



THE ONTARIO PORK INDUSTRY COUNCIL

Benchmarking Study of Antimicrobial Use on Swine Farms

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- Quantify the amount and class of antimicrobials used to raise pigs from breeding to slaughter on a subset of Ontario farm
- On-farm antimicrobial use and understanding the key drivers impacting choice and usage.
- Documenting a significant amount of data to allow comparison between 2014 vs 2016 vs 2018 to demonstrate changes in use over time



METHODS:

- A benchmarking meeting was held at end of OPIC AMU 2014 where results were shared and discussed.
- Numerous conversations with vets and/or feed suppliers were left to individual participants, with no further organized benchmarking activity
- Original participants were recruited to contribute information again for 2016
- Same calculations and calculation tool (COMPASS) were used in both of the studies
- Newly registered antimicrobial products were added

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AMU 2016 Results



33 of the original 36 farms participated in the 2016 project

-1 farm declined to participate, 1 farm undertook a “de-pop & re-pop” and had incomplete data, a 3rd farm transitioned to 100% antibiotic-free

Table 1. Number of pigs from each stage of production included in this study

Stage of Production	Number of Animals Included	
	2014	2016
Sows	34 647	49 797
Piglets	867 329	1 238 672
Nursery Pigs	839 913	832 030
Finishers	688 831	765 235

AMU 2016



Table 5. Antimicrobial use change from 2014 to 2016 on Ontario pig farms

	2014	2016	% change
Total antimicrobial use (kg)	26 449.75	23 994.24	-9.3
Total live pigs produced (kg)	87 980 326.72	97 372 919.22	+10.7
Antimicrobial use per pig (mg/100kg)	30.06	24.64	-18.0

Overall reduction of 18%

23/33 participating farms successfully reduced antibiotic use from 2014 to 2016
 8/10 farms with same or higher antimicrobial use reported a change in health status (e.g. PRRS virus infection) during 2016

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Key message - AMU 2016

- Class 1 antimicrobial use remains very low
- In 2016 less than 0.1% of AMU by weight is from highly important 'human' antimicrobials registered for swine





Conclusions of 2016 Study

- A voluntary antimicrobial use benchmarking project is feasible and accepted by pork producers
- Benchmarking presents an tool for ongoing AMU monitoring, and reduction on farms where health status allows
- Infectious disease exposure continue to be the greatest risk to AMU reduction targets and pig welfare for pork producers in Ontario
- Class 1 antimicrobial use represents a minimal proportion of total antimicrobial use



OPIC Benchmarking Successes

- Farmers willingness to voluntarily provide information
- Full industry support of gathering data
- Partnership with BI to assist with technical software programming
- Increasing awareness of on farm antimicrobial usage



OPIC Benchmarking Challenges

- Data collection
 - Multiple feed companies involved in some farms
 - Multiple measurements of reporting what AMU was used on farm (specific to feed ingredients)
 - Inventory data for hog inventory and managing changes year over year
 - Tracking health status changes throughout the projects
 - Niche marketing farms, and how to measure AMU



OPIC Industry Partnership

- Boehringer Ingelheim



Online antimicrobial use
tool





COMPASS – Antimicrobial Benchmarking Tool

- Web based platform
- Compile complex data into useful graphs and charts to help visualize on farm antimicrobial use
- Can create reports based on sites and full farm operations, or full group of farms



COMPASS

- Creation of data intake templates to identify each category
 - Production stage
 - Days in each stage
 - Weight in each stage
 - Number of animals by barn through each stage
- Managing the data
 - Pre-loaded AMU by product name
 - Input quantity of AMU
 - Identify the use of AMU by stage of production

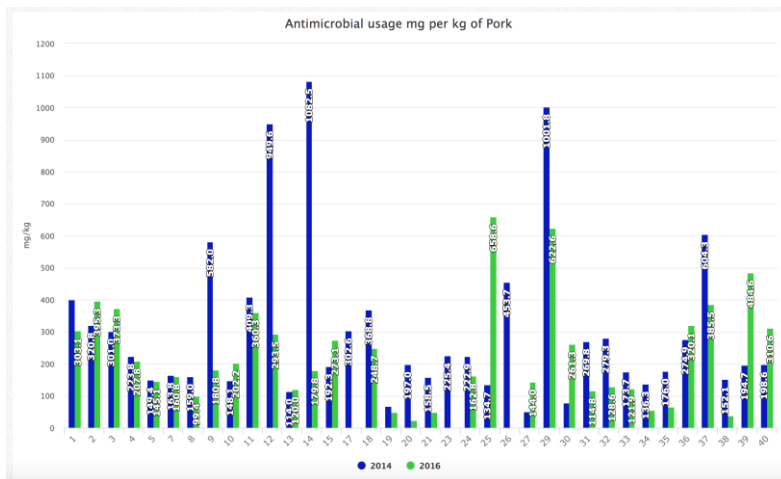


COMPASS Reports

- Farm and Group reports were created for following topics:
 - Total amount of AMU and the treatment exposure
 - % of AMU used by type, stage, and production area
 - % of AMU used by drug class
 - ADD (Animal Daily Dose) per 100 animal days



2016 AMU mg/kg of Pork





Thank you!!

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