



Estimate of veterinary antibiotic usage in NL in 2011

based on preliminary results of the first half year

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This is a publication of LEI, part of Wageningen UR.

The information presented on the MARAN website is a collation of data from on-going surveillance systems on the sales and use of antimicrobial agents in animal husbandry in the Netherlands. The website also provides more detailed data about the usage of antibiotics.

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- the veterinarians and farmers who have provided data of usage.



Results

In the first semester of 2011 (1-1-2011 to 1-7-2011) the total sales of antibiotics in the veterinary sector were 32% below the level of the same period in 2009. Preliminary data of sample farms about the antibiotic use in the first half year of 2011 also indicate a decrease in antibiotic use in all five animal production sectors examined in 2011.

Trends in total sales

Sales data reveal that in the first half year of 2011, the total amount of antibiotics sold by the pharmaceutical industry (FIDIN members) in the Netherlands for therapeutic veterinary use, was 32,1% below the level for the same period in 2009 (Table 1). Tetracyclines showed the largest decrease (-42%), penicillins/cephalosporins the smallest (-8%).

Table 1	Total sales of veterinary antibiotics in the Netherlands in the first half year of 2011 compared to the first half year of 2009 (kg active substance)		
	Q1-Q2 2009	Q1-Q2-2011	Change
Antibiotic group			
Penicillins/ cephalosporins	39,518	36,265	-8.2%
Tetracyclines	133,974	78,203	-41.6%
Macrolides	25,852	19,607	-24.2%
Aminoglycosides	4,667	3,541	-24.1%
Quinolones	3,896	2,852	-26.8%
Trimethoprim/sulfonamides	47,362	32,697	-31.0%
Other	3,691	2,747	-25.6%
Total	258,959	175,912	-32.1%

Tetracyclines

The sales data indicate a total decrease of 41.6% for tetracyclines. The underlying detailed data show a stronger decrease of doxycyclines (-45%) than of oxytetracyclines (-40%).

Quinolones

In the first half year of 2011 the quinolones represented 1.62% of the total veterinary antibiotic sales in the Netherlands, of which 0.40% 'newer' fluoroquinolones (danofloxacin, difloxacin, enrofloxacin and marbofloxacin). In 2011-I compared to 2009-I the sales of quinolones decreased by 26.8%. The sales of the newer fluoroquinolones showed a slight increase of 2%.

Cephalosporins

In the first half year of 2011 the cephalosporins represented 0.22% of the total sales, of which 0.18% third and fourth generation cephalosporins (cefoperazon, cefovecin, cefquinome, ceftiofur, cefuroxim). In 2011-I compared to 2009-I the sales of third and fourth generation cephalosporins decreased substantially, by 32%.

Tendencies in exposure

As shown in Figure 1 sample surveys reveal the following tendencies for the years 2005 to the first half year of 2011, indicating a further decrease in antibiotic use in all five studied animal production sectors in the Netherlands in 2011, when extrapolated to annual usage:

- sow/piglet farms: annual variation until 2009, decrease in 2010 and 2011;
- fattening pig farms: increase until 2008, decrease in 2009-2011;



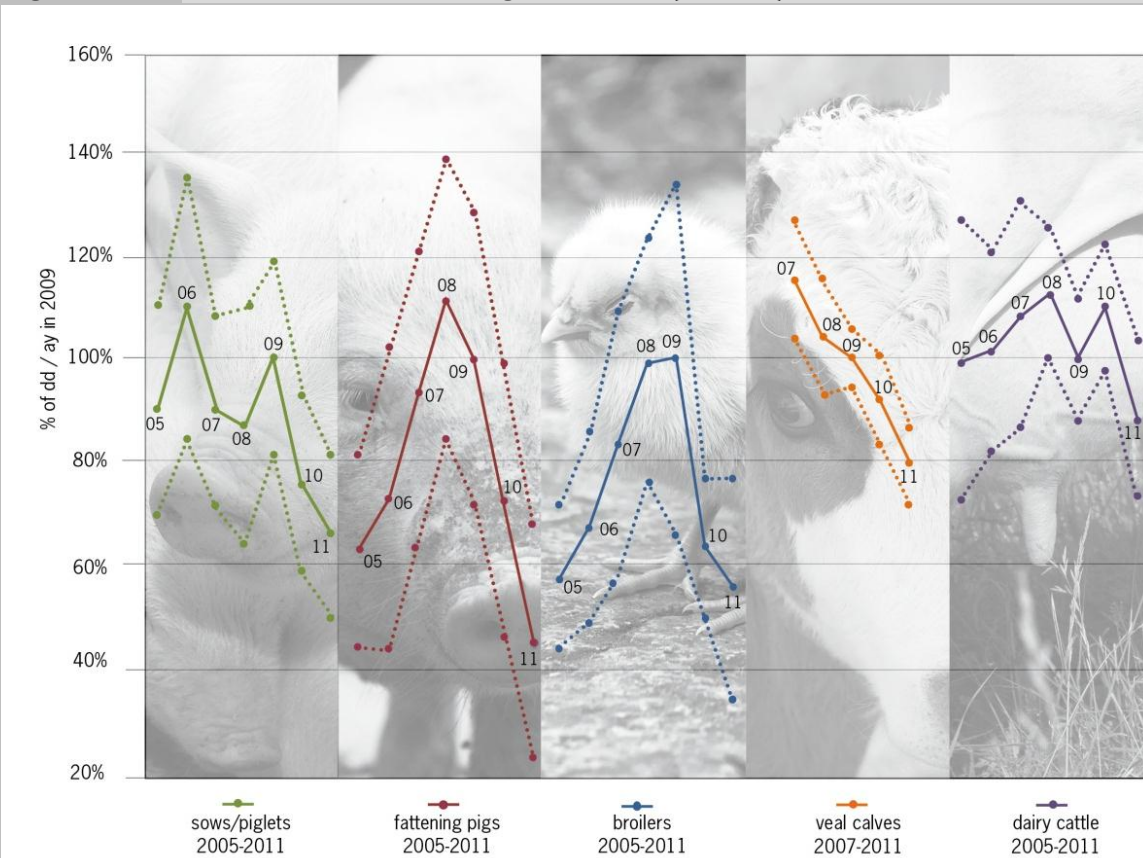
- broiler farms: increase until 2009, decrease in 2010 and 2011;
- veal calf farms: decrease from 2007 to 2011;
- dairy farms: annual variation until 2010, decrease in 2011.

Note that the exposure in 2011 is an estimate based on preliminary data of the first half year. The final figures about the antibiotic usage in the whole year 2011 may differ from this first estimate, because of the following factors:

- analysis of more sample farms: the estimate is based on approximately 80% of the sample farms;
- structural seasonal effects: there might be seasonal differences in usage due to different weather conditions in winter, spring and early summer compared to autumn and early winter;
- incidents: antibiotic usage will be lower in case of no outbreaks of diseases or extreme beneficial weather conditions, and vice versa;
- normal stocks of veterinary medicines: the same stock has an higher impact on a half-year estimate compared with a year estimate.

Except for the first comment, the comments above also hold for the total sales data.

Figure 1 Tendencies in antibiotic usage 2005-2011 (estimate)*



*results 2011 are estimated, based on preliminary results of the first half year



The figure shows the tendencies in exposure to antibiotics in defined daily dosages per average animal present per year (ADD) in the five livestock sectors examined in this study. The outcome of the calculations is indexed, using 2009 as baseline year. The continuous line represents the estimated average use until 2010. The estimate based on usage in the first half year of 2011 is presented by the dotted line. The 95% confidence intervals are indicated by the lines with the small dots shown in Figure 1. The results are presented from 2005 to 2011, for veal calves as from 2007.

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