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Progress with Reduction in Antimicrobial Drug Use in Dutch Dairy Cattle

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Auckland, 9 February 2018



Qlip
quality assurance in agrofood

Take home message

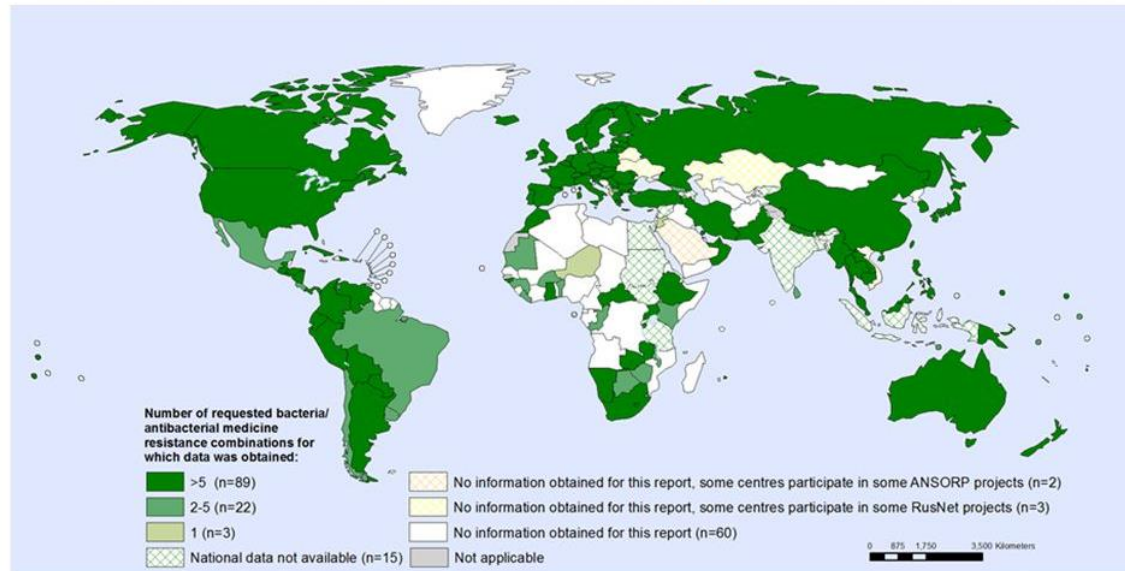
‘The gain outweighs the pain’

Drivers for reduction

- Combatting antimicrobial resistance in human health care and animal health care
- Reducing risk of veterinary drugs in food



Available National Data* on Resistance for Nine Selected Bacteria/Antibacterial Drug Combinations, 2013



Actors

- Government (Departments of Agriculture & Health)
- Animal production sectors
- Veterinarians

Developments 2007 - 2010

- 2008: Public-private covenant
- 2010: Target setting for reduction in antimicrobial drug use as compared to 2009
 - -20% by 2011
 - -50% by 2013
 - -70% by 2015
- 2010: Establishment of NL Veterinary Medicine Institute (SDa)
 - ➔ Registration and benchmarking



Developments since 2011

- 2011: Advice of Public Health Council on antimicrobial use in animal husbandry
- 2012: Preventive use of antimicrobials prohibited
- 2012: New formulary and guidelines for vets (1st, 2nd, 3rd choice substances)



Obligations for farmers and vets

- On-farm availability of
 - Farm health plan
 - Animal treatment plan
 - Prepared by vet and farmer
 - Annual evaluation
- All treatments in national registration system
- Restrictions on critical substances ($<0,1$ DDDA)

Guidelines on antimicrobial use at dry-off of cows

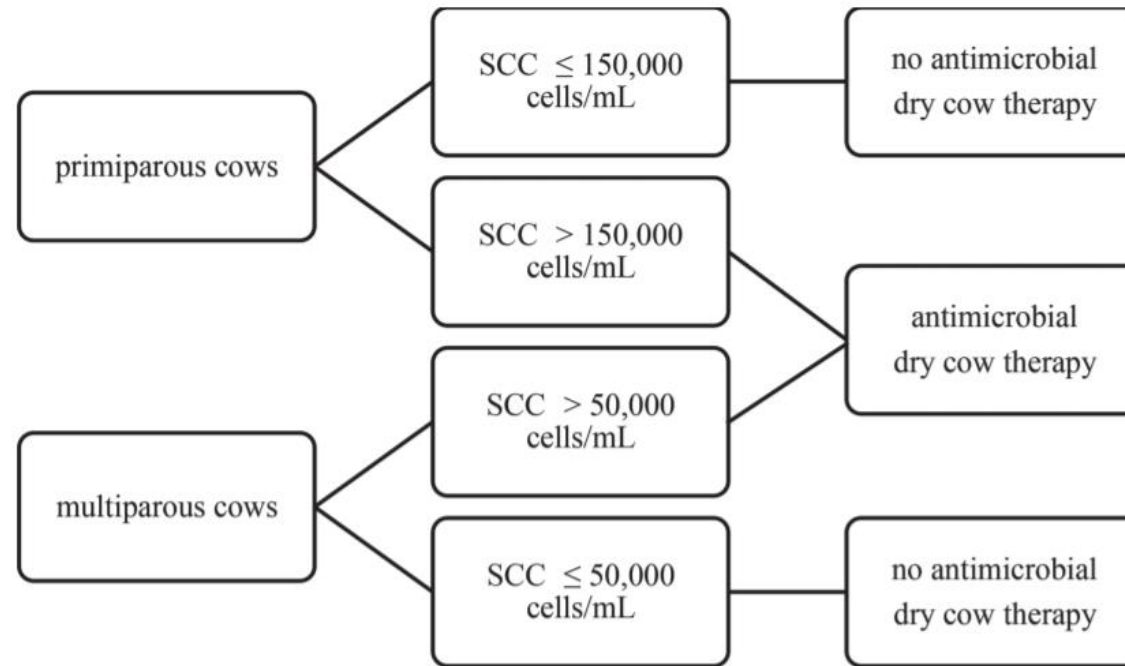


Figure A1. Flowchart explaining the guideline on the use of antimicrobials at dry-off in dairy cattle. Adapted from the Royal Dutch Veterinary Association (KNMvD, 2014). SCC = the SCC of the last milk recording that occurred ≤ 6 wk before dry-off.



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Effects of reduced intramammary antimicrobial use during the dry period on udder health in Dutch dairy herds

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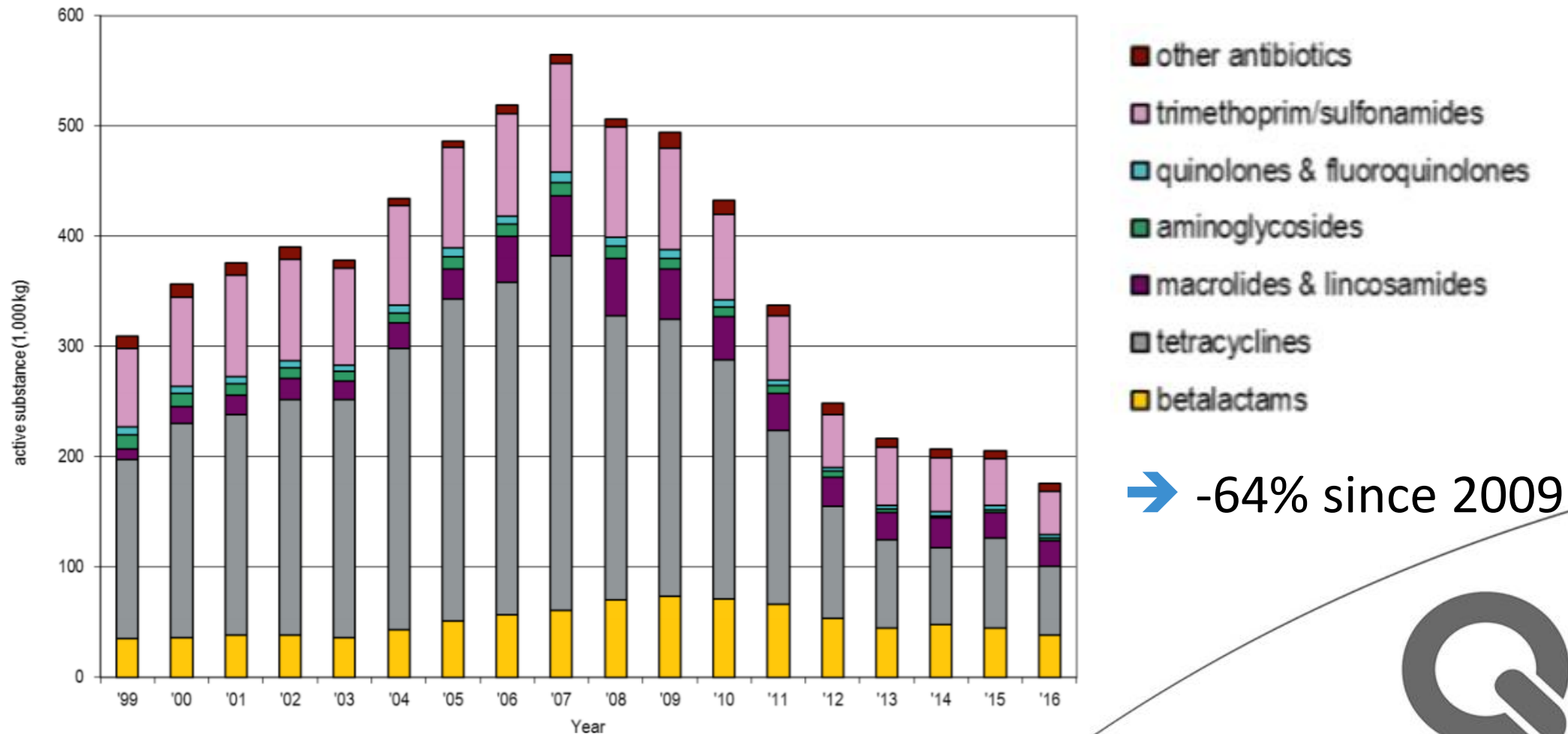
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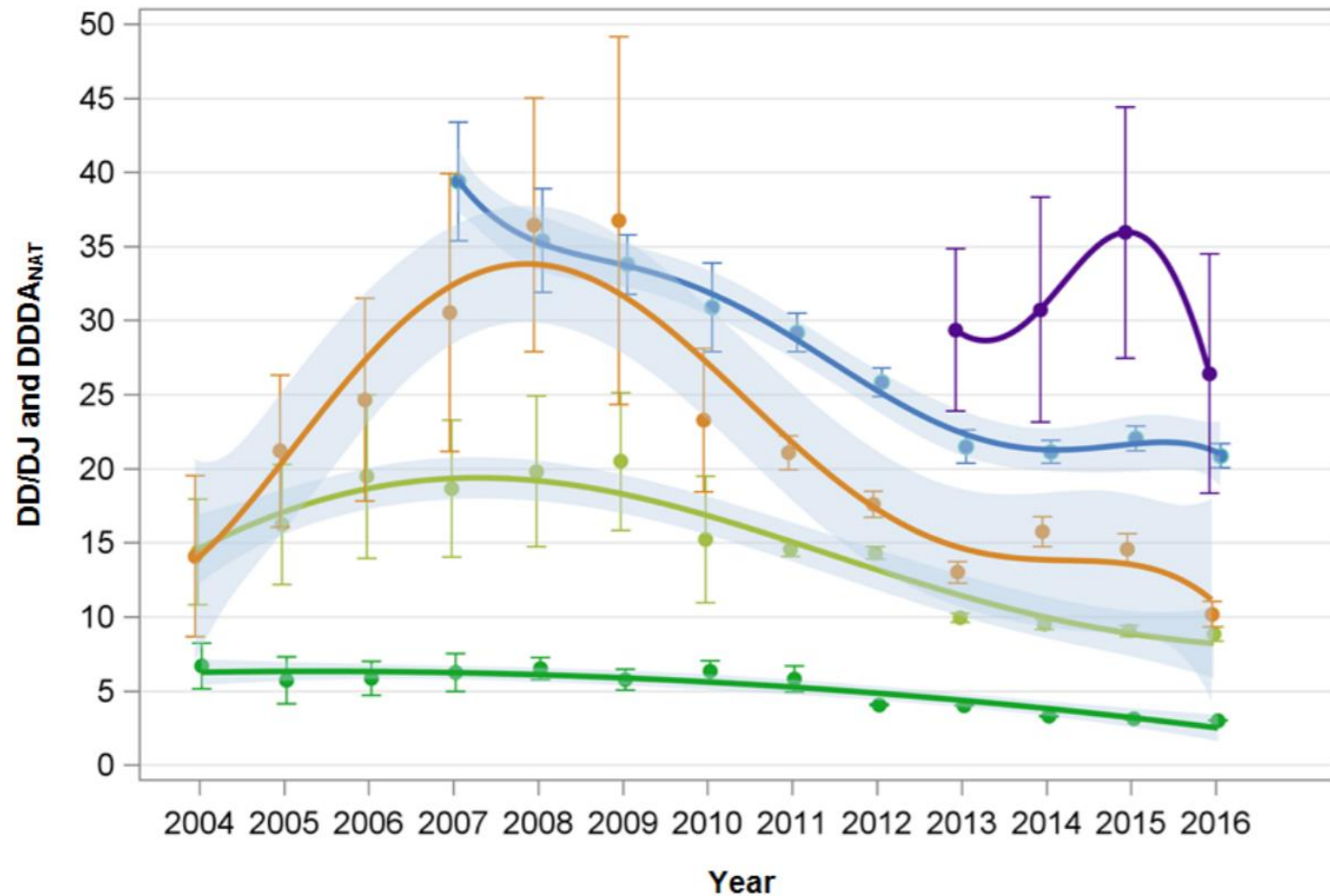
Definitions

- Defined Daily Dose Animal (DDDA):
 - Treated kg/average kg present
 - Expressed in DDDA/year
(ESVAC EMA – London)

Development in sales of antimicrobials in kg of active substances for NL livestock (source: FIDIN)



Development in antimicrobial use per sector in DDDA for NL livestock (source: LEI, SDa)



Turkey

Veal: -37%

Broilers: -57%

Pigs: -56%

Dairy cattle: -48%

Use of 1st, 2nd, 3rd choice antimicrobials with dairy cattle

Based on DDDA

	2012	2013	2014	2015	2016
1 st choice	47.1	61.2	72.6	73.1	74.1
2 nd choice	51.5	38.6	27.3	26.8	25.8
3 rd choice	1.4	0.2	0.1	0.1	0.1

Proportion of dairy cattle farms in benchmark zones

	DDDA _f	2012	2013	2014	2015	2016
Target zone	< 4	56	55	91	93	94
Signalling zone	4 - 6	40	42	8	6	6
Action zone	> 6	4	3	1	1	0

For more data see www.autoriteitdiergeneesmiddelen.nl

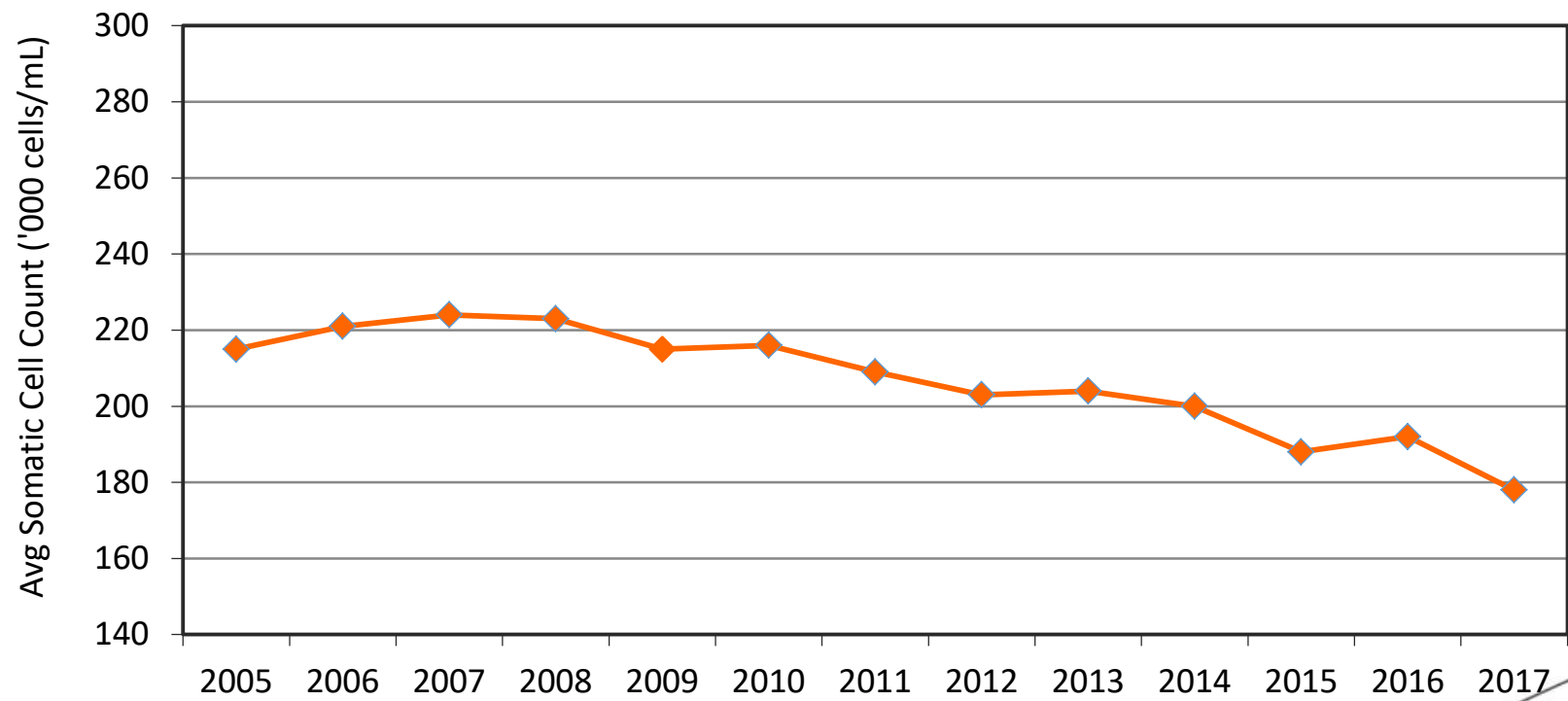
Also some to the negative....

- % herds with more than 25% new infections after calving has increased from 6.5 to 8.5%
- Transition period requires attention

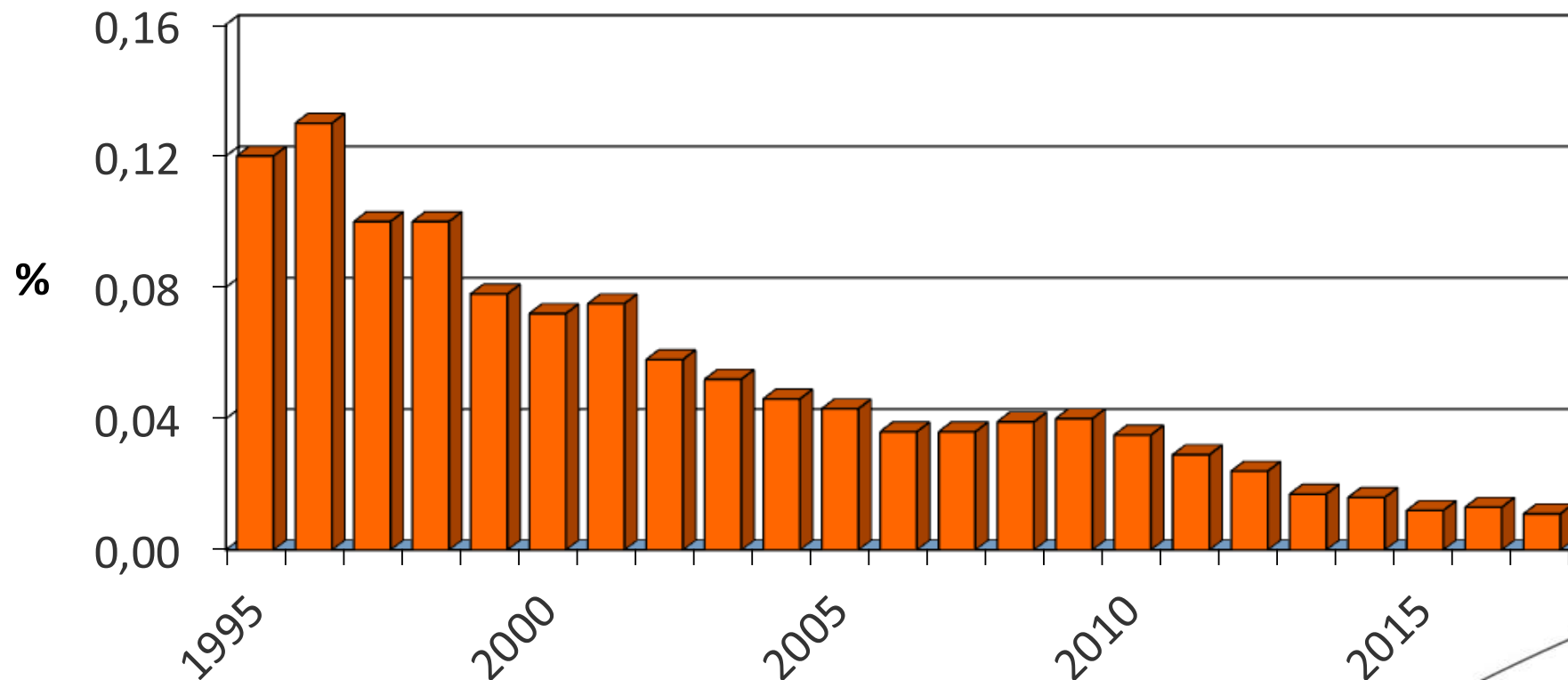
PhD Thesis Christiaan Scherpenzeel, 2017

Average NL herd bulk milk somatic cell count for cows

Arithmetic mean of single values



Penalizations in inhibitor testing on NL herd bulk milk



Next steps

- Specific targets per sector (poultry, pigs, veal, dairy cattle)
- No regulatory enforcement but providing tools to those lagging behind
- Focus on:
 - Housing system/environment
 - Incoming cattle
 - Feed (don't feed contaminated milk to calves!)
 - Milking (equipment/hygiene)
 - Management
- Dairy:
 - More robust animals
 - Selective dry-off



Conclusions

- Successful reduction of antimicrobial use in Dutch dairy cattle
- Parallel improvement in udder health management
- Limited negative consequences

➔ 'The gain outweighs the pain'

Veterinary motto...

Use as little as possible....
....and as much as necessary

Quality in food safety



Thank you for your attention!