

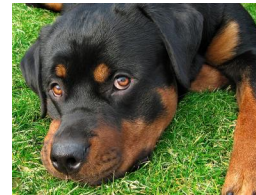
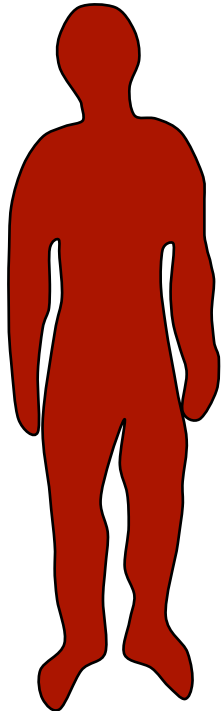
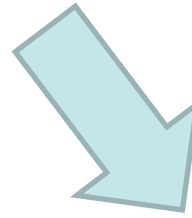
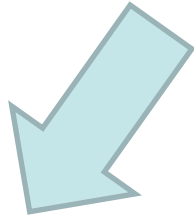
Actions de promotion du bon usage des antibiotiques en santé animale : quels résultats ?

Jean-Yves MADEC

Chef du pôle Antibiorésistance Anses

Les Rencontres de Santé publique France – 7-8 juin 2016

Etablissements de soins



Hospital-associated meticillin-resistant *Staphylococcus pseudintermedius* in a French veterinary hospital

Marisa Haenni^{a,*}, Pierre Châtre^a, Nicolas Keck^b, Alessia Franco^c, Antonio Battisti^c, Jean-Yves Madec^a



J Antimicrob Chemother
doi:10.1093/jac/dkr527

Veterinary hospital-acquired infections in pets with a ciprofloxacin-resistant CTX-M-15-producing *Klebsiella pneumoniae* ST15 clone

Marisa Haenni¹, Cécile Ponsin¹, Véronique Métayer¹,
Christine Médaille² and Jean-Yves Madec^{1*}

Characterization and Comparison of Extended-Spectrum β -Lactamase (ESBL) Resistance Genotypes and Population Structure of *Escherichia coli* Isolated from Franklin's Gulls (*Leucophaeus pipixcan*) and Humans in Chile

Jorge Hernandez^{1*}, Anders Johansson^{2*}, Johan Stedt³, Stina Bengtsson⁴, Aleksandra Porczak⁴, Susanne Granholm⁵, Daniel González-Acuña⁶, Björn Olsen¹, Jonas Bonnedahl^{3,6*}, Mirva Drobni¹



Detection of Extended-Spectrum Beta-Lactamase (ESBL)-Producing *Escherichia coli* on Flies at Poultry Farms

Hetty Blaak, Raditjo A. Hamidjaja, Angela H. A. M. van Hoek, Lianne de Heer, Ana Maria de Roda Husman, Franciska M. Schets
National Institute for Public Health and the Environment (RIVM), Laboratory for Zoonoses and Environmental Microbiology, BA Bilthoven, The Netherlands



Résistance acquise



frontiers in
MICROBIOLOGY

ORIGINAL RESEARCH ARTICLE
published: 09 March 2012
doi: 10.3389/fmicb.2012.00089

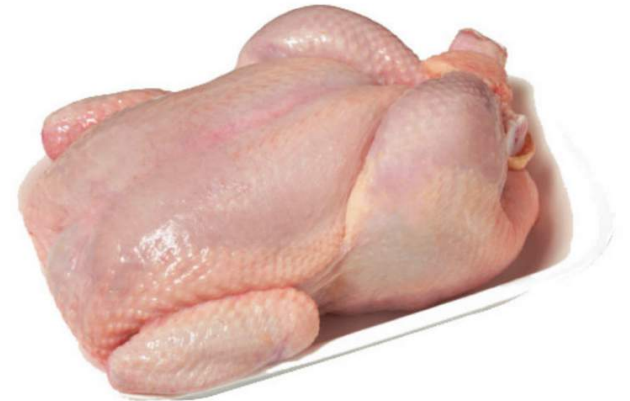


Occurrence of CTX-M producing *Escherichia coli* in soils, cattle, and farm environment in France (Burgundy region)

Alain Hartmann^{1,2*}, Aude Locatelli¹, Lucie Amoureux², Géraldine Depret^{1,2}, Claudy Jolivet⁴, Eric Gueneau⁵ and Catherine Neuwirth³

Viande au détail

Résistance aux C3G : 43,9%

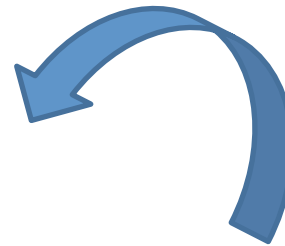


High prevalence of extended-spectrum- β -lactamase-producing Enterobacteriaceae in organic and conventional retail chicken meat, Germany

Methods: A total of 399 chicken meat samples from nine supermarket chains, four organic food stores and one butcher's shop in two geographically distinct regions (Berlin and Greifswald) were screened for ESBL production using selective agar. Phenotypic ESBL isolates were tested for *bla*_{TEM}, *bla*_{CTX-M} and *bla*_{SHV} genes using PCR and DNA sequencing. Antibiotic coresistances were determined and strain typing was performed using PCR-based phylogenetic grouping and XbaI-PFGE.

Results: A total of 185 confirmed ESBL isolates were obtained from 175 samples (43.9%) from all tested sources. The majority of isolates were *Escherichia coli* producing ESBL types SHV-12 ($n=82$), CTX-M-1 ($n=77$) and TEM-52 ($n=16$). No differences could be observed in the prevalence of ESBL producers between organic and conventional samples. 73.0% of the ESBL producers showed coresistance to tetracycline, 35.7% to co-trimoxazole and 7.6% to ciprofloxacin. Strain typing of selected *E. coli* isolates from Berlin revealed identical macrorestriction patterns for several isolates from samples taken from the same stores.

Le SARM du porc transmis à son éleveur



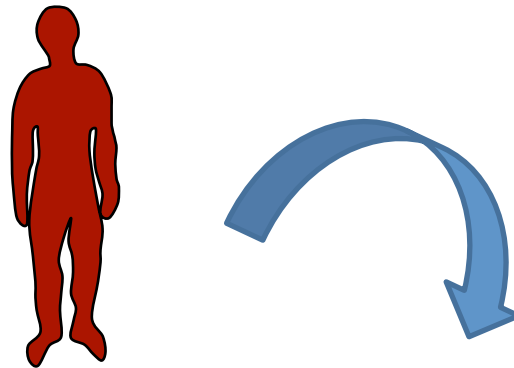
JOURNAL OF CLINICAL MICROBIOLOGY, Aug. 2006, p. 2994–2996
0095-1137/06/\$08.00+0 doi:10.1128/JCM.00846-06
Copyright © 2006, American Society for Microbiology. All Rights Reserved.

Vol. 44, No. 8

Multiple Cases of Familial Transmission of Community-Acquired Methicillin-Resistant *Staphylococcus aureus*

X. W. Huijsdens,* M. G. van Santen-Verheuvél, E. Spalburg, M. E. O. C. Heck,
G. N. Pluister, B. A. Eijkelkamp, A. J. de Neeling, and W. J. B. Wannet

l'Homme transmet aussi la SARM à la vache



J Antimicrob Chemother 2011; **66**: 216–225

doi:10.1093/jac/dkq417

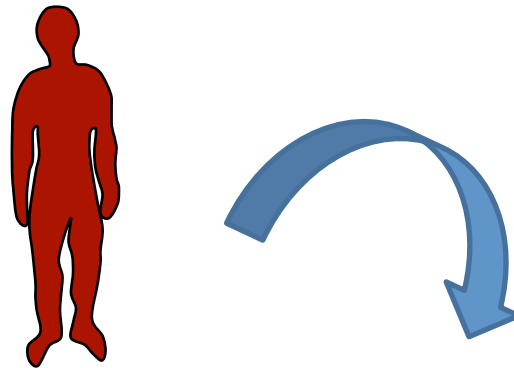
Advance Access publication 11 November 2010

Staphylococcal bovine mastitis in France: enterotoxins, resistance and the human Geraldine methicillin-resistant *Staphylococcus aureus* clone

Marisa Haenni^{1*}, Laure Galofaro¹, Cécile Ponsin¹,
Michèle Bes^{2,3}, Frédéric Laurent^{2,3} and
Jean-Yves Madec¹



l'Homme transmet le SARM au chien



A USA300 variant and other human-related methicillin-resistant *Staphylococcus aureus* strains infecting cats and dogs in France

Marisa Haenni^{1*}, Estelle Saras¹, Pierre Châtre¹, Christine Médaille², Michèle Bes^{3,4}, Jean-Yves Madec¹
and Frédéric Laurent^{3,4}



Organisation
Mondiale
de la Santé
Animale

World
Organisation
for Animal
Health

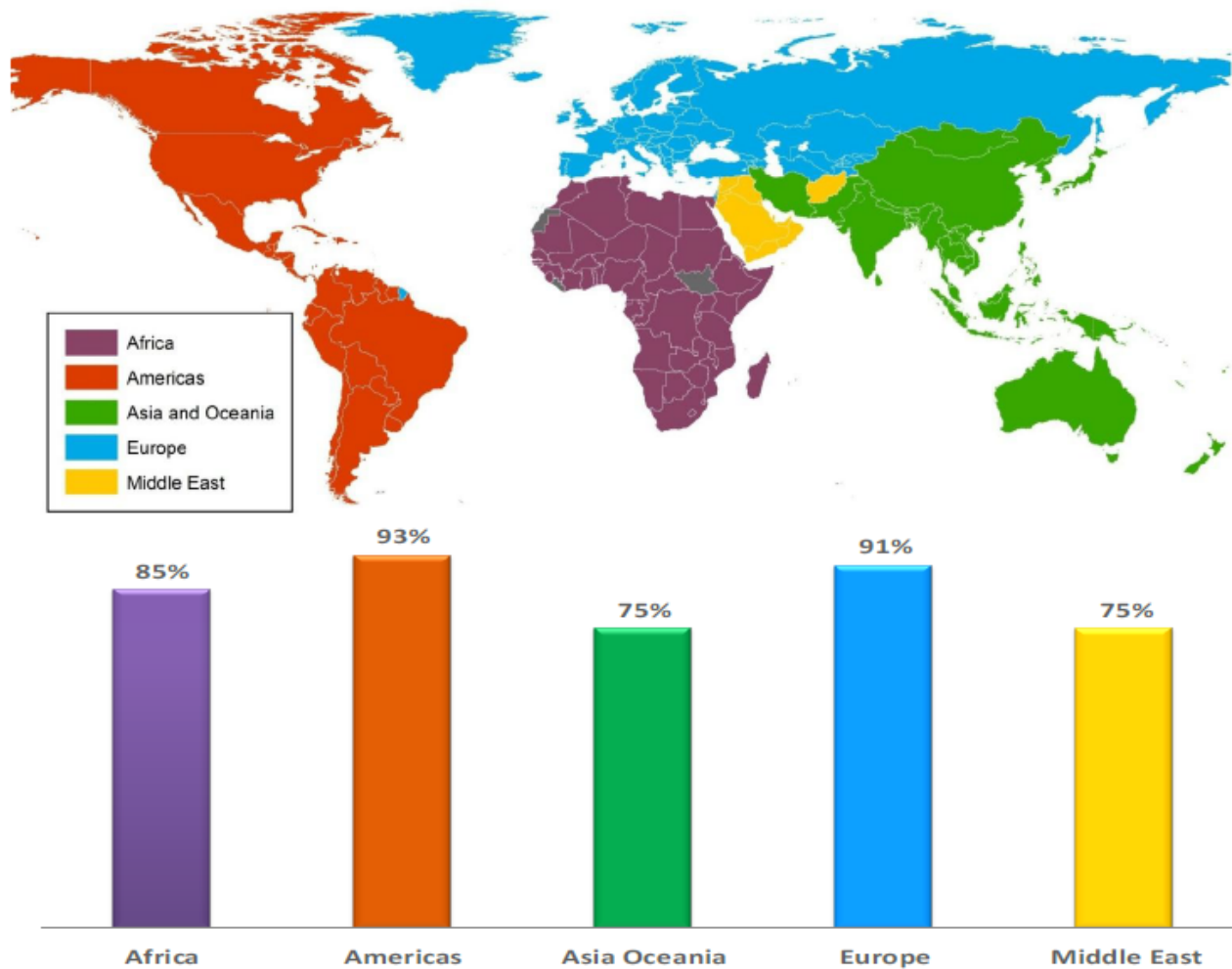
Organización
Mundial
de Sanidad
Animal

Antimicrobial use in animals:

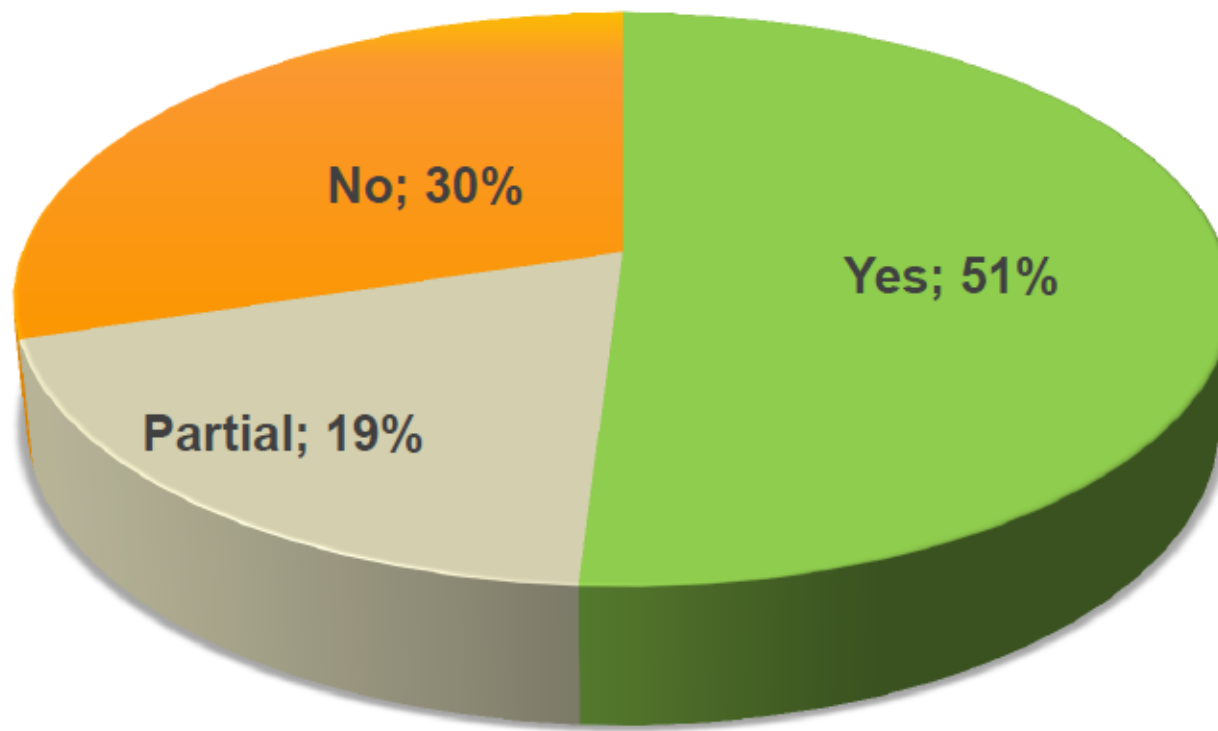
Analysis of the OIE survey on monitoring of the quantities of antimicrobial agents used in animals

152 questionnaires received from 178 OIE Member Countries = **85% replied.**

Proportion of OIE Member Countries submitting questionnaires by OIE Regions



Proportion of OIE Member Countries banning the use of antimicrobial agents as growth promoters



D'où part-on
chez l'animal ?

L'Europe est (de loin) le continent le plus avancé

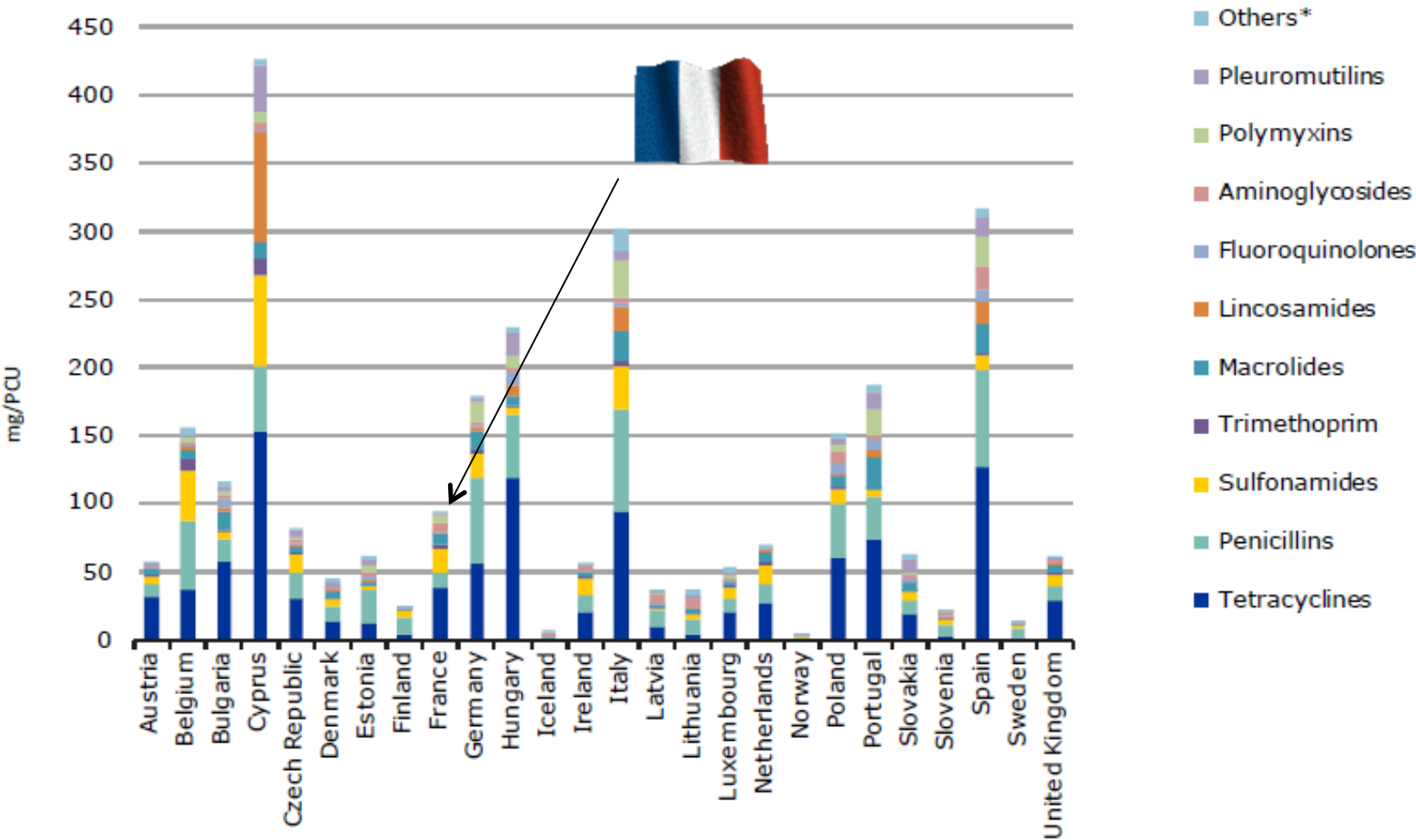
- Usage des antibiotiques comme facteurs de croissance interdit en Europe depuis 2006
- Les antibiotiques ne sont autorisés que pour l'usage thérapeutique (Regulation (EC) No 1831, Sept 2003)
- Une autorisation indique dans quelle infection utiliser l'antibiotique (Summary of Product Information)

REGULATION (EC) No 1831/2003 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 September 2003 on additives for use in animal nutrition

<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32003R1831>

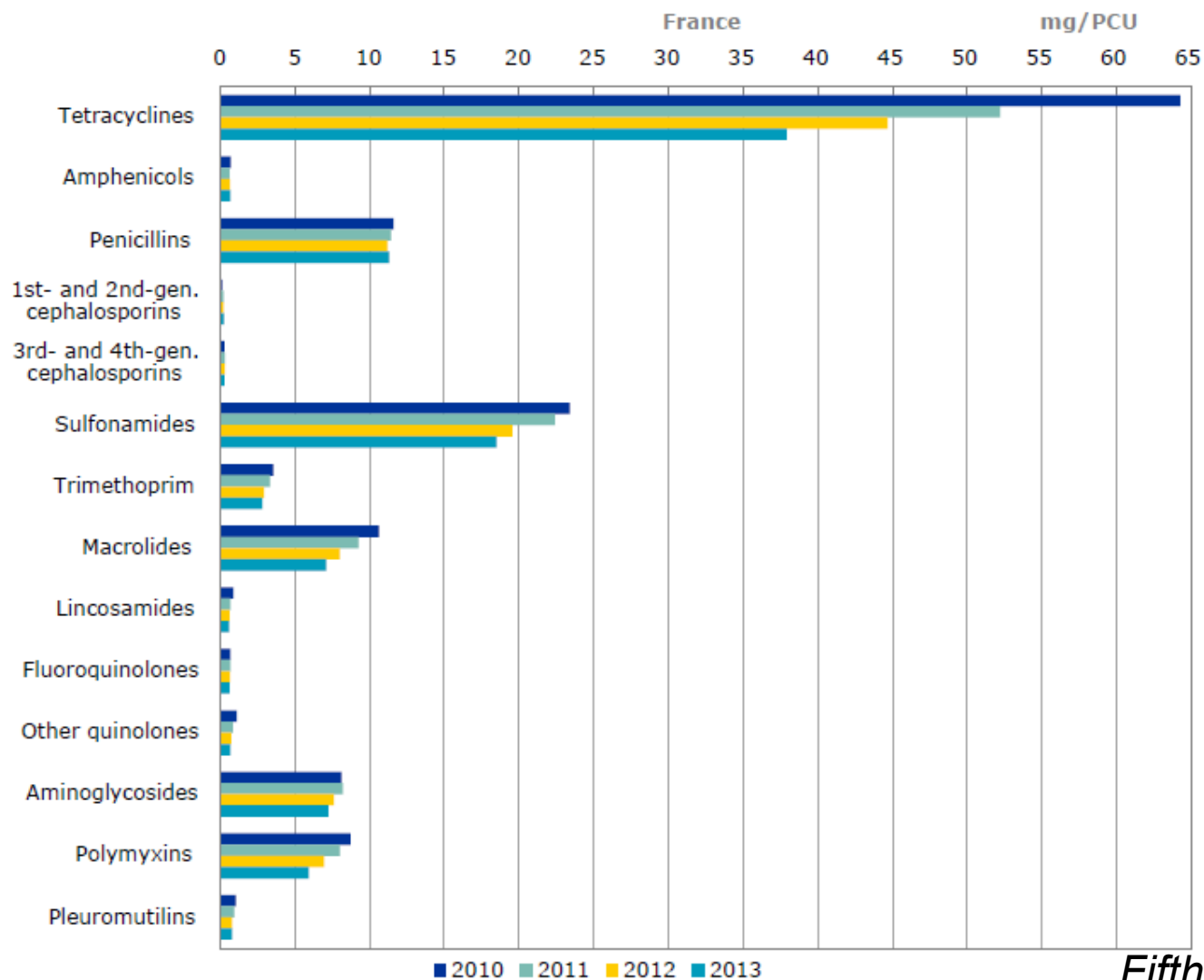
Quels résultats en France ?

Figure 9. Sales for food-producing species, including horses, in mg/PCU, of the various veterinary antimicrobial classes, for 26 countries, in 2013¹



France

Figure 82. Sales (mg/PCU) by antimicrobial class for food-producing species, including horses, in France, from 2010 to 2013



In France, the total sales of antimicrobial agents, in mg/PCU, fell by 30 % from 2010 to 2013.

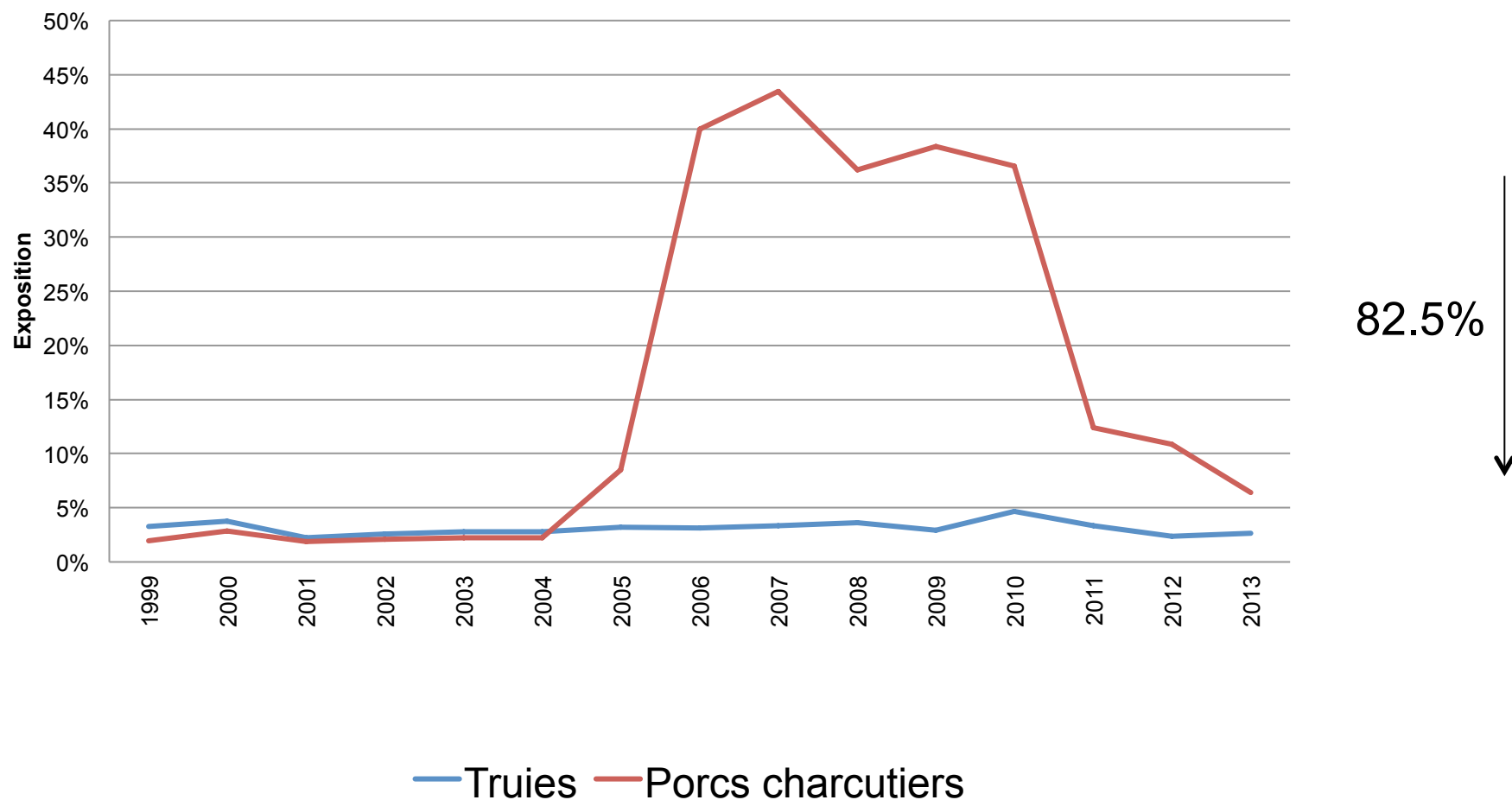
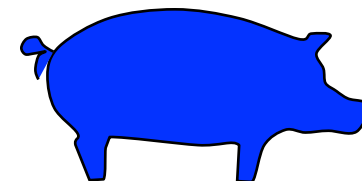
Reporting sales by ALEA, an indicator based on animal course dose which takes into account the differences in dosing between the various antimicrobials, forms and species, show that on average exposure fell by 16.3% for all animal species for the period 2010-2013. The decrease was 27% for rabbits, 21.7% for pigs, 9.5% for dogs, 13.7% for poultry and 10.3% for cattle.

The animal sectors where voluntary actions have been initiated show a greater fall in the consumption of antimicrobial agents.

The overall decrease in the sales of antimicrobial agents can be linked to the French national action plan, initiated in 2011, to reduce the risks of antimicrobial resistance in veterinary medicine. This plan includes a target for reducing the use of all antimicrobial agents by 25% in five years. After two years, the decrease in use measured by the ALFA is 12.7%.

Over the same period, the fall in sales is 21.5% (2013 compared to 2011).

For the first time, the level of exposure to antimicrobials was lower than that observed in 1999 when the French survey was launched.



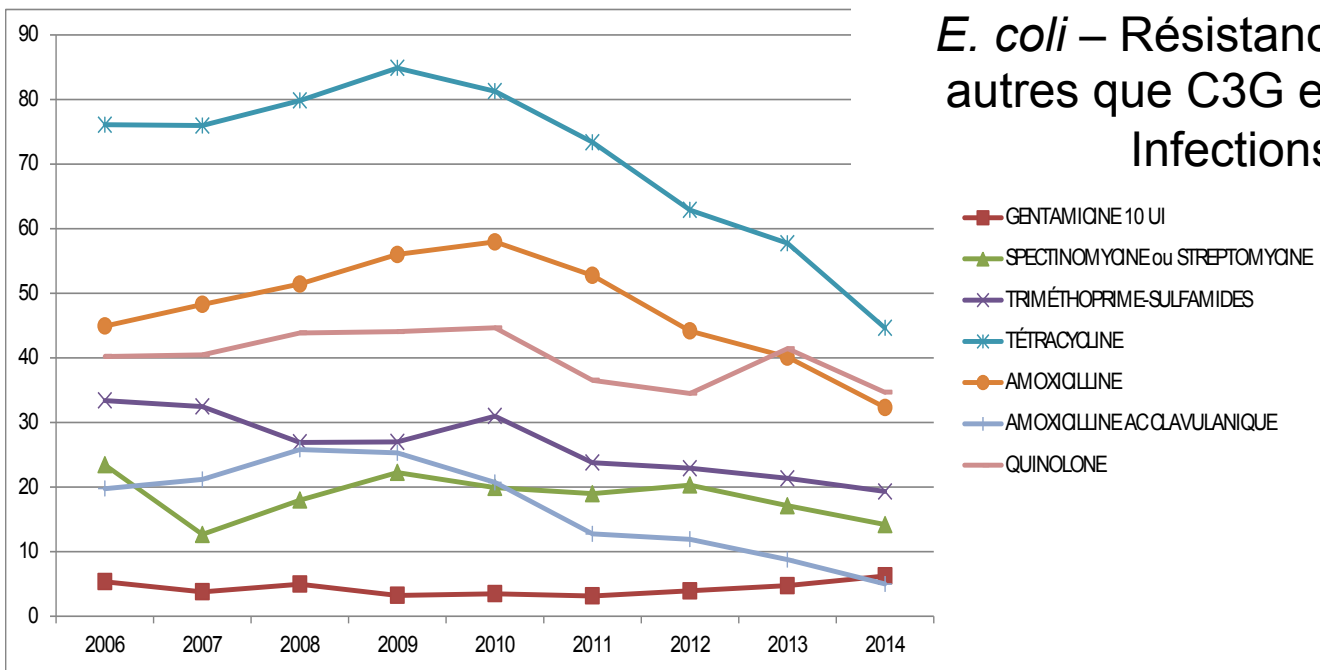
France : évolution du nombre de porcs traités aux C3G/
C4G

E. coli – Résistance au ceftiofur (céfotaxime) Infections cliniques



Données Résapath

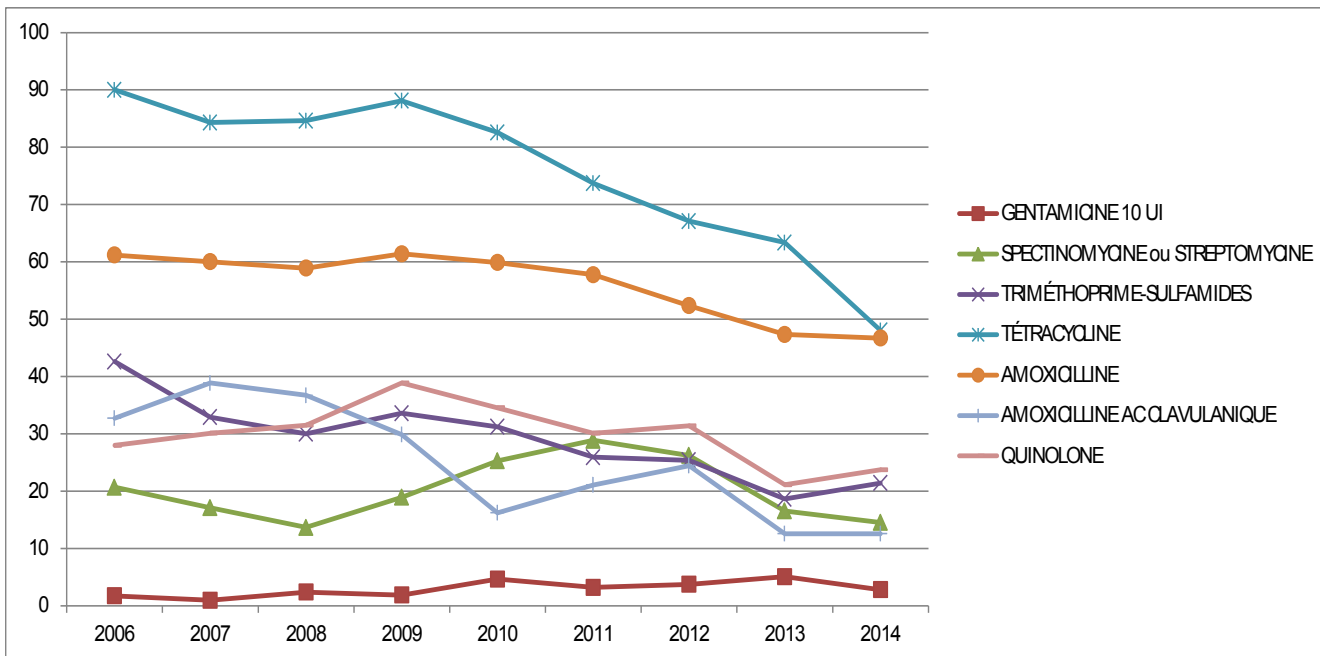
E. coli – Résistance aux antibiotiques autres que C3G et Fluoroquinolones Infections cliniques



Poules
poulets



Dindes



Données Résapath



Le plan écoantibio2017

5 axes
40 mesures

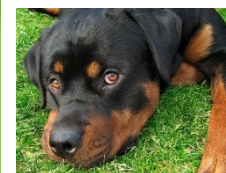
Promouvoir les **bonnes pratiques** et sensibiliser les acteurs

Développer les **alternatives** évitant les recours aux antibiotiques

Renforcer l'**encadrement des pratiques commerciales** et des règles de prescription

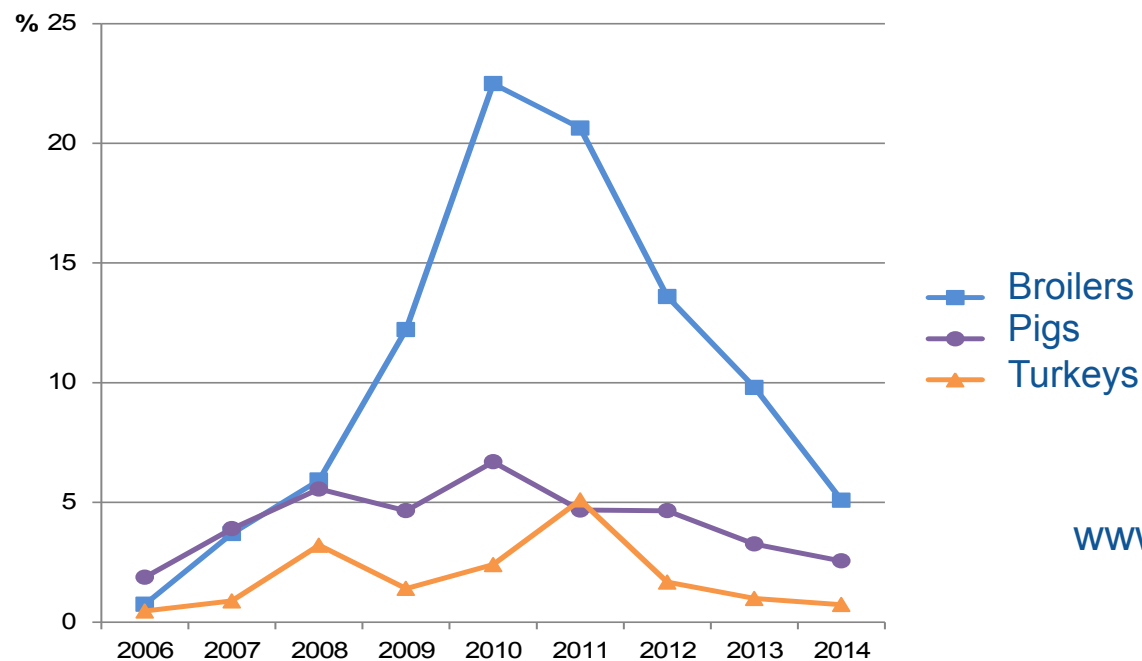
Améliorer le **dispositif de suivi de la consommation** des antibiotiques et de l'antibiorésistance.

Promouvoir la **même approche** à l'échelon européen et international



- Mobilisation volontaire des filières animales
- Loi d'avenir agricole

Tendances BLSE chez *E. coli*



www.resapath.anses.fr

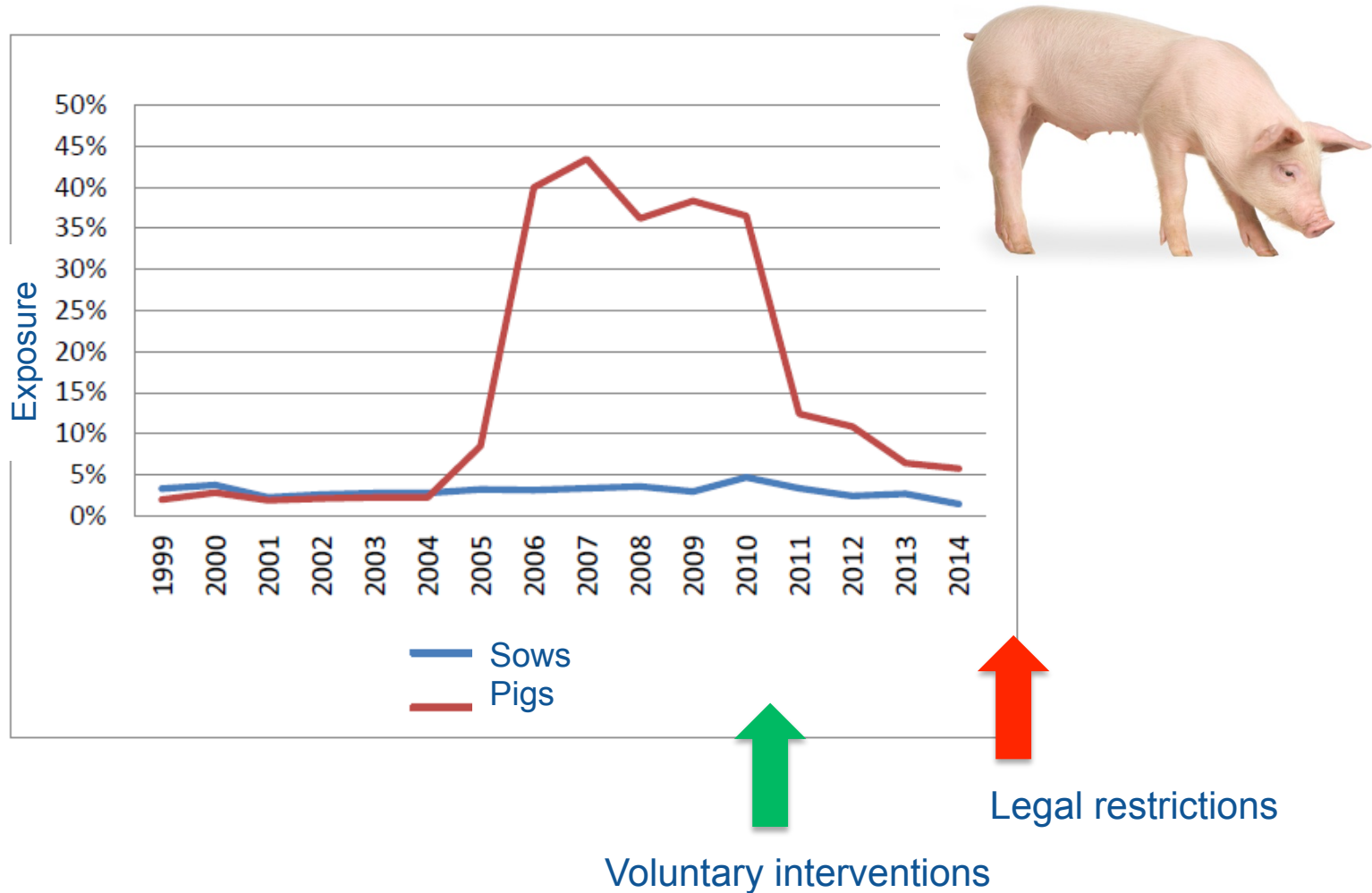


Voluntary interventions



Legal restrictions

Exposition des porcs aux céphalosporines

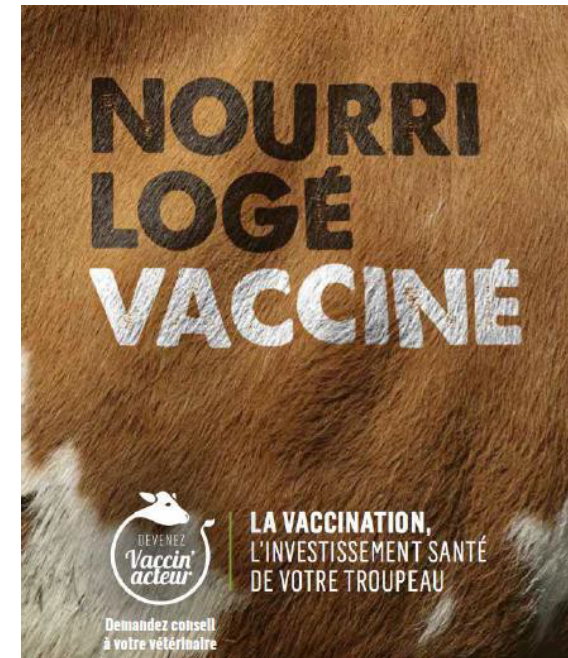


Quelques actions pour le bon usage des antibiotiques

- Outils informatiques de suivi des consommations en élevage
- Site internet d'auto-évaluation (vétérinaires et éleveurs)
- Volet antibiotiques dans tous les congrès professionnels + colloques en région/ journée quizz, ...
- Numéros spéciaux presse vétérinaire/presse agricole/presse consommateurs
- Spots radio/vidéo/affiches/projet e-bug
- Enquêtes auprès des propriétaires d'animaux de compagnie
- Formation des vétérinaires par les organisations professionnelles
- Réseau de vétérinaires référents
- Renforcement de la formation initiale (Ecoles vétérinaires)
- Guides de bonnes pratiques, par maladie et espèce animale

Le bon usage des antibiotiques ne suffit pas

- Vaccins
- Guides de bonnes pratiques d'hygiène en élevage
- Audit biosécurité des élevages
- Aliment
- Formation sur la qualité de l'eau
- Education des vétérinaires et des éleveurs (visite sanitaire dédiée à l'antibiorésistance)



Loi d'avenir agricole (11 septembre 2014)

- Restriction d'usage (Article 20):
- Base légale de la définition d'antibiotiques critiques
- Objectif quantitatif de réduction de 25% en 3 ans (C3/C4G/Fluoroquinolones)
- Interdiction des rabais, remise, ristournes lors de la cession d'antibiotiques (13 octobre 2014)
- Arrêté du 19 décembre 2014 retirant les antibiotiques de la liste positive
- Arrêté du 22 juillet 2015 relatif aux bonnes pratiques d'emploi des antibiotiques en médecine vétérinaire (22 pages)
- Décret du 13 mars 2015 modifiant le code de déontologie vétérinaire
- Décret du 16 mars 2016 et arrêté du 18 mars 2016 encadrant la prescription des antibiotiques critiques

Conclusions

- De bons résultats en médecine vétérinaire
- Encore peu de pays en Europe (Danemark, Pays-Bas, France)
- La profession s'est très fortement mobilisée
- La loi vient renforcer une dynamique en place

Merci de votre attention