

# Salmonella Pullorum

Been there, done that, got the T-shirt?

# Salmonella Pullorum

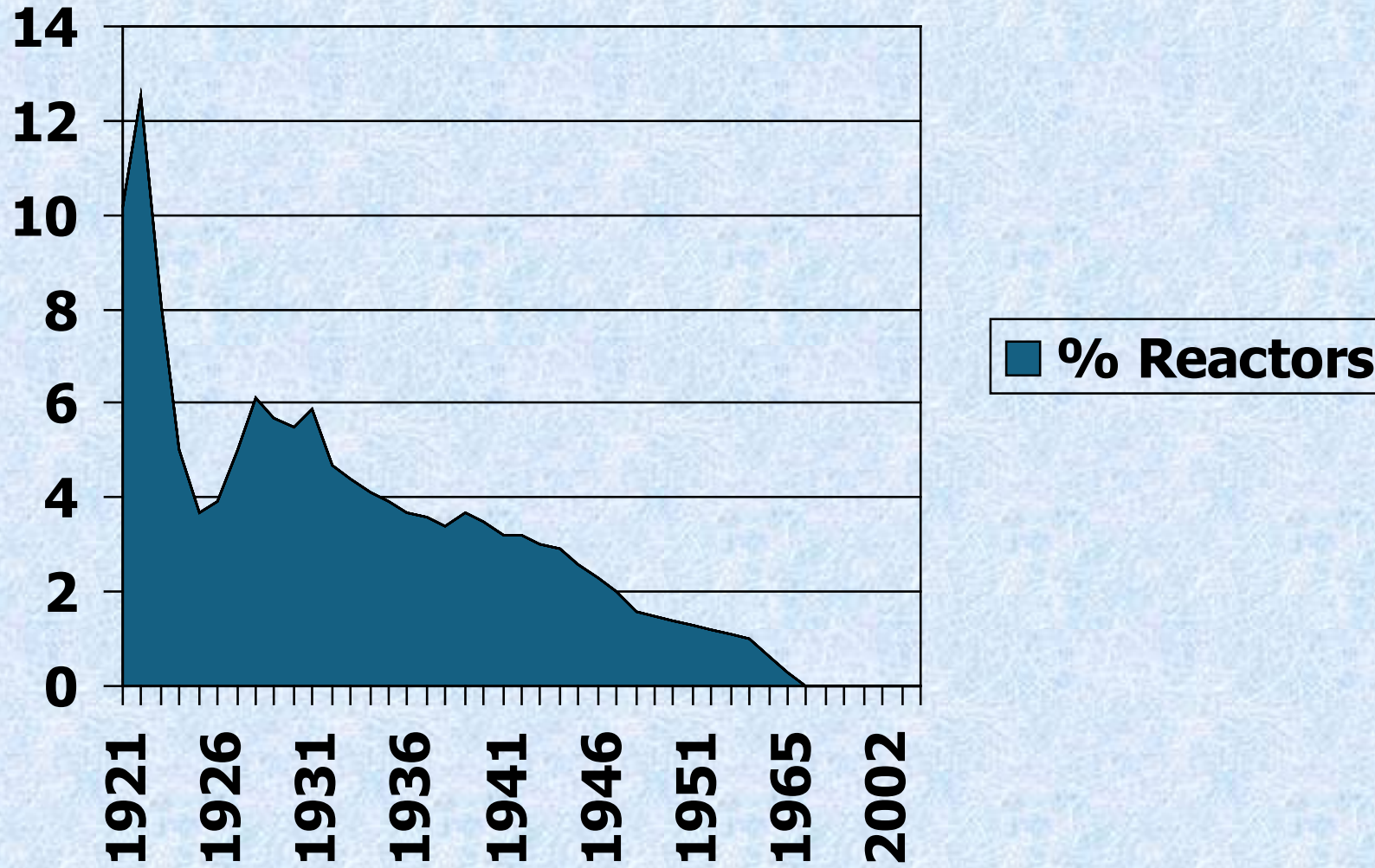
- A disease that was devastating to the poultry industry
- Very high mortality in first 2-3 weeks
- Vertically transmitted



# Pullorum & The NPIP

- 1913- A test to detect pullorum + Birds
- 1930's Industry Government and Academia came together to address the problem
- In 1935 the NPIP was born → Eliminate Pullorum Disease from Breeding Stock

# Historic Look at pullorum Reactors in the NPIP



# Minnesota US Pullorum-Typhoid Clean Status in 1974



Ted Huisinga & Dr Ben Pomeroy

# NPIP Has Expanded

- 1935- Salmonella Pullorum
- 1954- Fowl Typhoid
- 1966- Mycoplasma Gallisepticum
- 1974- Mycoplasma Synoviae
- 1984- Mycoplasma Meleagridis
- 1989- Salmonella Enteritidis
- 1999- Avian Influenza
- 2006- H5/H7 Avian Influenza Monitored
- 2016- Biosecurity Principles & Compartmentalization
- 2018- Exotic Newcastle Disease

# Modern Day Pullorum

- PT Free Status
- Ongoing testing for several exporting countries
- Fairs, exhibitions, backyard breeders, etc
- Testing Antigen Issues

# Testing Issues

- September 2017- Charles River notified NPIP of being low on inventory
- May 2019 NPIP began asking for contingency plans
- June 2019- Discussed at OSA meeting in Albuquerque, NM
- October 2019- Charles River received license and began to ship limited numbers
- January 2020- In Atlanta were told not until Dec 2020
- Fall 2020- Improved situation
- 2023/2024- Again short of antigen → Frustration is boiling



# Testing Issues

- Need plate agglutination testing
  - Certain countries only allow for this
  - Fairs/exhibitions/auctions need affordable pen-side testing option
- Working Groups
  - Group 1- Antigen needs and alternatives
  - Group 2- Needs for various groups (subgroups E-J) and can we reduce testing?
  - Group 3- Future testing strategy/diagnostic technology development

# For the Researchers

- Can we detect Pullorum (at low rates) direct via blood sample?
- Can we make a synthetic antigen that can be used and affordable?
- Can we coordinate with other countries with higher + rates and greater diversity of isolates to sequence and design targets?

# Parting Thoughts

- We clearly need to revisit this and will
- The greater widespread testing via the PT antigen is helping protect the greater breeding population and keeping devastating trade issues at bay.
- Given a current proposal:
  - Once a program is removed it is hard to bring back
  - Currently, the issue the proposal cites has been dealt with via waivers
  - From Dr Waltman “...since when just because a disease is gone do we stop testing for it?”

**And now more on PT Antigen!!**