

## Farm antibiotic use in Italy

### Levels of farm antibiotic use in Italy

Data on the sales of farm antibiotics are only available for Italy for 2010 to 2014. The data show that farm antibiotic use in Italy is exceptionally high, although it has fallen by 25% over the time period despite a significant increase in 2014. See Table 1.

**Table 1** Active ingredient of antibiotics sold for use in veterinary medicine in Italy (tonnes) 1999-2014 [1][3][4][4]

2010	2011	2012	2013	2014
1,928	1,663	1,534	1,328	1,431.6

In addition to having extremely high overall farm antibiotic use, use of antibiotics classified as “critically important in human medicine”, the fluoroquinolones and 3<sup>rd</sup> and 4<sup>th</sup> generation cephalosporins, is also quite high in Italy.

Furthermore, the farm use of the antibiotic colistin, which is now a last-resort antibiotic in human medicine for certain life-threatening infections, remains exceptionally high in Italy. Total use of the class of antibiotics containing colistin, was 117 tonnes in 2014. This is over 100 times more than the total human consumption of colistin throughout the whole of the EU [5].

Data from the European Medicines Agency shows that about 94% of farm antibiotic use in Italy is for mass medication, in animal feed or drinking water [1].

### Comparison with other EU countries

The most recent statistics for all EU countries are for 2014, and in 2014 farm antibiotic use in Italy was well above the EU average. Sales are calculated in terms of weight of active ingredient per unit of livestock (the EU unit of livestock is called a “Population Correction Unit” or PCU), and use in Italy was 359.9 mg/PCU, whereas the average for 29 European countries (EU/EEA) was 152 mg/PCU.

Comparing with the Nordic countries, the difference is even larger. Use in Norway is just 3.1 mg/PCU, in Iceland 5.2 mg/PCU, in Sweden 11.5 mg/PCU, in Finland 22.3 mg/PCU and in Denmark 44.2 mg/PCU [1]. With the exception of Denmark, in all of these Nordic countries most farm antibiotics are used for individual treatments.

Care must be taken when comparing farm antibiotic use internationally, as use is different in different species. Usually, intensively farmed species like pigs, poultry and veal calves (when they are intensively farmed) have very high antibiotic use, whereas extensively farmed sheep and cattle raised on pasture tend to have much lower antibiotic use. So countries with different proportions of different species can be expected to have different use levels. However, Italy does not have a particularly high percentage of the high consuming species in comparison to the European average, so it is clear that there is widespread overuse and misuse of antibiotics in Italian farming.

### Regulatory situation in Italy

In Italy, as in the rest of the European Union, since 2006 antibiotics cannot be used for growth promotion and a veterinary prescription is always required.

However, most European countries, including Italy, still permit antibiotics to be used for routine disease prevention. This means, for example, that it remains legal for a prescription to be written for mass medication of animals (usually pigs or poultry) via feed or drinking water, even in situations when no disease has been diagnosed in any of the animals.

Routine preventative use is no longer practiced in the Nordic countries and the Netherlands, which is why these countries have lower levels of antibiotic use than in Italy and most of Europe.

### Italian guidance on farm antibiotic use and National Action Plan

Italy appears to have taken limited actions so far aimed at reducing farm antibiotic use and resistance. The Italian Ministry of Health has published a document on the prudent use of antibiotics in pigs, poultry and rabbits [6]. According to a 2015 European Commission document, it is also planned that an Italian National Action Plan will be produced, including the establishment of an antimicrobial-resistance taskforce [7]. The Ministry of Health has published a national Plan for Prevention 2014-18, however this is only partly aimed at tackling antibiotic resistance, and focuses mainly on the overuse of antibiotics in human medicine [8]. Attempts are also being made to set up a system for collecting data on veterinary antibiotic prescriptions. Such a system would enable data on antibiotic use by species to be produced (which is not possible from sales data, as many antibiotic products can be used in more than one species).

### What still needs to be done

In order to put an end to the widespread overuse of antibiotics in Italian livestock farming, routine preventative treatments need to be banned. The European Parliament has voted to ban routine preventative use of farm antibiotics, but this needs to be accepted by the Council of Ministers in the upcoming trilogue on Veterinary Medicines Products Regulations. Italy needs to support the European Parliament's position and implement a ban without further delay.

Italy also needs to implement much greater restrictions on the use of the critically important antibiotics. These antibiotics should not be permitted for group treatments or for preventative treatments. They should only be used to treat individual sick animals when it has been shown, preferably using sensitivity testing, that other less important antibiotics would be unlikely to work.

The overuse of antibiotics in Italy is not just due to poor regulation of antibiotic use, but to highly intensive farming systems which promote poor animal health. Less intensive farming systems, which promote animal health and welfare need to be encouraged.

Large number of veal calves are currently farmed intensively in Italy. This type of farming requires very high levels of antibiotic use, whereas cattle raised on pasture require far fewer treatments. A recent Belgian study found that antibiotic use in intensively farmed veal calves was over 25 times higher than in more extensively raised beef cattle, and levels of antibiotic resistance in the veal calves was also much higher [9].

In pig farming, there is evidence that the early weaning of piglets leads to much higher levels of antibiotic use as diarrhoea is more likely. A study comparing weaning practices and antibiotic use in Sweden, Belgium, France and Germany found that median antibiotic use in weaner piglets was over 100 times lower in Sweden than in the other three countries [10][1]. In Sweden, the median weaning age was 35 days, whereas in the other three countries it was between 22 and 25 days.

Pig farmers in Italy, and most EU countries, can wean as early as 21 days. Council directive 2008/120/EC mentions an official weaning age of 28 days, but allows weaning at 21 days when certain minimal requirements are met. In contrast, in Sweden weaning is not legally permitted

before 28 days. Italian animal-health and welfare laws should be amended to ensure a later weaning age.

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