



**Agriculture & Agri-Food Canada
Agri Risk Initiatives (ARI)**

**Poultry disease insurance projects
Presentation**

**ARI Forum
September 2017**

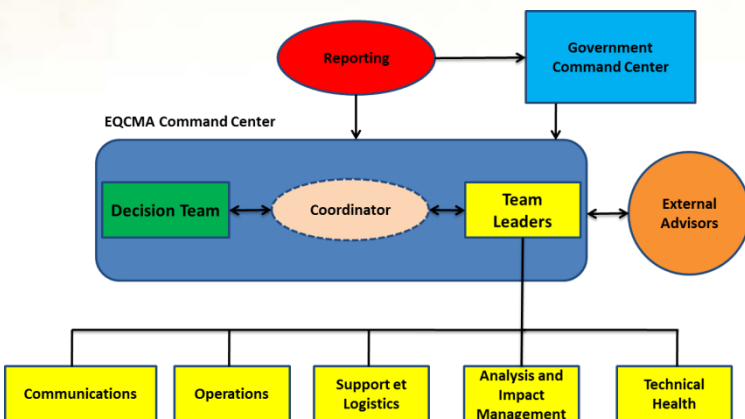


Poultry Disease Insurance in Quebec

Mandate

- To develop and maintain a sectoral emergency management plan on reportable diseases
- To develop and maintain an intervention protocol for cases of *Infectious Laryngotracheitis* (ILT) and *Mycoplasma gallisepticum* (MG)
- To develop information, training and operational tools for the prevention and control of the targeted diseases

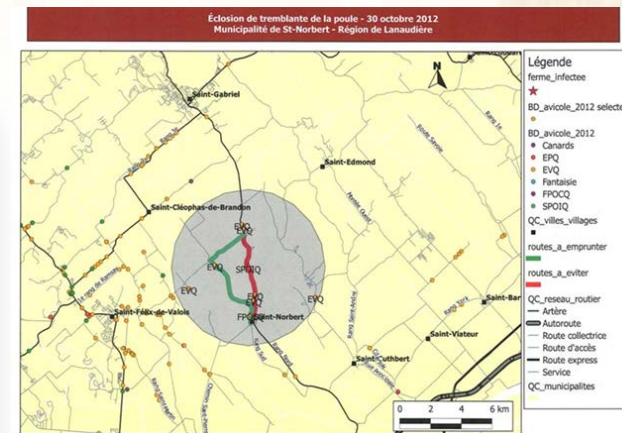
Emergency Management Structure



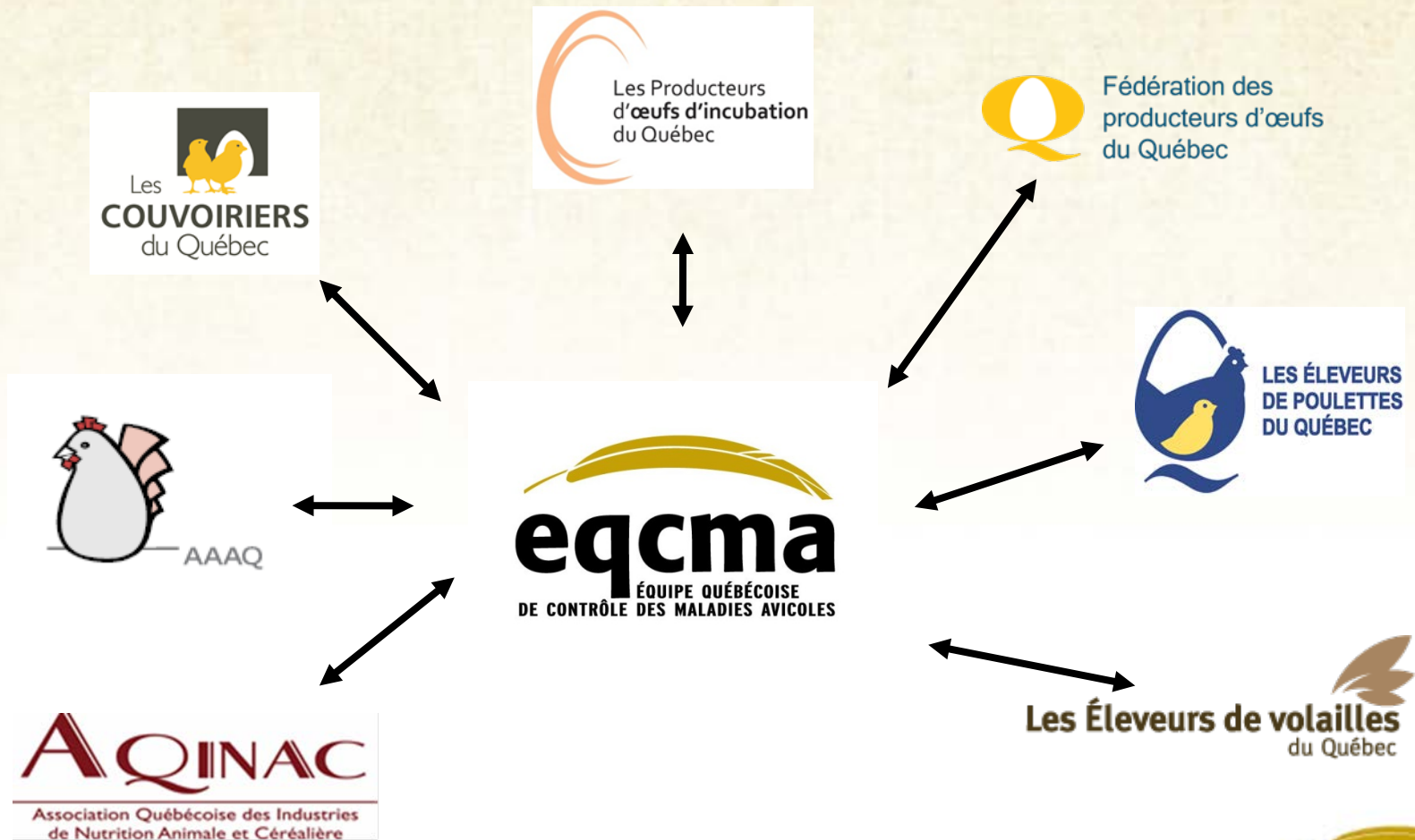
Biosecurity Protocols



Geographic Information System



Members



More than 45 associate members...



Objectives

- To promote prompt reporting of any suspect or confirmed case of the targeted diseases to minimize the risk of a major crisis e.g.:
 - Avian Influenza (AI) in BC in 2004 cost ~ \$380M
 - ILT in Beauce-Bellechasse in 2010 cost ~ \$2M
- To improve compliance of producers and industry partners on recommended biosecurity for the control and eradication of targeted diseases
- To introduce compensation and mandatory reporting on targeted diseases through production or supply management regulations (in effect since June 29th, 2016)

Key Activities

- Review of previous projects and deliverables and identify needs
- Identify, collect and format into the Animal Disease Spread Model (ADSM) and actuarial analysis
- Develop modelling parameters for the ADSM
- Run the ADSM to establish impact of a High Path Avian Influenza (HPAI) outbreak, in the context of multiple scenarios
- Utilize ADSM outputs and conduct actuarial analysis to determine the potential exposure associated with an AI outbreak
- Review of actuarial analysis and develop potential risk transfer solutions for consultation with the key stakeholders

Overview of coverages

Coverage	Value	Max. Limit	Production type
Veterinary fees	\$2,500	per site	All
Laboratory fees	\$125	per barn	All
Manure heating	\$1,000	per barn	All
Heating and disposal	\$1,000	per barn	All
Cleaning and disinfection	\$1.25 - \$4.00	per bird	All
Producer biosecurity	\$500	per barn	All
Eggs collection biosecurity	\$160	per bird	All layers

Benefits

- To offer coverage for losses associated with the control of ILT and MG
- In the case of reportable diseases, compensate:
 - costs not covered by CFIA (cleaning & disinfecting, biosecurity)
 - industry for biosecurity costs for activities in the restriction zones
- Facilitate rapid resumption of commercial activities on the domestic and export markets
- To benefit from a collective approach for all poultry sector partners
- To respond to losses in the ancillary trades as well as for producers

FBCC

FEATHER BOARD COMMAND CENTRE

Feather Board Command Centre Ontario



Agriculture and
Agri-Food Canada

Agriculture et
Agroalimentaire Canada



Chicken
Farmers
of Ontario



get cracking.
Egg Farmers of Ontario



Overview

Vision

- An Emergency Free Ontario Poultry Industry

Mission Statement

- Proactively manage incidents and emergencies in the poultry industry through promoting preparedness, prevention, response and recovery programs

History

- Disease information sharing, development of disease response stockpile
- Established in 2011 as an unincorporated Board with part time staff
- Integrated 4 boards' emergency plans under Incident Command System
- Government information sharing agreements, outbreak simulations
- Industry communications lead with support of www.fbcc.ca
- GIS mapping, movement coordination and recovery from 2015 outbreak
- National collaboration

Members



FBCC FEATHER BOARD COMMAND CENTRE

Objectives

- Develop heightened biosecurity protocols aligned with movement permit requirements
- Develop indemnification solution for losses associated with Avian Influenza
- Develop Loss Quantification Models for all production types
- Populate and run Animal Disease Spread Model (ASDM) for Ontario

Benefits

- Encourage biosecurity compliance
- Incent farmers to report disease early
- Incent farmers to accelerate C&D
- Facilitate movement permitting process
- Avoid large unbudgeted costs
- Protect a secure food supply through business continuity

Biosecurity



- Farmer/Board/Industry consultations on Avian Influenza risk and heightened biosecurity protocols
- Compare and align biosecurity Standard Operation Procedures across industry and with government guidelines
- Industry training on response roles, enhanced biosecurity and movement permitting
- Simulation to test the movement permitting process and recovery measures within the context of business continuity

Results To Date

- 8 poultry industry sectors' biosecurity standards reviewed and compared to CFIA Biocontainment Requirements
- 28 specific poultry movement types were prioritized by an industry wide survey to assist in business continuity
- Collaborating with CFIA in industry wide biosecurity training and table top simulation for issuing movement permits

Results To Date - *continued*

- All learnings will be shared with collaborators and partners
- Loss quantification models (LQM) developed for all production types and made available to other projects
- ADSM outputs for Ontario for all production types thereby feeding PIE project

Extending poultry disease insurance in Ontario, Alberta and Saskatchewan



History

- Producer owned, non-profit licensed insurance provider
- Provides coverage for
 - *Salmonella enteritidis* (SE)
 - *Mycoplasma synoviae* (MS)
 - *Mycoplasma gallisepticum* (MG)
- Founded in 2004 as coverage was unavailable in the domestic market
- ARI project lead to extend coverage to include Avian Influenza in response to subscribers request

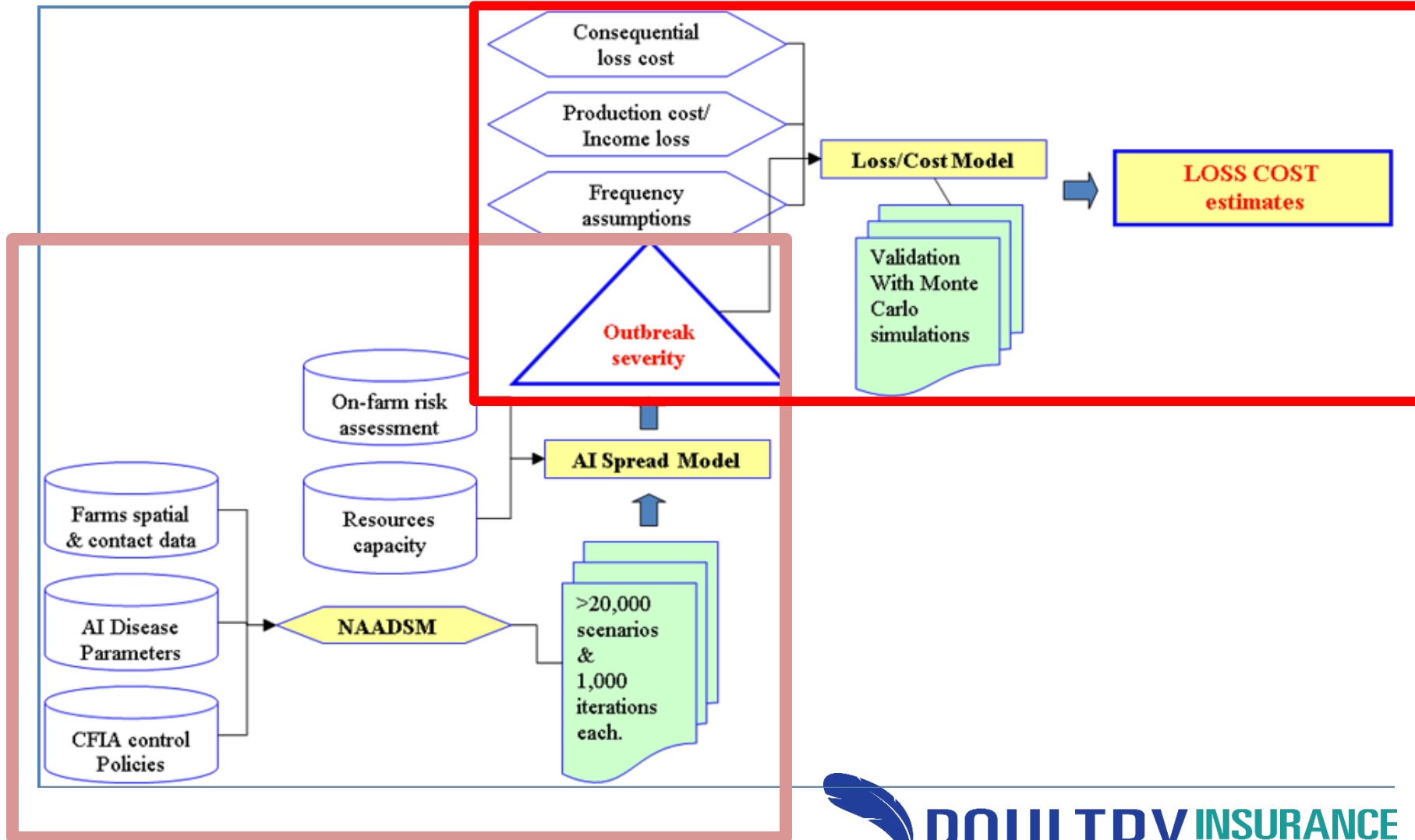
Members

- Egg Farmers of Ontario (EFO)
- Ontario Broiler Hatching Egg Chick Commission (OBHECC)
- Alberta Hatching Egg Commission (AHEC)
- Saskatchewan Hatching Egg Farmers

Project Overview and Expected Outcomes

- Building on ADSM outputs from FBCC project
- Developed ADSM to incorporate poultry producers in AB and SK
- Created underwriting model template that can be used by all projects
- Utilizes location analysis and other outputs to develop a risk based insurance solution
- Will result in coverage for business losses due to Avian Influenza
- Bridges the gap between CFIA compensation and defined economic losses of the producer
- Implementation of extended coverage by March 2018 or sooner

Animal Disease Spread Model



ADSM Multiple Outputs

- Impact of different biosecurity controls
- Number of infected units and birds by type
- Number depopulated units and birds by type
- Number of days until the end of the active outbreak phase (no more incubating or infected units in the population)
- Number of units, by type, located in a disease control zone in the outbreak

ADSM Summary

- Fairly complex model with large number of parameters
- Originally designed to help governments respond to an outbreak of a highly infectious animal disease
- Set model parameters up in the same way for all province
- Developed mutiple scenarios to simulate all possible outbreaks
- Assumed single, double and triple initial infection to start the outbreak
- Each scenario was run 10,000 times, which equating 540,000 simulations
- Adapted to provide the underlying data for the loss cost model

Next Steps

- Analytical outputs to Summer 2017:
 - Graphical spread of infection based on assumptions
 - Frequency and magnitude of Losses
 - Projected Loss Cost utilising Loss Quantification Models
- Industry Evaluation and Preliminary Proposals– March 2018
 - Continue consultations with Subscribers
 - Finalize coverage and premium
 - Prepare policy wording

Canadian Egg Industry Reciprocal Alliance (CEIRA)

Alliance réciproque de l'industrie des œufs de consommation
du Canada (ARIOCC)



**Reciprocal Insurance
Exchange**

History



- Major outbreak of *Salmonella enteritidis* (SE) in 2007 impacting a large sector of the Canadian egg industry with an estimated cost of \$4.5M.
- Egg Farmers of Canada recognized need for greater vigilance and implemented an SE surveillance framework
- Established in 2010 with previous AAFC program
- Approximately 700 members - 16M birds
- Industry injection of \$10M since inception

Members



- British Columbia Egg Marketing Board
- Canadian Hatchery Federation (Leghorn Hatchery Members)
- Egg Farmers of Alberta
- Egg Farmers of New Brunswick
- Egg Farmers of Nova Scotia
- Egg Farmers of Newfoundland and Labrador
- Egg Farmers of Prince Edward Island
- Fédération des producteurs d'œufs du Québec
- Manitoba Egg Farmers
- Northwest Territories Egg Producers
- Pullet Growers of Canada
- Saskatchewan Egg Producers

ARI Project Overview



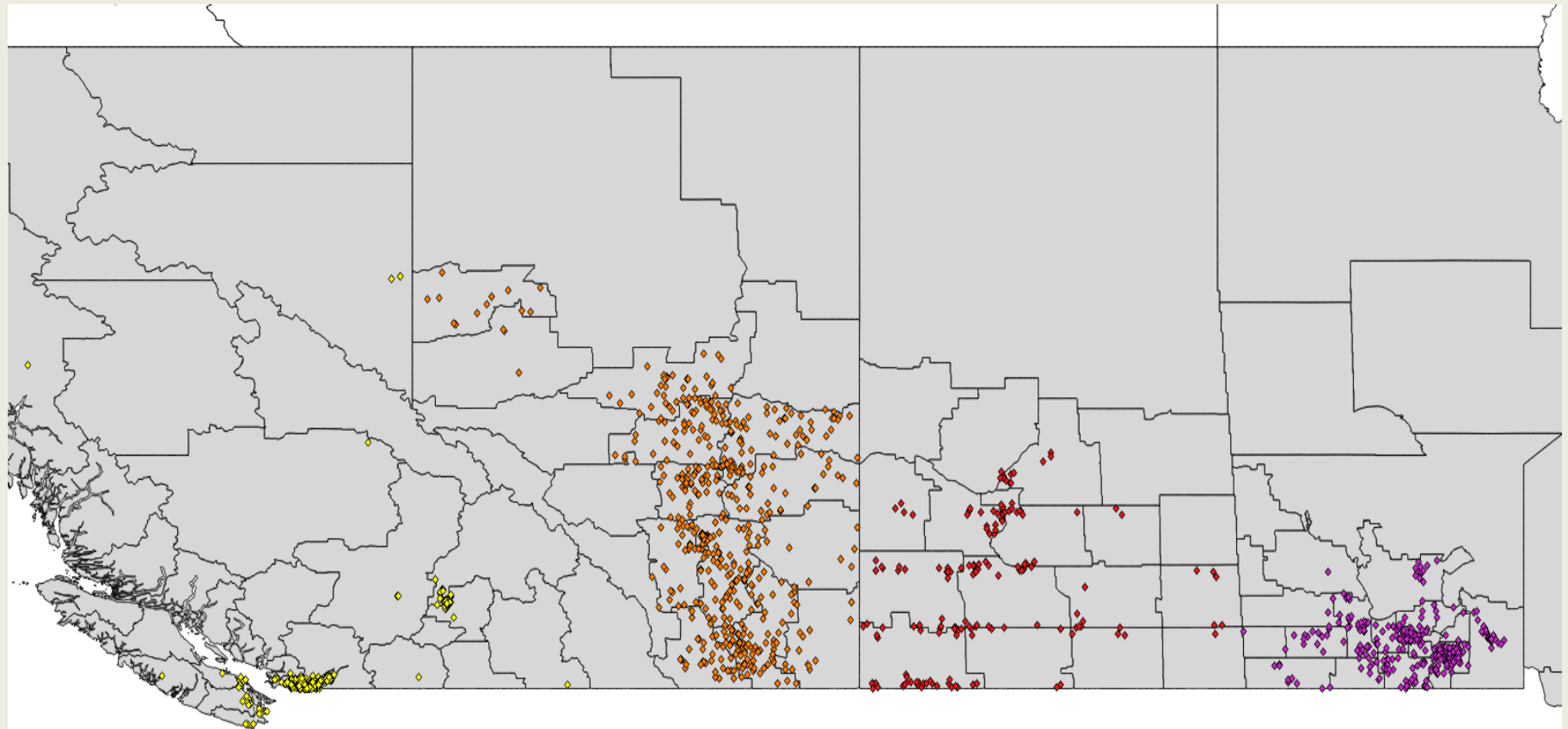
Activities and Deliverables up to Summer 2017

- Poultry production data collection for BC, MB, NB, NL, NS, NT, PE
- AB, SK, QC production data used from previous ARI projects
- Utilised underwriting model template developed by PIE to establish loss costs for CEIRA member provinces

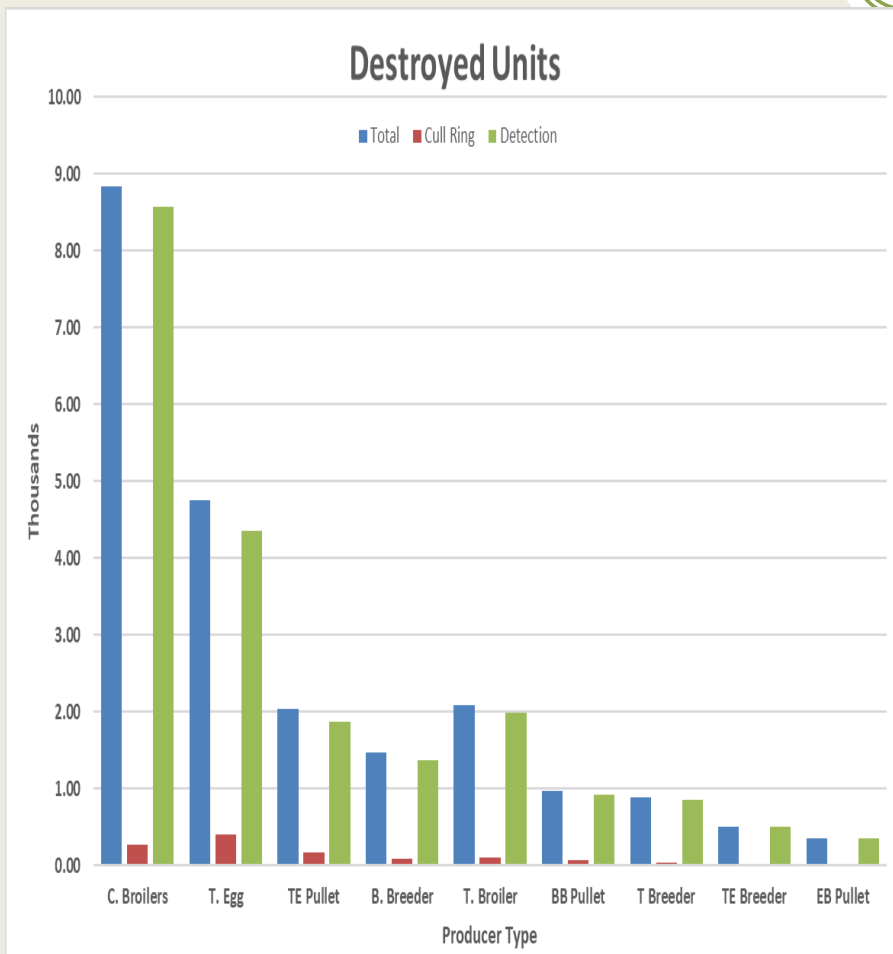
Next steps

- Product Design (Policy Wording, Re-insurance, Administration)
- Actuarial analysis to establish capital adequacy requirements
- Determine regulatory requirements
- Implement coverage by March 2018 or sooner

Varying Production Landscapes!



ADSM Output Example



ADSM

Event	\$
1-in-5	0
1-in-10	421,192
1-in-25	5,167,004
1-in-50	10,988,701
1-in-100	19,079,927
1-in-250	31,909,362
1-in-500	42,192,209
1-in-1000	51,670,614
1-in-5000	68,421,107
1-in-10000	74,017,120
Maximum	98,248,748

Underwriting model

Summary



- AI coverage development built on pre-existing Agri-Risk Initiative projects
- National solution adapted to address regional, regulatory and legal differences
- Canadian poultry production data and disease spread modelling completed
 - production data compilation and disease spread modelling of Canada's poultry industry provides a benchmark for disease response planning and recovery initiatives.
 - Provides for additional poultry risk management initiatives at a regional and/or national level
- Risk analysis and modelling template is transferable into other livestock sectors
- Bio-security/movement permitting component that will assist all sectors in disease risk mitigation and business continuity.



Questions