A brown egg is positioned on the right side of the slide, resting on a wooden surface. The background features a sunburst pattern of light rays emanating from behind the egg, creating a warm, golden glow. The text is overlaid on the left side of the image.

False Layer Syndrome: a New Presentation of an Old Disease

For EIC, Scottsdale

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False Layer Syndrome

– North American Experience

- Strange occurrence in Quebec – Apr 2015
- 2 farms
 - Not related
 - Not near each other
 - Within 2 weeks of each other placement
 - Peaked at 77%
 - High mortality in first 3 months of lay
 - High % of “cystic oviducts” at cull



False Layer Syndrome

Age (em)	Date	Viabilité (%)		Poule / jour		Cours par Poule entrée		Consommation	
		Réel	Obj.	Réel	Obj.	Réel	Obj.	Réel	Obj. (lb/100)
9	22-04		99,9	4.5	4	3.1	0	70	17,6
10	05-05		99,9	68.8	40	9.6	8	93	18,7
11	12-05		99,8	72.8	64	13.0	13	94	20,3
12	19-05		99,7	75.4	81	18.2	19	95	20,9
13	26-05		99,7	76.1	88	19.6	26	94.6	21,6
14	03-06		99,6	76.0	92	28.8	32	97.0	22,0
15	10-06		99,5	76.8	93	34.1	39	97.7	22,3
16	17 juin		99,4	76.7	94	39.5	45	101	22,7
17	23 juin		99,3	77.1	95	44.8	52	104	22,9
18	30 juin		99,3	77.8	96	50.2	59	102	23,1
19	07 July		99,2	77.2	96	55.5	65	103	23,4
20	14 July		99,1	77.5	96	60.8	72	103	23,6
21	21 July		99,0	77.2	96	66.1	79	105	23,6
22	28 July		98,9		95		85	105	23,6

- Investigated intensively
 - Suspected IB, but never seen before
 - » Other possibilities (many)
 - Lots of discussion, disagreement
 - Variable titer levels
 - Multi-aged farms
- Flocks were destroyed
- Problem disappeared
 - Weird....probably won't ever know what happened.....



False Layer Syndrome

Pullet Cases					
Grower	Producer	Hatch Date	Breed	Production %	Flock Size
1	1	Nov 22-29	Shaver	41	17600
	2	Nov 22-29	Dekalb/Sha	74/58	36000
	3	Nov 22-29	Bovan	55	16800
	4	Nov 22-29	Bovan	70	7600
	5	Nov 22-29	Bovan	50	4000
	6	Nov 22-29	HY BR	86	5200
	7	Nov 22-29	HY BR	90	9696
	8	Nov 22-29	ISA Br	90	8972
2	9	14-Dec	Lohmann	80	26000
3	10	23-Nov	Lohmann	84	62400
4	11	27-Sep	Lohmann	90	40320
	12	23-Sep	Lohmann	94	23500
	13	05-Oct	Lohmann	86	14428
	14	05-Oct	Lohmann	88	5935
	15	05-Oct	Lohmann	87	11880
	16	05-Oct	Lohmann	87	3840
5	17	18-Nov	Shaver	75	23240
	18	18-Nov	Lohmann	60	30720
	19	22-Nov	Lohmann	70	4278
	20	22-Nov	Lohmann	66	7500
6	21	30-Nov	Lohmann		
7	22	18-Nov	Bovan	66	13545

– THEN

- 12 months ago in Ontario
- 24 flocks didn't peak
- 7 pullet flocks
- NO signs in pullet flocks
- Intense IB challenge in laying hens in Nov
- IB isolated from ONE pullet flock at 10d
 - Incidental finding



False Layer Syndrome



– What we KNOW:

- All flocks presented with unique oviduct pathology
- Cages consistently produced the same # of eggs
- Flocks produced like a healthy flock with x% less birds
- Birds looked PERFECT



False Layer Syndrome



False Layer at 50 weeks



Normal Layer at 50 weeks

False Layer Syndrome



– What we KNOW

- QX strain in Europe and China
- Similar presentation
- Only strain thought to cause this syndrome
- QC, PA, AZ, West Coast, WI?



False Layer Syndrome



– What we KNOW

- Mar/Apr 2017 - Ontario
 - 24 layer barns
 - 7 pullet flocks
 - DMV strain of IB
- Jun/July 2017 – Quebec
 - 4 flocks
 - Peaked from 40-70%
 - DMV in 3 cases
 - Day old vaccination with Mass IB



False Layer Syndrome



- Apr/May Arizona
 - ~1,000,000 birds affected
 - Peaks of 70-85%
 - Distinct timeframe:
 - it started and then stopped with no intervention
 - Isolated PA strain of IB
 - Started vaccinating at day old with Ma5



False Layer Syndrome



- May – Indiana
- High incidence of Cystic RIGHT Oviduct
 - **Similar to False layer, but lays eggs**
 - **Related?**
- Because of increased surveillance, there have been more IB viruses found, although not associated with disease



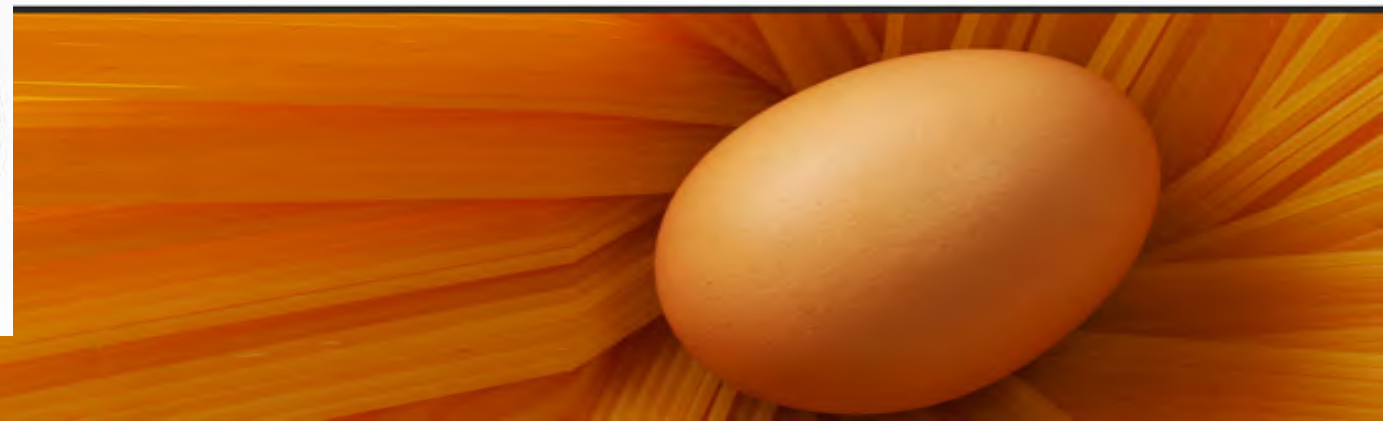
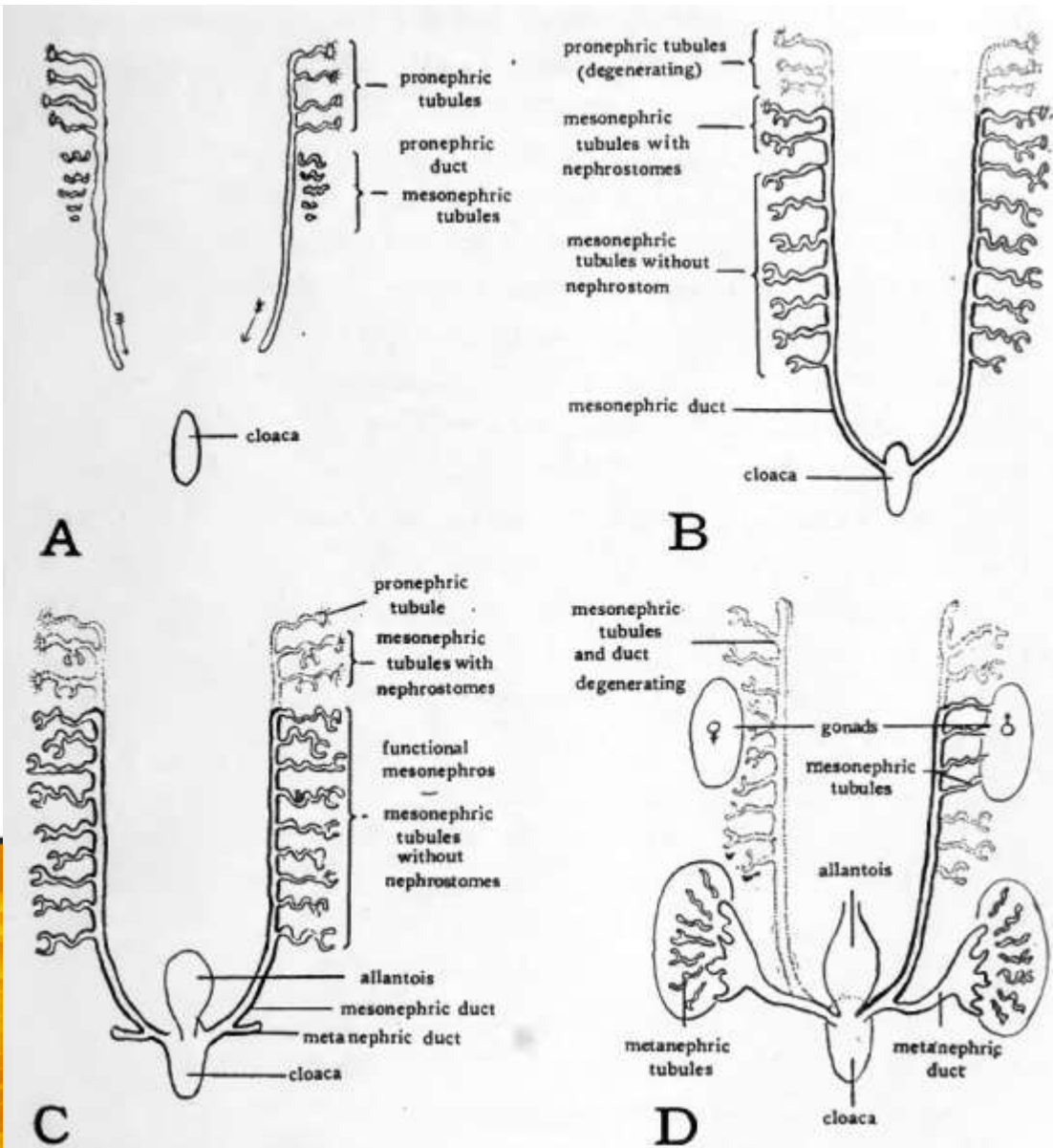
False Layer Syndrome

- Jul/Aug 2017 – PA & WI
 - 6 cases
 - PA/1220/98 IB isolated from a flock
 - DVM is in Pennsylvania
 - Started vaccinating widely with GA08 vaccine



False Layer Syndrome

- What is False Layer Syndrome?
 - **SUSPECTED PATHOGENICITY**
 - IB can affect the development of the oviduct
 - During a susceptible period early in life
 - During post-embryonic development of oviduct
 - 1-3 weeks of age



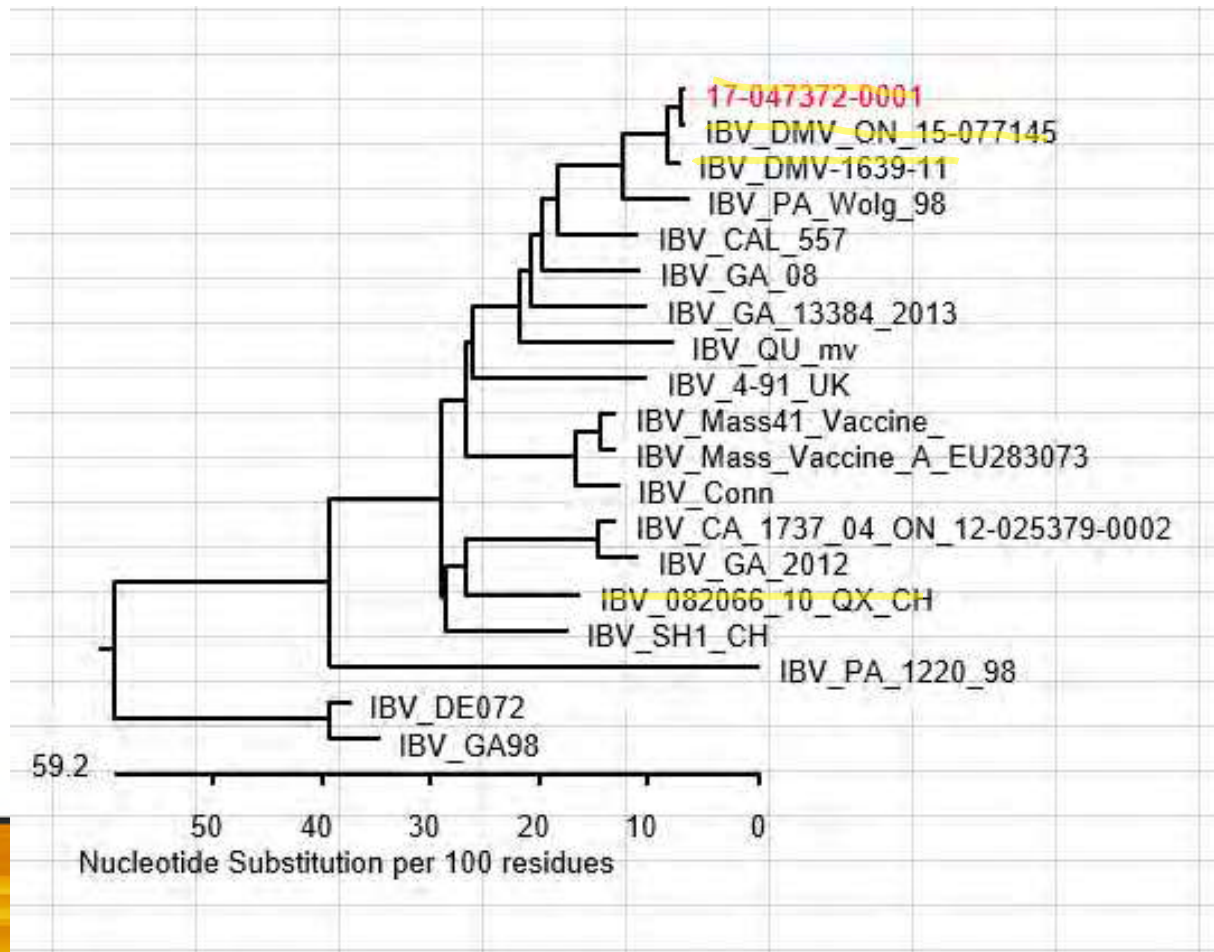
False Layer Syndrome



- Age of infection affects severity
 - True for QX strain
- Chicks are not immunocompetent when very young
- Vaccines take several weeks to impart active immunity



False Layer Syndrome



– SUSPECTED PATHOGENICITY

- Several viruses implicated
 - Isolated from layers
 - All “kidney associated”
- DMV in ON and QC
- PA-Wolg type in PA
- PA type in AZ



False Layer Syndrome

- Protection Strategies
 - **Improved Maternal Immunity**
 - Ontario: double dosing inactivated vaccine
 - Mass/Conn (only vaccine we have access to)
 - Now incorporating Ark killed
 - » Some evidence of cross-protection with DMV
 - **Day old IB Vaccination**
 - Ma5 across ON, QC and AZ
 - **Using focussed vaccines**
 - GA08 in PA

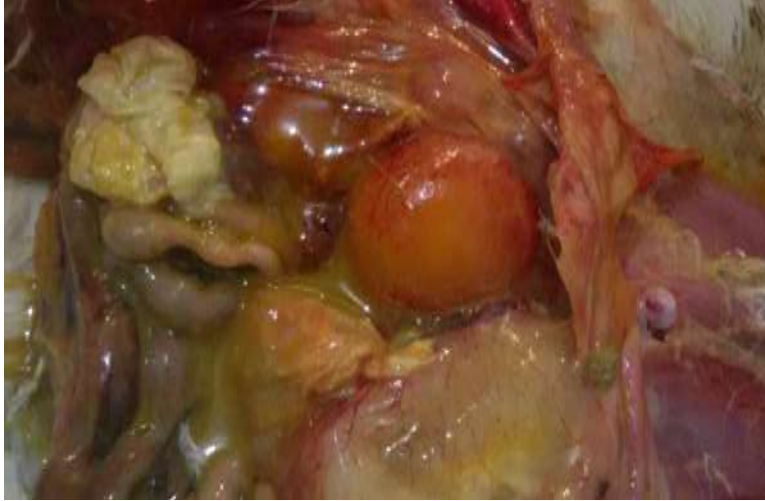


False Layer Syndrome

- Arizona
 - Nothing new, no interesting results from pullet and layer surveillance
- Pennsylvania
 - One new case in the past month
 - Vet wonders if vaccination at day of age has reduced number of cases
- Wisconsin
 - Nothing new



False Layer Syndrome



– Dec 2017

- 3 flocks from same pullet barn
- Peaked ~90%
- DMV isolated from 1 flock
- Titers not high or increased
- Less impact because of vaccine?



False Layer Syndrome



- Dec 2017 – West Coast
 - Flocks 10-20% below target
 - PA strain isolated from affected farm, but not affected flocks
 - No drops in production, no high titers



False Layer Syndrome



- Quebec:
 - One new case (in the last month)
 - Pullet flock tested positive at 2wks of age
 - PM at 8 weeks showed cysts in oviduct
 - Rate of cysts was consistent at 8wks, 18wks and at peak (~70%)
 - Flock was vaccinated at day old with Mass
 - » Since, vaccination has been with Ma5



False Layer Syndrome

- What information is being gathered?
 - **Ontario**
 - Pullet surveillance by the Egg Farmers of Ontario
 - 40 flocks PCR and genotyping
 - 30 birds per flock
 - Oropharyngeal and cloacal for each bird
 - Tested 3 times
 - » Day 14 (+/- 7d) – 38 farms completed
 - » 7-10 wks – 32 farms completed
 - » 12-17 wks – 21 farms completed



False Layer Syndrome

- **Interim Results**

- **14 day (38 farms)**

- 32 Mass
 - 1 Mass + ?
 - 1 Conn
 - 1 DMV
 - 3 Neg

- **7-10 Wks (32 farms)**

- 15 Conn
 - 7 DMV
 - 2 Mass
 - 2 CA
 - 6 Neg

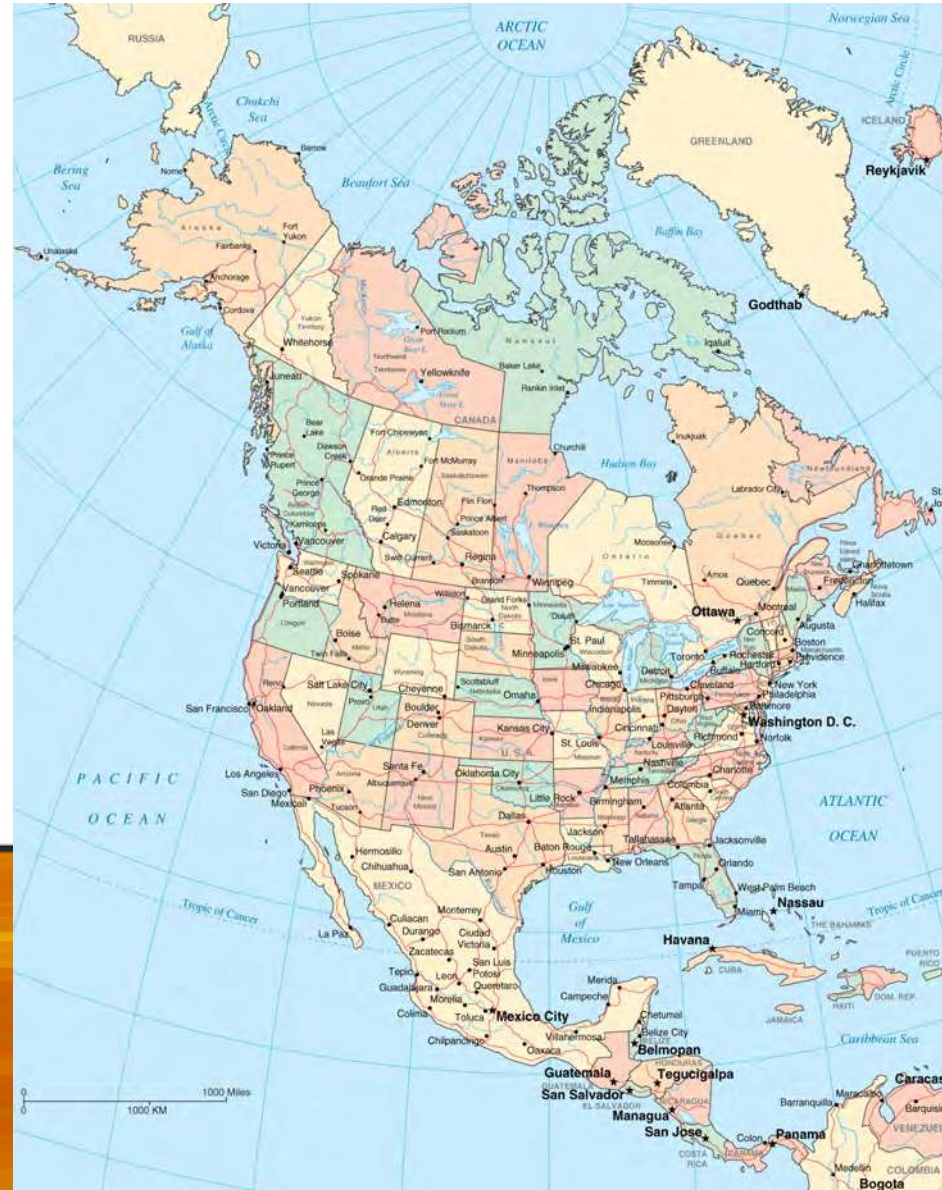
- **12-17 Wks (21 farms)**

- 3 Conn
 - 2 Mass
 - 2 CA
 - 2 DMV
 - 12 Neg



False Layer Syndrome

- Other jurisdictions
 - Lots of surveillance
 - Finding “things”
 - Interpretation is difficult
 - Nothing dramatic reported
 - Widespread but not fast spreading
 - Keep the outbreak in perspective



False Layer Syndrome



False Layer Syndrome Questions



– Why this syndrome now?

- Different breeds
 - Does that rule out genetic predisposition
- Different feeds
- Different locations
 - 6 very distinct geographical areas
 - But clinically identical
 - Very little traffic between (except ON-QC)
- Different viruses
 - But no NEW viruses



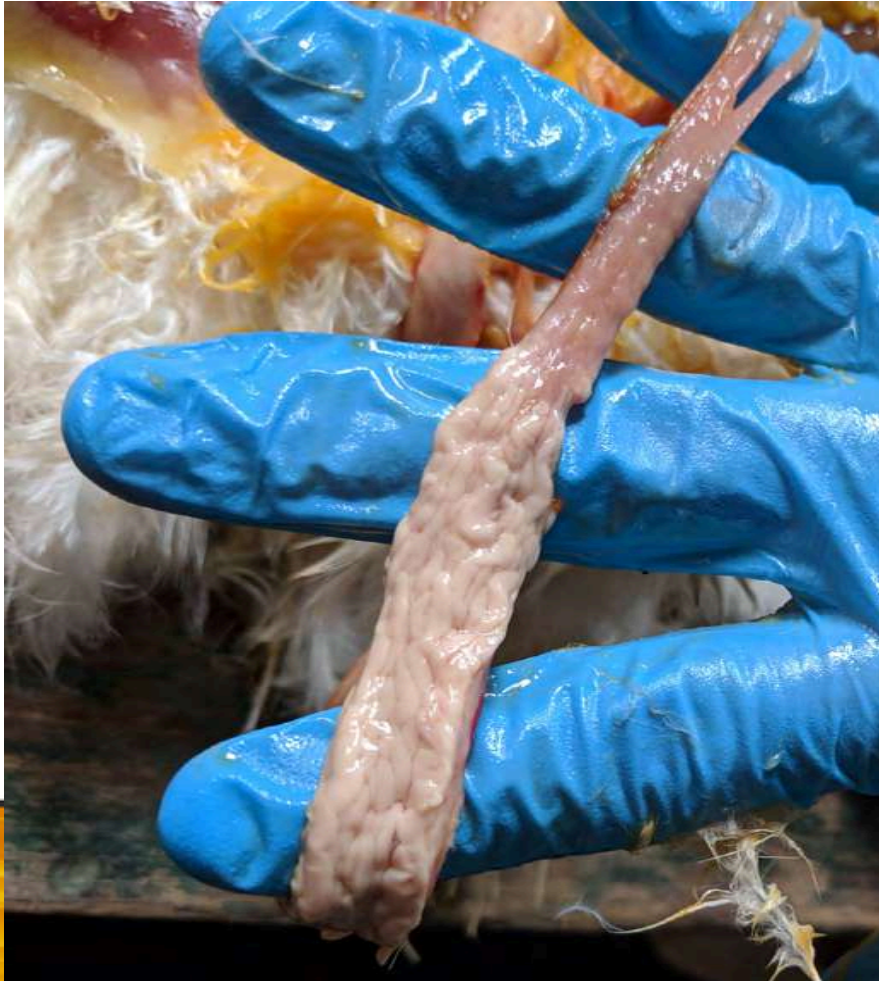
False Layer Syndrome Questions



- **Can we reproduce the syndrome?**
 - Kochs postulates have not been met
 - There is interest in doing the work
 - Expensive and involved research
- **Have we impacted the disease**
 - Role / Importance of Maternal Immunity?
 - Are vaccines effective? Helpful?
 - How crucial is homology? Autogenous?
 - Ma5 seems to have protective effects in layers



False Layer Syndrome Questions



- **Will the syndrome disappear on its own?**
 - IB is remarkably unstable
 - BUT QX strain has lingered for years
- **Are we aware of all the cases out there?**



False Layer Syndrome Strategy

- Systematically test young flocks (2 wks of age)
- Follow up aggressively on infected flocks
- Communicate openly
 - **Gain as much knowledge as possible by collecting information from cases in the field**
- Research pathogenesis of the disease
 - **Better understand susceptible period**

