

# 2017 Manure Management Update:

## EFA's Environmental Program *(and its Impact on Manure Management Practices)*

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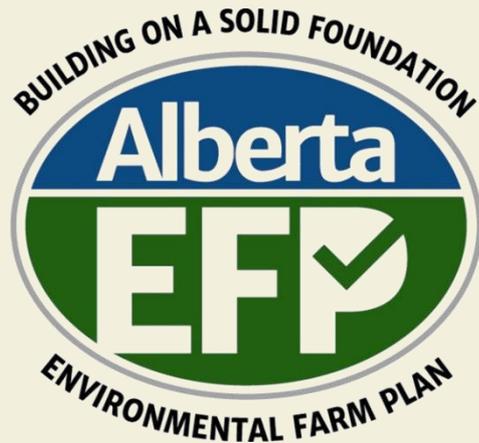


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ENVIRONMENTAL  
EGG  
PROGRAM**

# Background



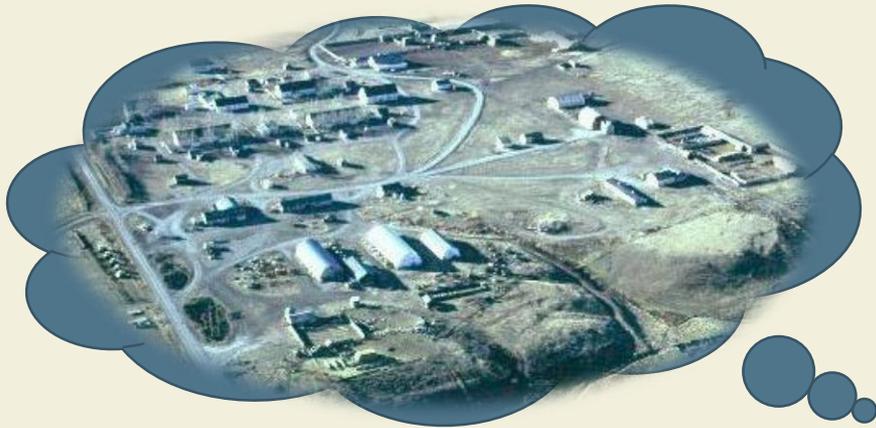
# Existing Work: Environmental Farm Plan



A federal-provincial-territorial initiative



# Existing Work: Environmental Farm Plan



# What is PEEP?



All egg farmers are provided with a manual that outlines beneficial management practices



Element 1 - Water Consumption	
1.1. Knowledge of water use and water conservation	
	RATING (max 10)
1. Good knowledge of amount of water used as demonstrated by a water meter to record water use for the whole farm AND regular maintenance AND repair of leaks.	10
2. Some knowledge of amount of water used as demonstrated by a water meter mounted in the laying area AND other mechanisms for monitoring change in total water use such as regular maintenance and inspections AND repair of leaks.	7
3. Some knowledge of amount of water used as demonstrated by a water meter mounted in the laying area BUT there is no regular maintenance or water leak monitoring to quickly identify leaks or inefficiencies. Leaks are repaired when found.	5
4. No knowledge of amount of water used OR leaks are not repaired when found.	0

EFA field staff go over assessment on farm once per year



Farmers receive customized recommendations based on their score, and a certificate if they score over 60%

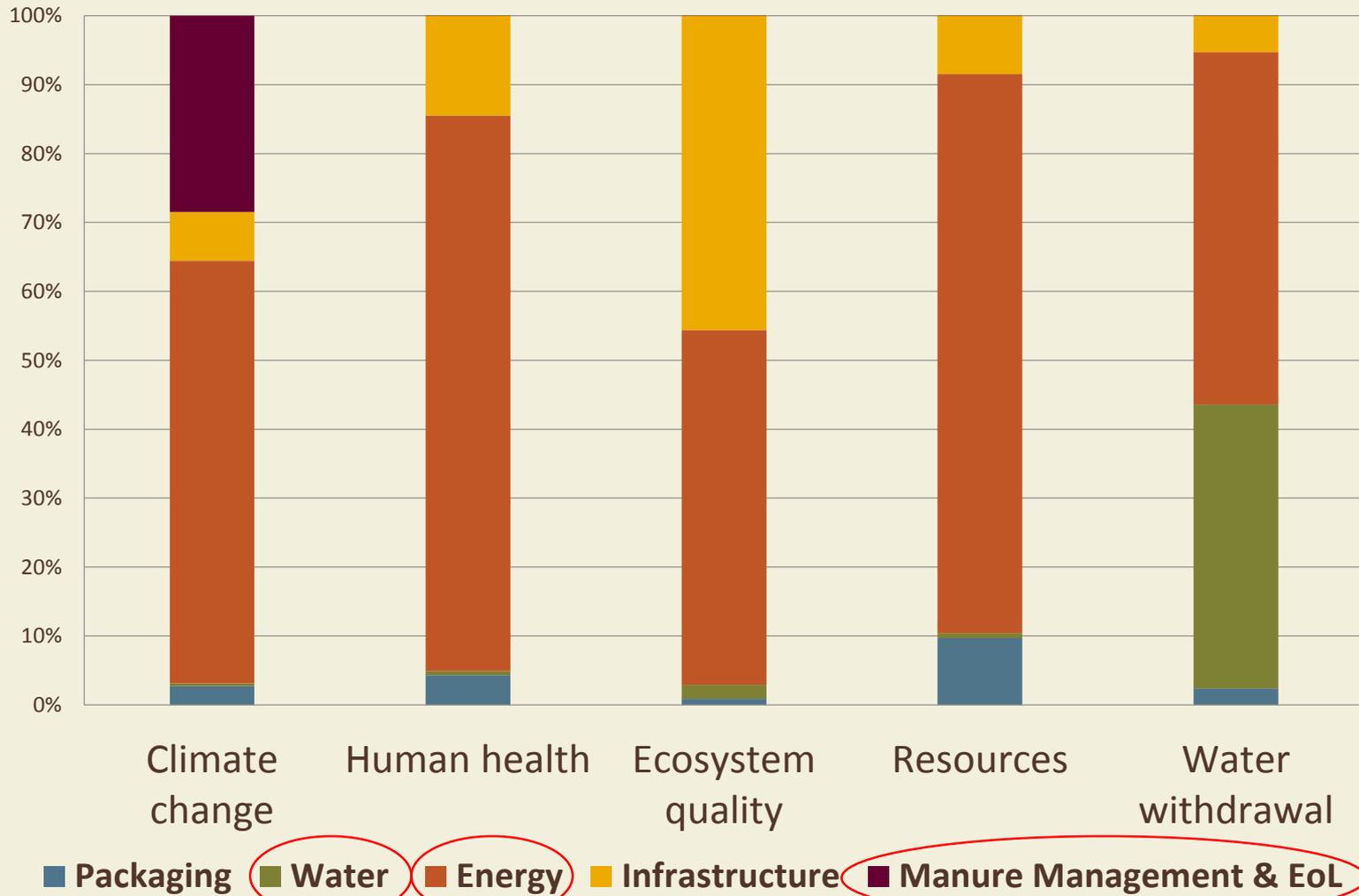
# PEEP

- Following risk based format
- 11/12 questions derived from EFP:
  - Water Consumption (1)
  - Disposal of Farm Wastes and By-Products (2)
  - Manure Storage, Use, and Management (3)
  - Energy Management (6)
- Stewardship elements worth 2x general elements
- 100% voluntary at this time, but 100% uptake!



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# Farm operations life cycle stage

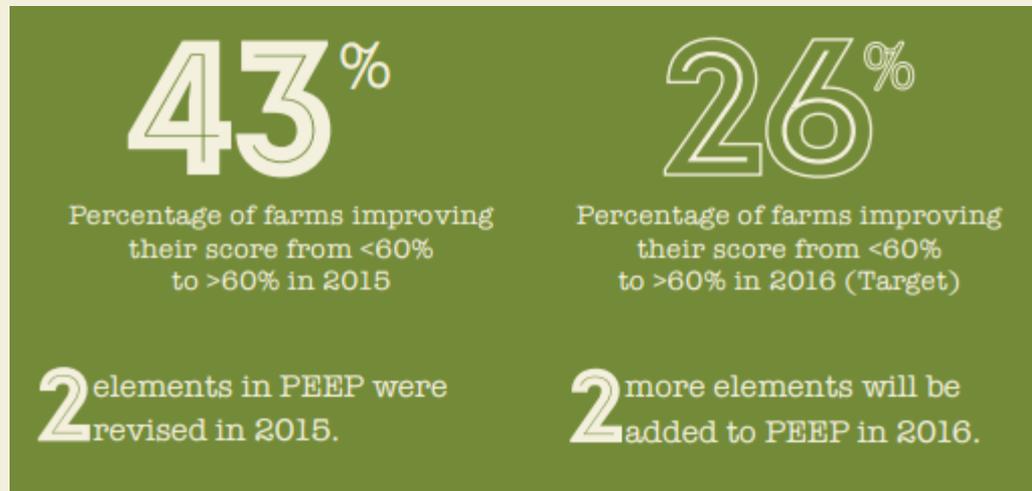


# Continuous Improvement



For 2016, the average score on PEEP was 72.63%

83% are now "passing."



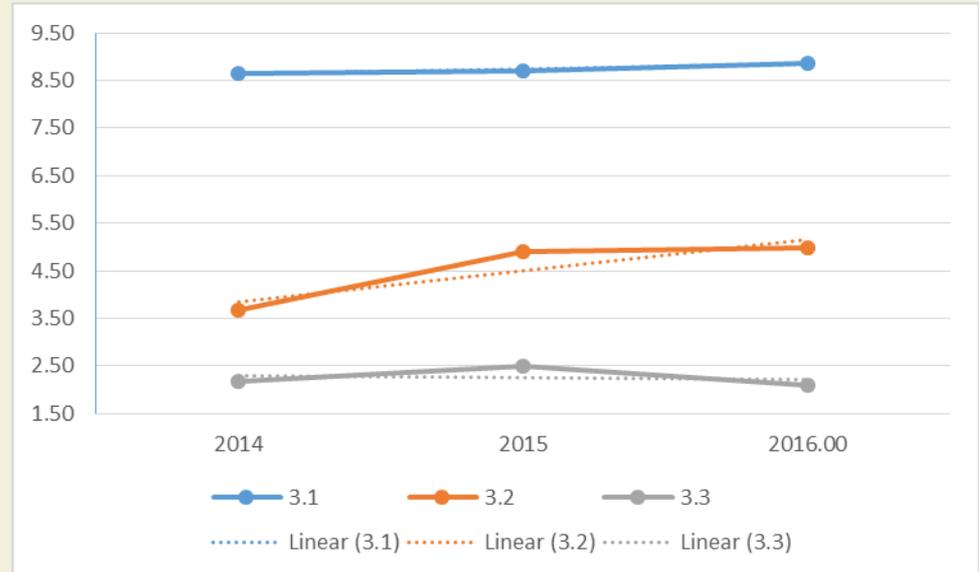
147 farms assessed in 2016:

*All but those who are under construction*

# Focusing on Manure

	2014	2015	2016
<b>3.1</b>	8.65	8.71	8.85
<b>3.2</b>	3.66	4.89	4.98
<b>3.3</b>	2.18	2.49*	2.11*

\*Increase in free run producers:  
Question changed to reflect how these farmers are scored.



Compare Rate of Change: ~1% improvement for manure management; 8% overall

3.1. Permanent or temporary manure storage location.

GENERAL ELEMENT

**RATING**  
(Please Circle)

1.	<p>Facility is greater than 1 metre above the 1 in 25 year flood level <b>AND</b> no runoff leaves the storage facility <b>OR</b> any runoff from the storage location flows away from common bodies of water <b>OR</b> all runoff from the facility is directed into or captured by a catch basin or other form of containment.</p>	10
2.	<p>Facility is greater than 1 metre above the 1 in 25 year flood level <b>AND</b> the manure storage is more than 30 metres from a common body of water <b>AND</b> runoff from the facility is directed away from the body of water with a berm into a field or pasture area that does not drain.</p> <p><b>Or</b> facility is within the 1 in 25 year flood level <b>BUT</b> no runoff leaves the storage facility <b>OR</b> Any runoff from the storage location either flows away from common bodies of water <b>OR</b> all runoff from the facility is directed into or captured by a catch basin or other form of containment.</p>	7
3.	<p>Facility is greater than 1 metre above the 1 in 25 year flood level <b>AND</b> the manure storage facility is 30 or more metres away from common bodies of water, <b>AND</b> a grassed buffer area is provided to manage runoff.</p> <p><b>Or</b> facility is within the 1 in 25 year flood level <b>BUT</b> the manure storage is more than 30 metres from a common body of water <b>AND</b> runoff from the facility is directed away from the body of water with a berm into a field or pasture area that does not drain.</p>	5
4.	<p>Facility is greater than 1 metre above the 1 in 25 year flood level <b>BUT</b> the manure storage facility is less than 30 metres away from common bodies of water <b>OR</b> no grassed buffer area is provided to manage runoff.</p> <p><b>Or</b> facility is within the 1 in 25 year flood level <b>AND</b> the manure storage is less than 30 metres from a common body of water <b>AND</b> runoff from the facility is <i>not</i> directed away from the body of water with a berm into a field or pasture area that does not drain.</p>	0

2016 Average Score: 8.8

12 Farms @ 0



# Stewardship Element New in 2016!

## 3.2. Manure and compost storage capacity. STEWARDSHIP ELEMENT

		RATING (Please Circle)	
	1.	Primary manure storage is permanent (i.e. has a base: clay liner or concrete pad) and there is 9-12 months or more capacity.	20
	2.	Primary manure storage is permanent (i.e. has a base: clay liner or concrete pad) but there is less than 9 months capacity. AND/Or Overflow/temporary manure storage is moved a minimum of every 7 months.	14
	3.	Primary manure storage is permanent (i.e. has a base: clay liner or concrete pad) but there is less than 9 months capacity. AND/Or Overflow/temporary manure storage is moved a minimum of every year.	10
	4.	Primary manure storage is permanent (i.e. has a base: clay liner or concrete pad) but there is less than 9 months capacity. AND/Or Overflow/temporary storage is not moved a minimum of once per year.	0

2016 Average Score: 9.86 [4.93]  
70 Farms @ 0!



3.3. Manure treatment.

GENERAL ELEMENT

**RATING**  
(Please Circle)

1.	<p>Belt dryers are in place that make use of heat exchangers or draw internal air</p> <p><i>Or</i> producer has tested the moisture content of the manure and it is less than 50% (including deep-pit and belt systems)</p> <p><i>Or</i> producer has a non-aviary free-run facility with litter.</p> <p><b>AND manure is stored in a protected facility</b></p>	10
2.	<p><del>Belt dryers are in use</del> BUT cold air is drawn from outside <u>or</u> dried manure is stored uncovered outside.</p> <p><i>Or</i> producer has a deep pit or board scraper (gutter) and is drying the manure in the pit but has not tested the moisture content.</p>	7
3.	<p><del>Belt dryers are in use</del> but cold air is drawn from outside <u>and</u> dried manure is stored uncovered outside.</p> <p>There is no manure drying or moisture testing being done BUT producer has an aviary system.</p>	5
4.	<p>There is no manure drying or moisture testing being done.</p>	0

2016 Average Score: **1.99**  
110 Farms @ 0!



*“Layer manure must be seen as a valuable source of phosphorus and nitrogen and must be handled and stored to maximize nutrient availability to the crops. It is recommended that Alberta Egg Producers support egg producing farms to install both belt and drying systems and also invest in sheltered manure storage facilities that allow for the dried layer manure to minimize the loss of nutrients to the atmosphere. Dried and properly stored manure can then be used more effectively on cropland as part of the farm’s overall nutrient management plan” – Timmenga & Associates (2012)*

# Issues and Solutions

ISSUE	SOLUTION
Unclear on-farm practices, no improvement program to educate and monitor	Development and launch of PEEP
Use of field storage as “permanent” manure storage	Education campaign and increased weighting in PEEP
Lack of uptake on manure drying and covered storage	AF research and extension collaboration

# Key Takeaways

- PEEP serves as one model to encourage best production practices, better understand opportunities for research and policy, and document changes over time
- Farmers themselves were surprised at the low hanging fruit opportunities to improve manure management
- Stay tuned: Opportunity to evaluate effectiveness of a comprehensive government-industry research and extension strategy at a targeted issue