

The Incidence and Distribution of Campylobacteriosis and its Relationship to the Poultry Industry in Kentucky from 2006 to 2010

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Presentation Outline

- What is Campylobacter?
- Poultry and Campylobacter
- Poultry Industry in Kentucky
- Poultry and Non-Poultry Industry Counties
- Rates of Poultry and Non-Poultry Industry Counties
- Rates of Poultry Counties and all of Kentucky
- ANOVA Output for Poultry and Non-Poultry Industry Counties
- ANOVA Output for Poultry and all of Kentucky
- GIS Zip code map

Campylobacter the Curved Rod

- “Kampylos”
- Gram negative rods causes gastroenteritis
- Enteric and Extraintestinal illness
- *C. jejuni*
- Fewer than 500 organisms
- Under cooked poultry results in 50% - 70% of all illness.
- Symptoms
- Guillain – Barre syndrome



Campylobacter

- Poultry intestine
- 30% to 100% of poultry infected*
- Horizontal transmission
- Vertical transmission
- Campylobacteriosis is reportable in Kentucky



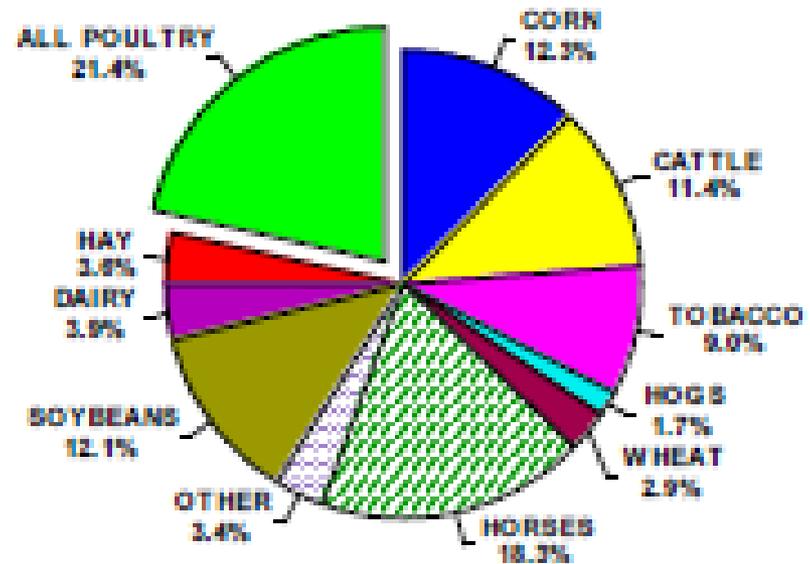
*American Academy of Pediatrics, 2006

Poultry Industry in Kentucky

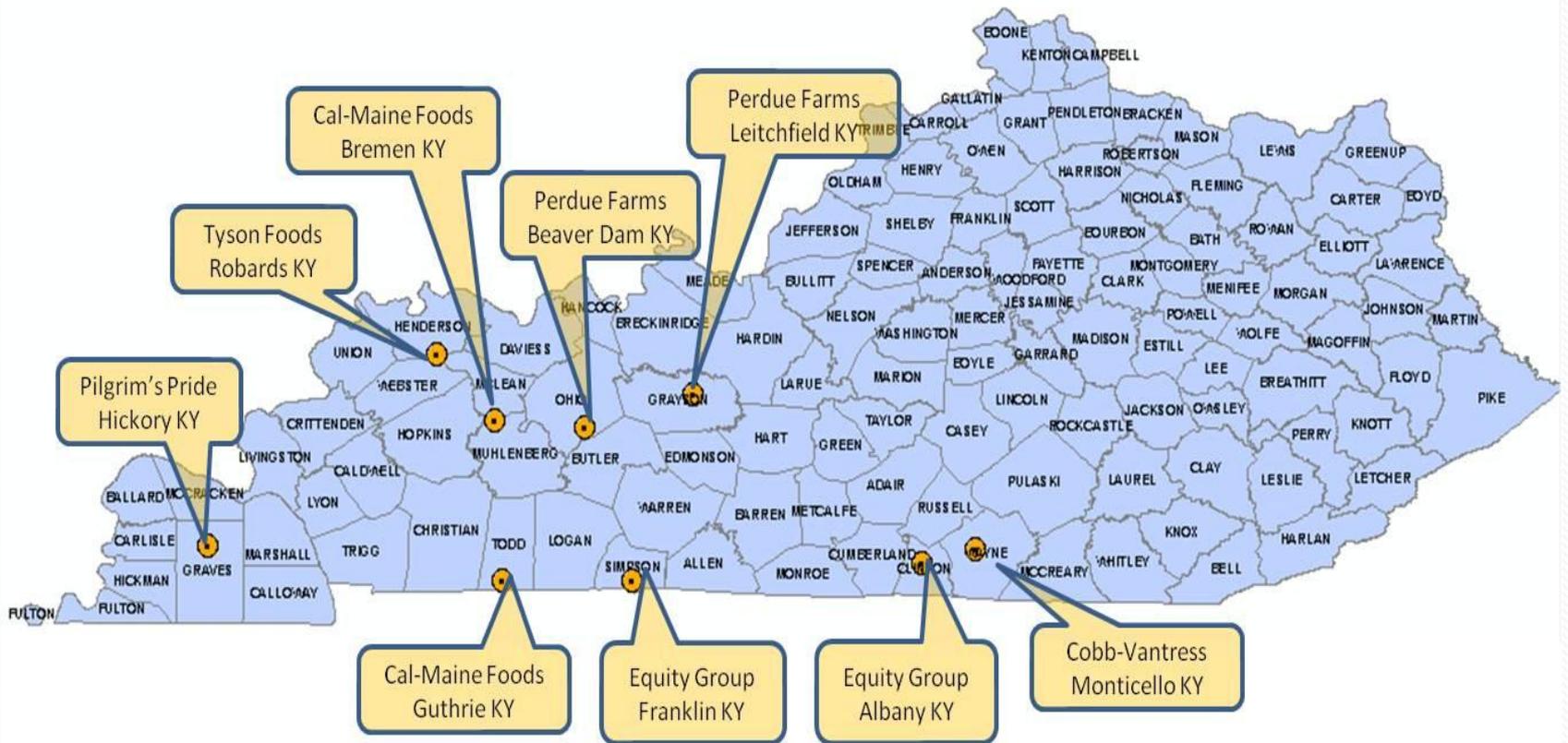
7th-2009 Broiler

18th-2009 For all Chickens

2009 KENTUCKY CASH RECEIPTS FROM FARM MARKETINGS STATE TOTAL = \$4,257,624,000

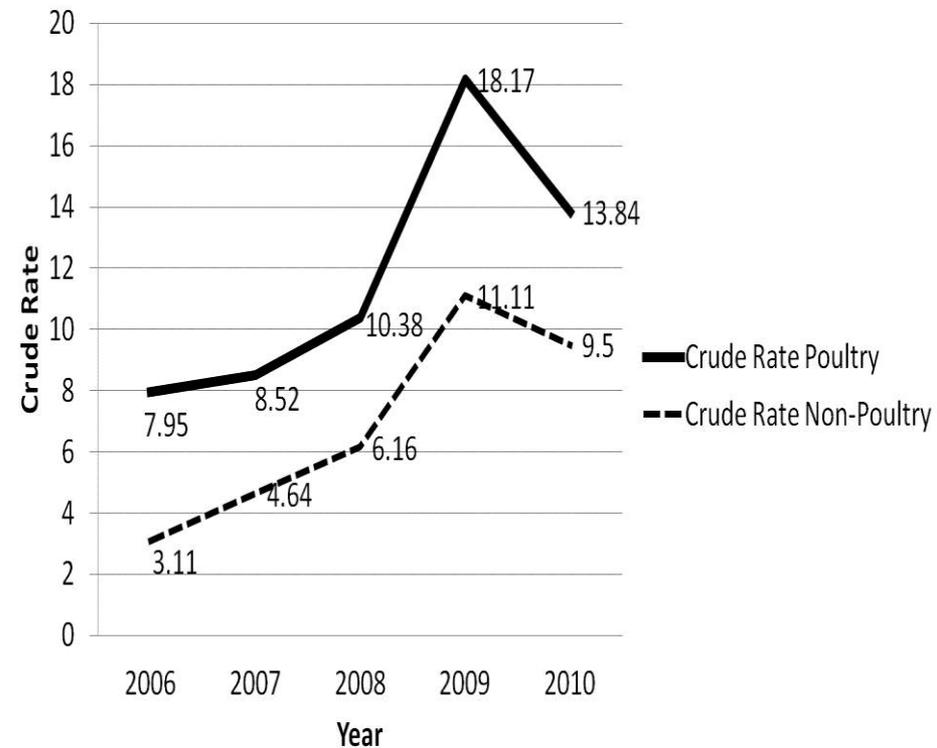


Poultry Processing Plants



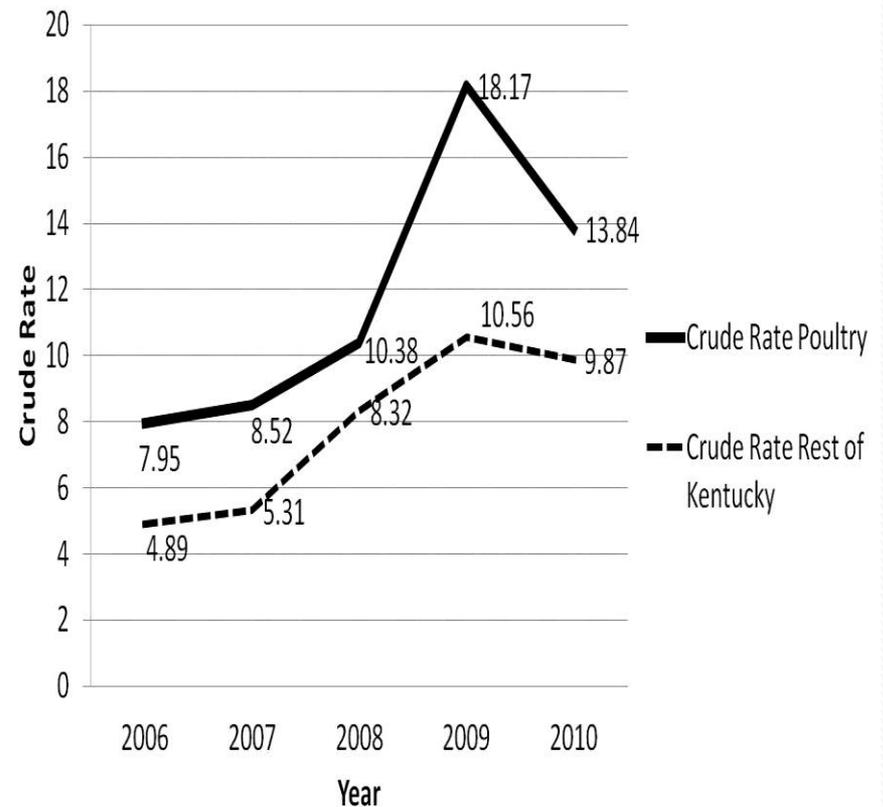
Poultry and Non-Poultry Counties Average Rate Years 2006, 2007, 2008, 2009 & 2010

Year	Poultry County	Non-Poultry County
2006 Rate	7.95	3.11
2007 Rate	8.52	4.64
2008 Rate	10.38	6.16
2009 Rate	18.17	11.11
2010 Rate	13.84	9.50
Total Year Average Rate	11.77	6.90

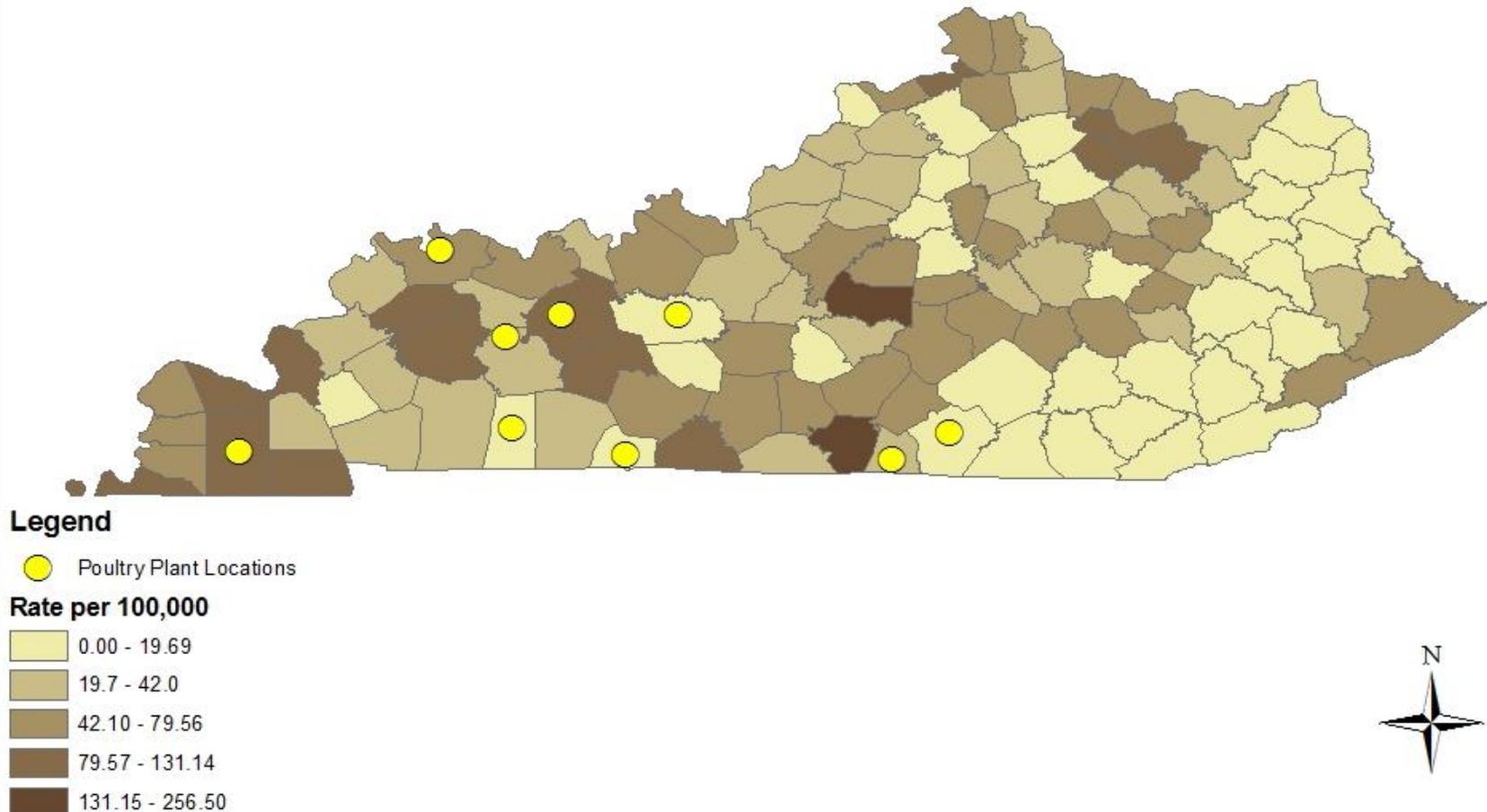


Poultry and Rest of Kentucky Counties Average Rates 2006, 2007, 2008, 2009, 2010

Year	Poultry County	All Ky
2006 Rate	7.95	4.89
2007 Rate	8.52	5.31
2008 Rate	10.38	8.32
2009 Rate	18.17	10.56
2010 Rate	13.84	9.87
Total Year Average	11.77	7.81



Crude Rates of Campylobacteriosis Cases per 100,000 and Location of Poultry Processing Plants in Kentucky 2006-2010



ANOVA

Poultry Compared to Non-Poultry Counties 2006-2010

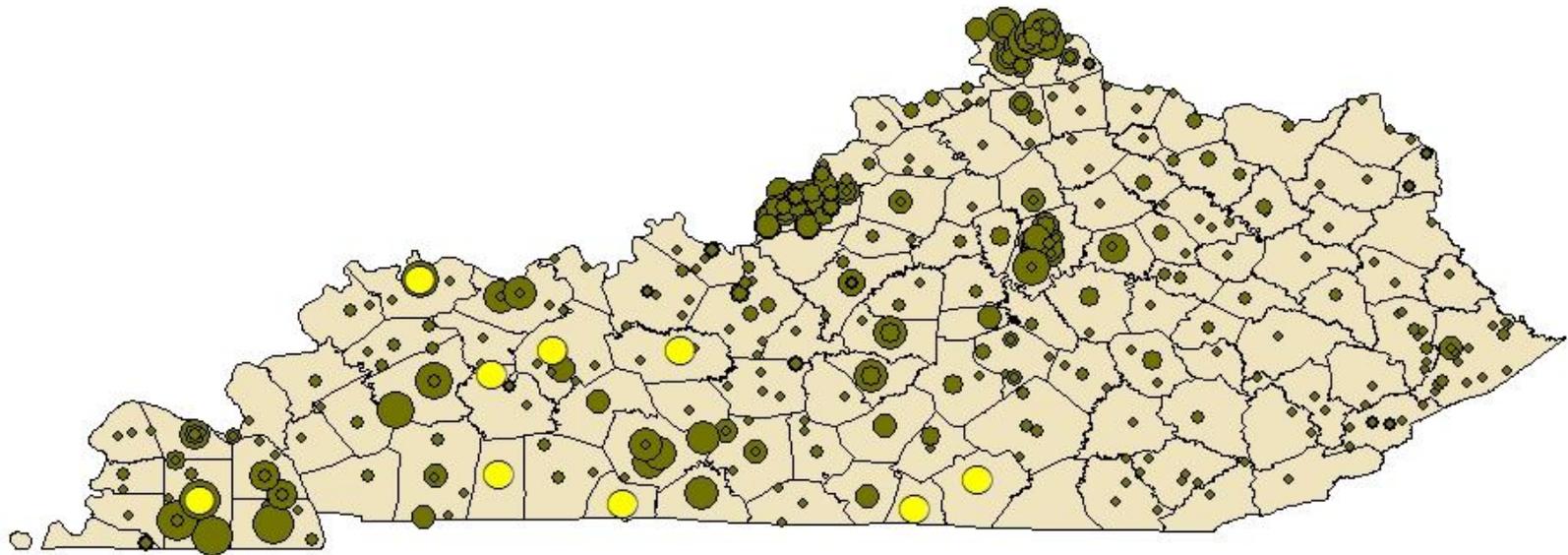
Rate					
	Sum of Squares	df	Mean Square	F	Sig.
Between groups	1778.838	1	1778.838	11.841	.001
Within groups	44766.634	298	150.224		
Total	46545.472	299			

ANOVA

Poultry Counties Compared to All Kentucky Counties 2006 -2010

Rate					
	Sum of Squares	df	Mean Square	F	Sig.
Between groups	1768.394	1	1768.394	11.171	.001
Within groups	94663.888	598	158.301		
Total	96432.282	599			

Distribution of Campylobacteriosis Cases by Zip Code and Location of Poultry Processing Plants in Kentucky 2006-2010



● Poultry Plant Locations



Conclusion

- What do we know for certain?
- What can we conclude?

References

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Questions

Thank you