A Duck’s Tale

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BVMSci MRCVS

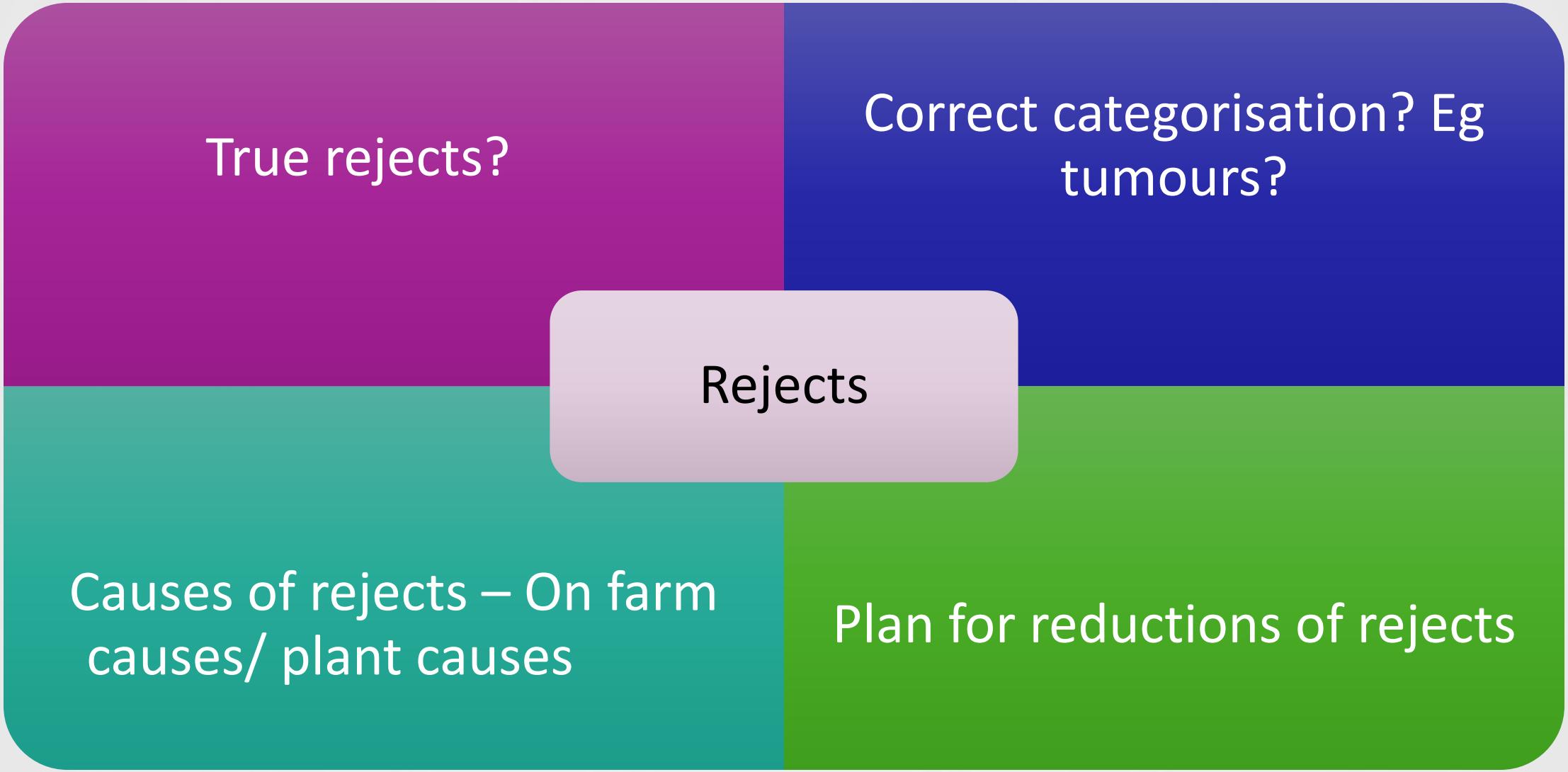
Increasing numbers of rejects at the factory - but why?

- Numbers of rejects has risen by 0.5% over the previous 12 months.
- April 2023 factory visit conducted
- Identification of reject cause

What is classified as a reject?

- DOA
- Skin Disease - Cellulitis
- Pericarditis
- Joint infections
- Ascites
- Machine damage

- **Tumours – AGE?**


True rejects?
Correct categorisation? Eg tumours?
Rejects
Causes of rejects – On farm causes/ plant causes
Plan for reductions of rejects

Rejects split into 2 separate categories

Rejects made pre-evisceration – Ascites, cellulitis (skin disease), machine damage

Rejects made post evisceration – Bacterial challenge e.g pericarditis, joint infections

On farm trials

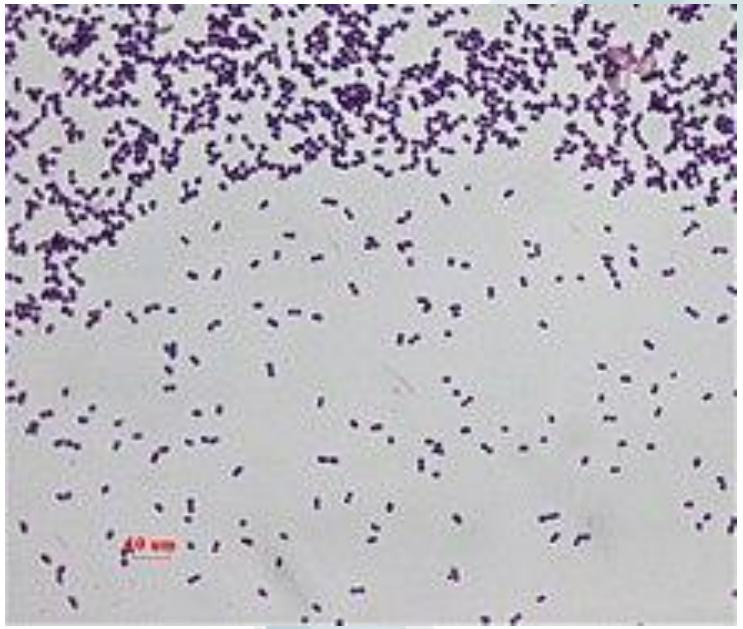
- 2 main areas of focus
  - Ascites
  - Bacterial challenge

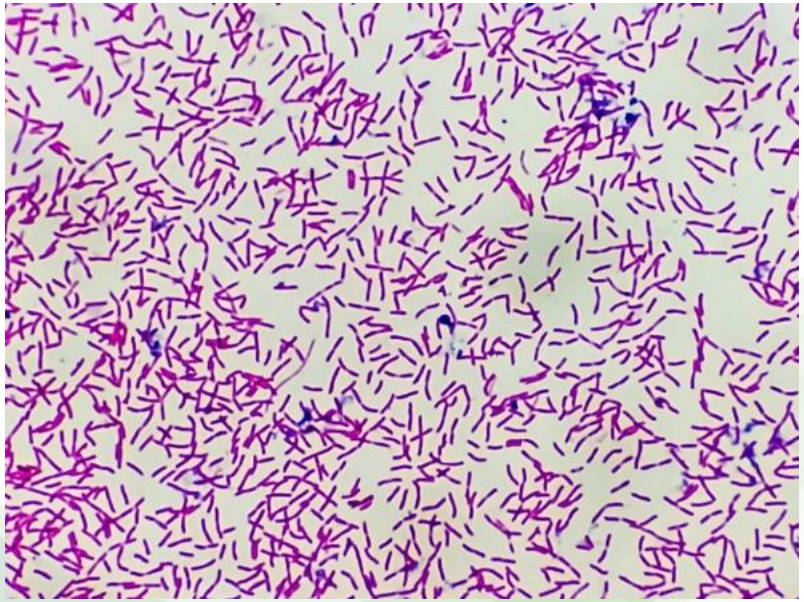
Ascites trials

- Single farm with 4 identical houses
- 2 control houses - ventilation is on target
- 2 houses - ventilation is 2 days ahead of target.
- Temperature and humidity monitors placed across sheds
- 1st cycle has been completed
- Trials are ongoing ……..

Bacterial challenge - The one thing in common?

- Pericarditis
- Joint infection
- Tumours?
- Most likely pathogens –Enterococcus or E-Coli?
    - Enterococcus – Gram positive cocci
    - E-Coli – Gram negative rods





Tumour rejects?

These lesions were being classified as tumors, but were they?

Location?

- Coxafemoral joint

Inciting cause?

- Femoral head necrosis?

Bacterial trials

- E- Coli vaccination
- Calcium Pidolate
- Vit D3

Trial protocol's

- E-coli
  - 1 Farm with 4 identical sheds
  - 2 control sheds and 2 trial sheds
  - Vaccinate at placement – Day old
  - Weekly visits day 7, 14 & 21
  - 3 cycles

- Calcium Pidolate
  - 1 farm with 4 identical sheds
  - 2 control sheds and 2 trial sheds
  - 20g per 1000kg bodyweight, provided for the first ten days
  - Based on 2% Dosatron
  - 3 cycles

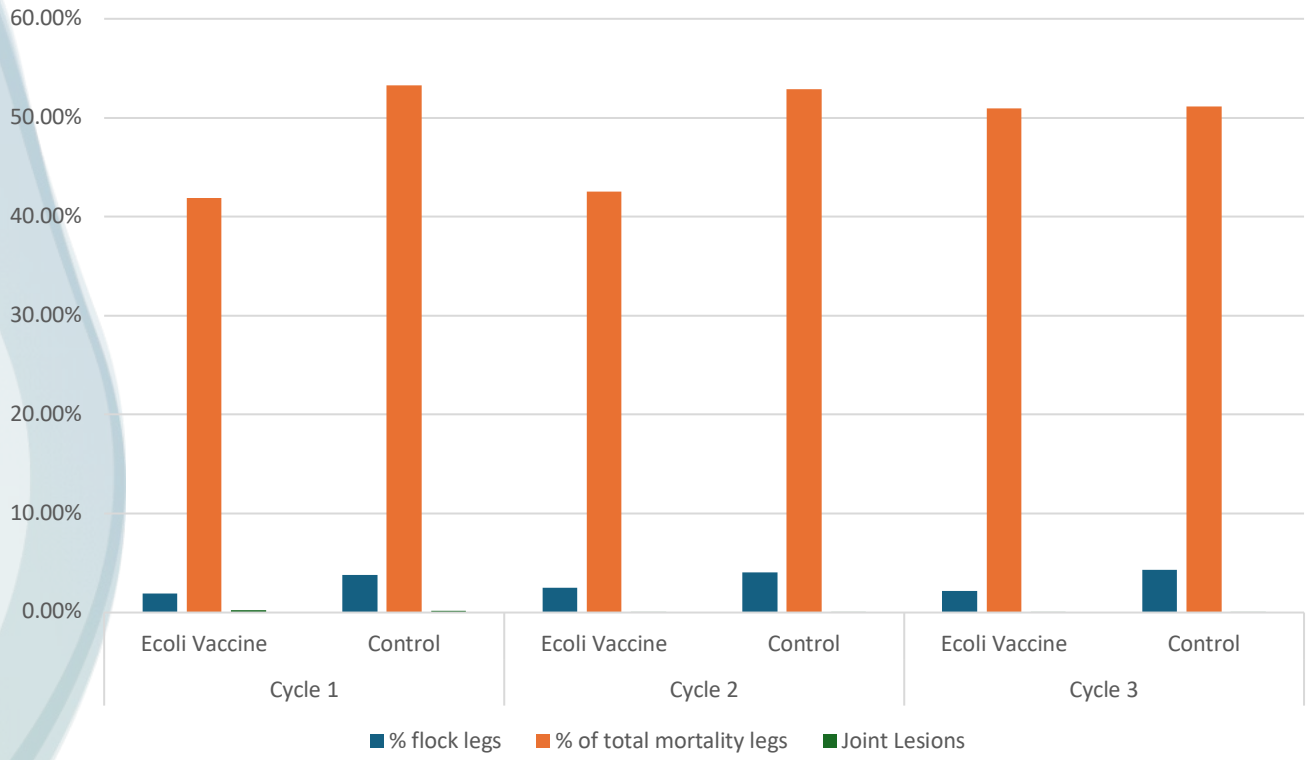
- Vit D3
  - 1 farm with 4 identical sheds
  - 2 control sheds and 2 trial
  - 1ml/ ltr drinking water for first 10 days
  - Based on 2% Dosatron
  - 3 cycles

Day	Total bodyweight in house (kg)	Calcium Pidolate per day (g)	Estimated total water consumed per house per day (L)	Water in stock solution* (L)
1	475.0	10	190	3.80
2	569.7	11	285	5.70
3	759.2	15	475	9.49
4	948.6	19	759	15.18
5	1232.5	25	1138	22.75
6	1611.0	32	1516	30.32
7	1989.0	40	1989	39.78
8	2461.4	49	2556	51.12
9	3027.9	61	2776	55.52
10	3593.8	72	3138	62.76

Day	Estimated total water consumed per house per day (L)	D3 per day* (ml)	Water in stock solution* (L)
1	190	190	3.80
2	285	285	5.70
3	475	475	9.49
4	759	759	15.18
5	1138	1138	22.75
6	1516	1516	30.32
7	1989	1989	39.78
8	2556	2556	51.12
9	2776	2776	55.52
10	3138	3138	62.76

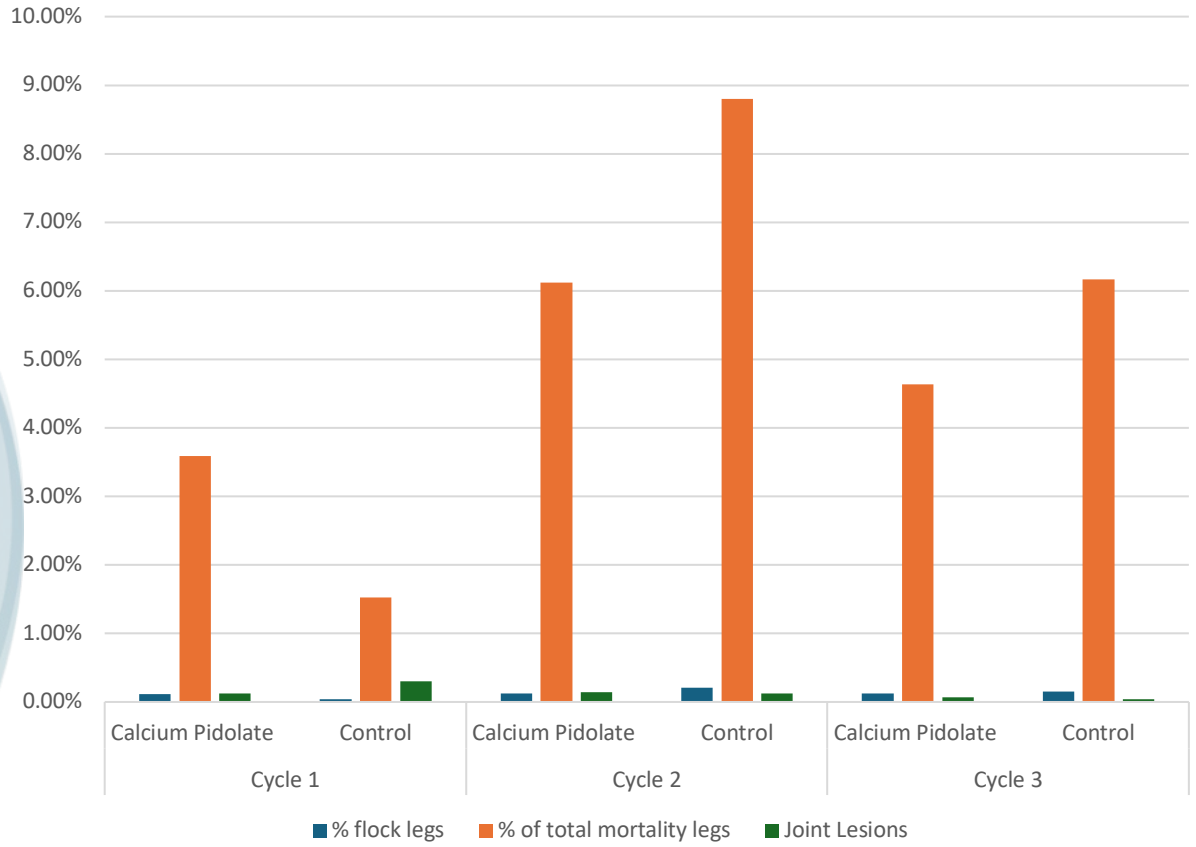
E-Coli Vaccination Trial

		House No.	% flock legs	% of total mortality legs	Joint Lesions
Cycle1	D3	1	0.08%	3%	0.04%
	D3	3	0.17%	6%	0.06%
	Control	2	0.11%	3%	0.02%
	Control	4	0.07%	3%	0.04%
Cycle 2	D3	1	0.23%	7%	0.02%
	D3	3	0.39%	14%	0.03%
	Control	2	0.33%	9%	0.02%
	Control	4	0.25%	9%	0.00%
Cycle 3	D3	1	0.34%	15%	0.02%
	D3	3	0.43%	15%	0.03%
	Control	2	0.42%	17%	0.02%
	Control	4	0.47%	17%	0.03%



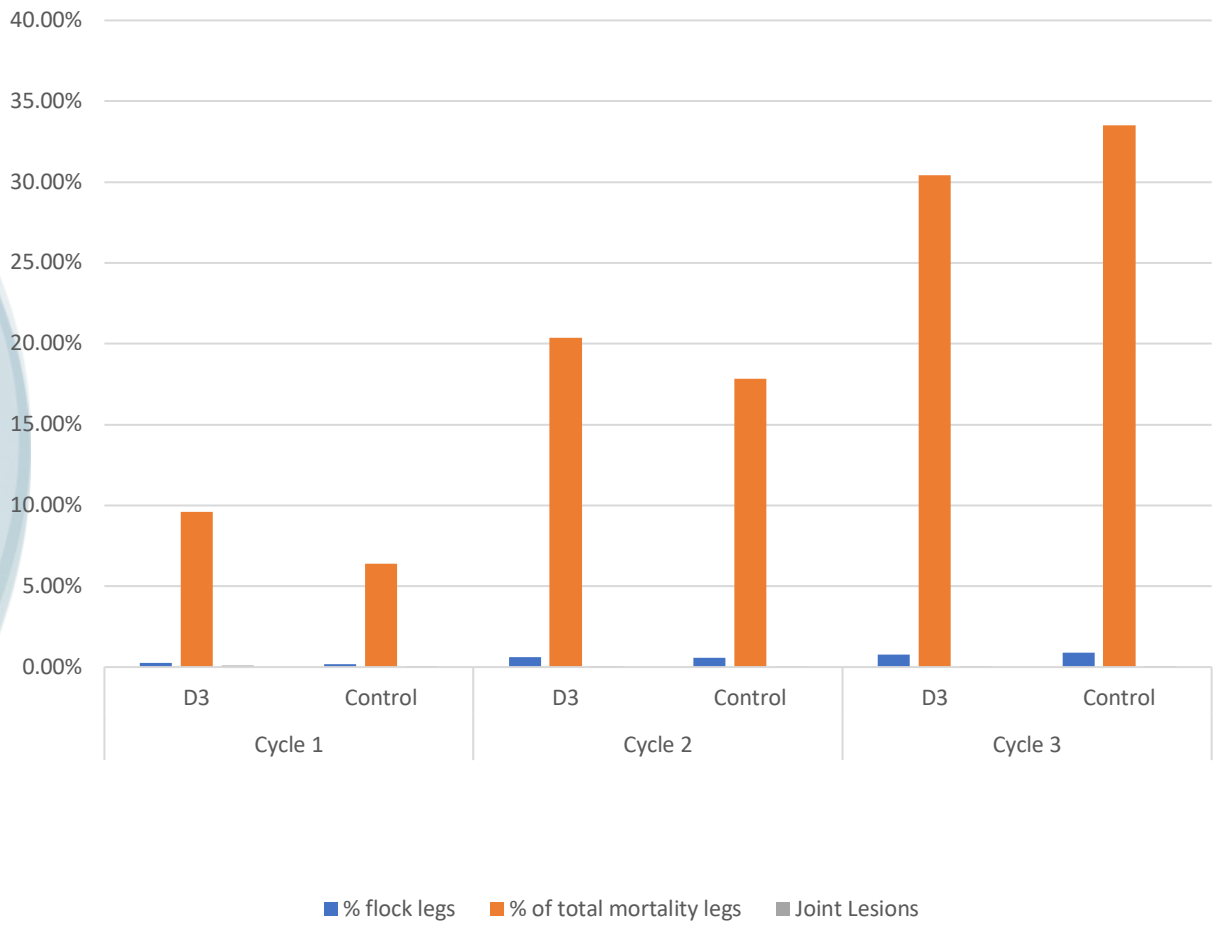
Calcium Pidolate Supplementation Trial

		House No.	% flock legs	% of total mortality legs	Joint Lesions
Cycle 1	Calcium Pidolate	1	0.06%	2.05%	0.07%
	Calcium Pidolate	3	0.05%	1.54%	0.05%
	Control	2	0.03%	1.16%	0.12%
	Control	4	0.01%	0.36%	0.18%
Cycle 2	Calcium Pidolate	1	0.05%	3.05%	0.09%
	Calcium Pidolate	3	0.07%	3.07%	0.05%
	Control	2	0.15%	6.06%	0.02%
	Control	4	0.06%	2.74%	0.11%
Cycle 3	Calcium Pidolate	1	0.09%	3.32%	0.00%
	Calcium Pidolate	3	0.03%	1.31%	0.06%
	Control	2	0.07%	3.10%	0.00%
	Control	4	0.07%	3.07%	0.04%



Vitamin D3 Supplementation Trial

		House No.	% flock legs	% of total mortality legs	Joint Lesions
Cycle1	D3	1	0.08%	3%	0.04%
	D3	3	0.17%	6%	0.06%
	Control	2	0.11%	3%	0.02%
	Control	4	0.07%	3%	0.04%
Cycle 2	D3	1	0.23%	7%	0.02%
	D3	3	0.39%	14%	0.03%
	Control	2	0.33%	9%	0.02%
	Control	4	0.25%	9%	0.00%
Cycle 3	D3	1	0.34%	15%	0.02%
	D3	3	0.43%	15%	0.03%
	Control	2	0.42%	17%	0.02%
	Control	4	0.47%	17%	0.03%



Summary

- Reject classification at the factory more appropriate

- **Ascites trials**
  - Ongoing data collection and comparison to reject data from factory

- **Bacterial trials**
  - % of the mortality of the flock with leg issues rose – Why?

  - Better onsite observations and culling – weekly vet visits

  - Reason?
    - Developmental > infectious cause


THANK YOU!!
You're all...
AMAZING!!!