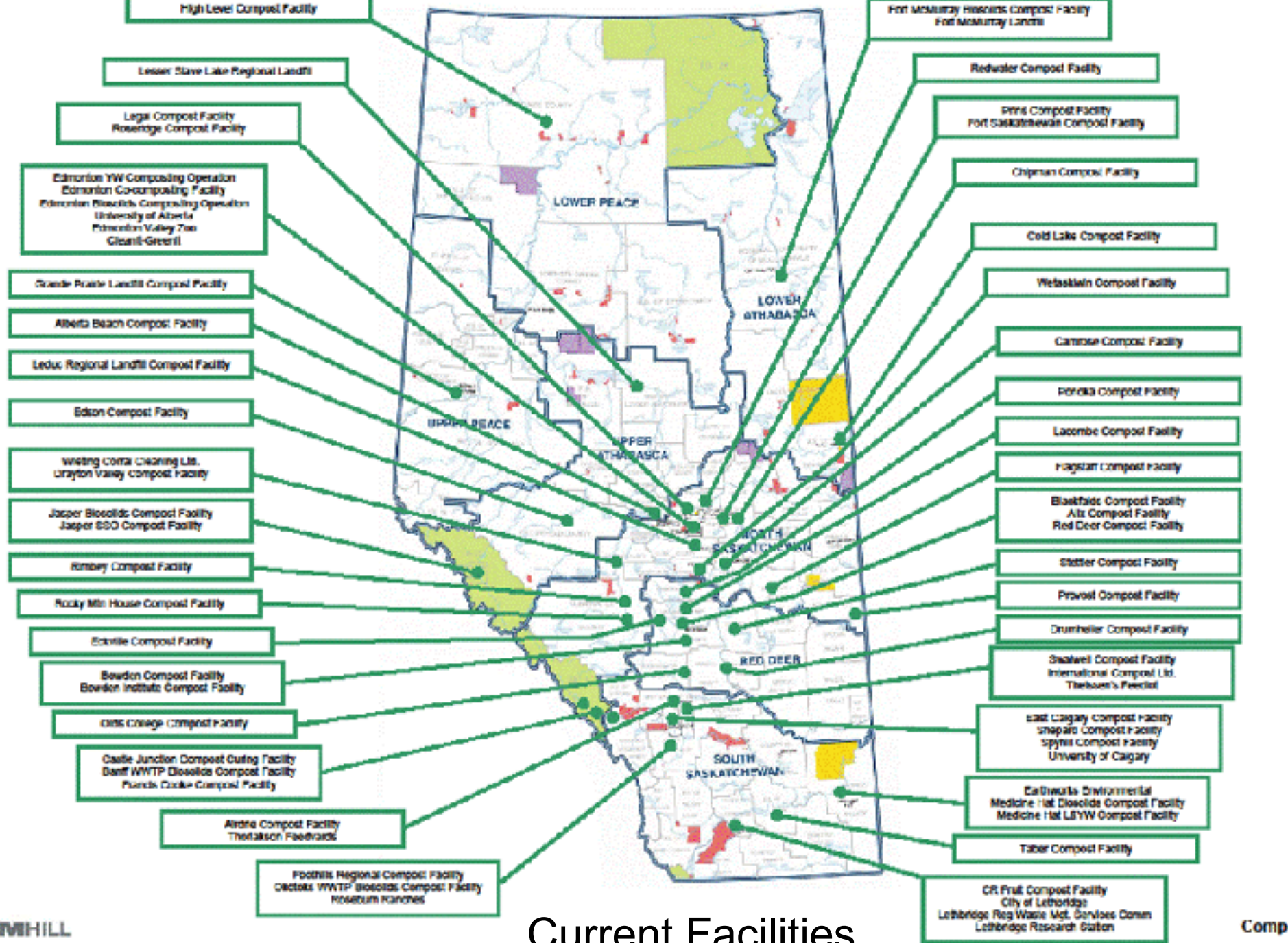
Defined by  
Government of  
Alberta's  
Land Use Framework

## “AS GENERATED” L&YW QUANTITIES BY GEOGRAPHIC REGION

Region	Population	Residential L&YW (tonnes/yr)	ICI L&YW (tonnes/yr)
North Saskatchewan	1,281,139	151,311	40,917
South Saskatchewan	1,531,318	200,646	49,855
Red Deer	274,784	15,147	6,826
Lower Athabasca	131,786	6,476	2,619
Upper Athabasca	119,039	7,410	3,815
Lower Peace	41,291	2,617	1,359
Upper Peace	116,946	6,588	3,091
<b>Total</b>	<b>3,496,303</b>	<b>390,195</b>	<b>108,482</b>

# Summary of Composting Facilities in Alberta





# Current Facilities

## Composting Capacity by Geographic Region

Region	Existing Organic Waste Processing Capacity			L&YW Processing Deficit (tpy)
	L&YW only	Other Feedstocks	Total	
North Saskatchewan	12,270	314,100	326,370	~106,000 3,4
South Saskatchewan	11,464	129,950	141,414	~238,000 5
Red Deer	8,340	15,000	23,340	~8,100 6
Lower Athabasca	4,250	43,000	47,250	~3,500 7
Upper Athabasca	600	0	600	10,625
Lower Peace	55	0	55	3,921
Upper Peace	0	0	0	9,679
<b>Total</b>	<b>36,479</b>	<b>502,050</b>	<b>536,929</b>	<b>~379,825</b>

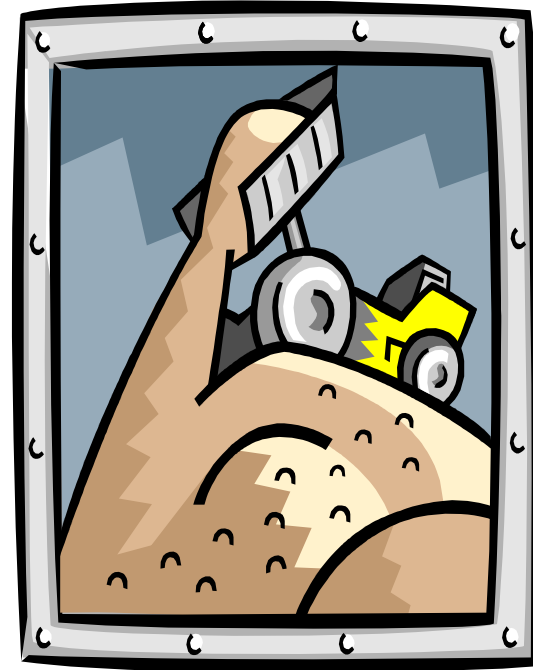
# Summary of Development and Operating Costs (based on Conceptual Design)

		Small Scale Facility	Medium Scale Facility	Large Scale Facility
<b>Design example size (tonnes/yr)</b>		500	4,000	15,000
<b>Development and Equipment Costs</b>	<b>Total (\$)</b>	122,200	1,000,000	1,690,000
	<b>Per Tonne of Capacity (\$/tonne)</b>	244	250	113
<b>Annual Operating Costs</b>	<b>Total (\$)</b>	25,000 to 30,000	90,000 to 100,000	150,000 to 175,000
	<b>Per Tonne of Capacity (\$/tonne)</b>	50 to 60	23 to 25	10 to 12

# Compost End Uses and Markets

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- Data collected via questionnaire and follow up phone calls
- Contacted
  - composters and
  - potential/current end users of compost in each of the 7 regions



# L&YW Compost End Uses and Markets

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## Producers

- 26 composting facilities
- Only 22 actively composting (18 municipal & 4 private)
- Most facilities processed L&YW using windrows
- Combined production of about 111,000 tonnes of compost (includes compost from other feedstocks)



# L&YW Compost End Uses and Markets

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## Markets

- Survey included garden centers, landscapers and wholesale nurseries
- Data potential market was supplemented with study from Iowa
- Half of the garden centers only carry bagged compost
- Primarily used from April and October, high demand in April and May
- Compost use affected by annual weather conditions



# Estimated Compost Market Demand

Region	Population	Demand
North Saskatchewan Total	1,281,139	210,107 m <sup>3</sup> /yr
South Saskatchewan Total	1,531,318	251,136 m <sup>3</sup> /yr
Red Deer Total	274,784	45,065 m <sup>3</sup> /yr
Lower Athabasca Total	131,786	22,613 m <sup>3</sup> /yr
Upper Athabasca Total	119,039	19,522 m <sup>3</sup> /yr
Lower Peace Total	41,291	6,772 m <sup>3</sup> /yr
Upper Peace Total	116,946	19,179 m <sup>3</sup> /yr
<b>Total</b>	<b>3,496,303</b>	<b>573,394 m<sup>3</sup>/yr</b>

# Barriers to Compost Marketing

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- Low selling price of competing products (6 comments)
  - the fertilizer and peat industries and the low prices of 'perceived' competing products (3)
  - poor quality compost is being brought on the market which negatively affects the opinion of the product (1)
  - inexpensive topsoil negatively affects the perceived value of compost (1)
  - feedlots are selling cheap/low quality compost which negatively affects the opinion of the product (1)
- Cannot meet market demand (3 comments)
  - need more compost to sell / we 'run out' / need bigger facility – composters do not have enough feedstock to meet their current compost demand (3)

# Barriers to Compost Marketing

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- Regulatory Issues (6 comments)
  - reduce regulatory/permitting hurdles pertaining to facility 'start-ups' and expansions thereby allowing for an easier ability to manage organic by-products (2)
  - Reduce government procurement barriers and promote compost usage among government entities (2)
  - difficult to enter reclamation market because of current revegetation regulations (2)
- Education
  - lack of public understanding about compost and its value, requiring additional public education regarding the product (1)
- Infrastructure/equipment needs
  - access to compost application equipment to assist in efficient and economic application (1)

# Feasibility Study – Part 2

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- Outstanding questions
  - Full Cost Accounting for the program
  - Sustainable Grant Fund details
  - What are the funding models?
  - Economic & policy instruments to encourage diversion
  - Recommended diversion rate and monitoring plan

# Next Steps

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- Mar: have results for Feasibility Study – part 2
- Apr – Jun: committee to review information and update draft strategy
- Jun – Jul: workshops for greater feedback on strategy
- Jul - Sep: finalize strategy and prepare report for Minister

**I find that a real gardener is not a man  
who cultivates flowers;  
he is a man who cultivates the soil.**

***He is a creature***

***who digs himself into the earth ...***

***He lives buried in the ground.***

***He builds his monument  
in a heap of compost.***

**If he came into the Garden of Eden,  
he would sniff excitedly and say:**

***“Good Lord, what humus!”***



Thank-you!

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