ÉCOANTIBIO

RÉDUIRE L'UTILISATION DES ANTIBIOTIQUES VÉTÉRINAIRES

Reducing antibiotic use in veterinary medicine

ECOANTIBIO PLAN 2012-2016

Summary and Key Achievements

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MINISTÈRE
DE L'AGRICULTURE
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THE ECOANTIBIO PLAN 2012-2016 SUMMARY AND KEY ACHIEVEMENTS

The Ecoantibio Plan is a public policy set up by the Ministry of Agriculture, Agrifood and Forestry. It relates to all animal sectors (including pets) and covers all French territories.

The aim of the Plan is to reduce the risks of antibiotic resistance in veterinary medicine and to safeguard the efficacy of the antibiotics as recommended by the World Organisation for Animal Health (OIE), the World Health Organisation (WHO), the Food and Agricultural Organisation (FAO) and various European institutions. The Ecoantibio Plan, promoted by the Ministry of Agriculture, is part of a wider project known as the Agro-Ecology Project.

The aim of the Agro-Ecology Project in France is to enable stakeholders to face up to the many challenges facing the French agricultural sector: competitiveness, climate change, health and safety worldwide, preservation of natural resources, the quality and safety of food and a minimum use of chemical additives.

The first Ecoantibio Plan, launched on 18 November 2011, was spread over five years, from 2012 to 2016 inclusive. 2016 was too set aside for taking stock of the first Plan and preparing a new Plan.

The first Ecoantibio Plan had 2 specific objectives:

- To reduce the exposure of animals to antibiotics by 25% in 5 years, with a particular attention to the use of critically important antibiotics in veterinary and human medicine. The 25% reduction target is measured using the Animal Level of Exposure to Antimicrobials (ALEA) indicator. Data relating to the level of animal exposure to antibiotics are issued with a lag of one year, hence the reference to 2017 in the name of the Ecoantibio Plan. Achievement of the Plan's target will only be disclosed in 2017;
- To preserve therapeutic arsenal of antibiotics in a durable way, especially because new antibiotics for veterinary use are currently minimal.

To reach these objectives, the Ecoantibio Plan comprises 40 measures based around 5 strategic priorities: priority N° **1 –** promote **good practices** and **raise awareness among stakeholders of the risks relating to** antibiotic resistance and of the need to preserve the efficacy of antibiotics; priority N° **2 –** develop **alternatives** to antibiotic use; priority N° **3 -** Reinforce the regulation and reduce risky practices; priority N° **4 -** improve the **system for monitoring** antibiotic use and antibiotic resistance; priority N° **5 -** promote Europe-wide **approaches** and international **initiatives.**

To implement the Plan, the Ministry of Agriculture has appointed a leader (public or private body) for each of the Plans 40 measures. Financial agreements (budget of 2 million Euros/year since 2013) are signed between the Ministry of Agriculture and the leaders for conducting advertising campaigns, training, studies and for applied research projects.

The target for the Ecoantibio Plan has nearly been reached with a drop of 20.1% in the exposure of animals to antibiotics (all families) over the past 4 years (2012-2015 inclusive).
Furthermore, exposure of animals to the latest generations of fluoroquinolones and cephalosporins has gone down by 22.3 % and 21.3 % respectively over the last 2 years (2014 and 2015). Regarding exposure to colistin, this has diminished by 25.3 % over the last 4 years (2012-2015 inclusive). Although these figures have to be broken down into families of antibiotics and animal sectors, the good initial results are a proof of the effort and commitment of stakeholders in the Ecoantibio Plan and, in particular, of veterinarians and farmers.

CONTEXT AND AIMS OF THE ECOANTIBIO PLAN

The Ecoantibio Plan is the French Plan for reducing the risks of antibiotic resistance in veterinary medicine. It aims to "**eco**nomise "on **antibio**tics because they are a world asset whose efficacy needs to be preserved.

The Ecoantibio Plan concerns all animal sectors, regardless of vocation, and all French territories, including its territories overseas.

The first Ecoantibio Plan was launched in late 2011 and was spread over five years.

The Plan aims mainly to:

- Permanently engage all stakeholders with a comprehensive approach;
- Promote prevention and alternatives to antibiotics;
- Promote research;
- Change production methods

The Ecoantibio Plan, promoted by the Ministry of Agriculture, is part of a wider project known as the Agro-Ecology Project. The aim of the Agro-Ecology Project in France is to enable stakeholders to face up to the many challenges facing the French agricultural sector: competitiveness, climate change, health and safety worldwide, preservation of natural resources, the quality and safety of food and minimum use of chemical additives. The logo and motto of the Project are as follows:

ÉCOANTIBIO
RÉDUIRE L'UTILISATION DES ANTIBIOTIQUES VÉTÉRINAIRES

NATIONAL ACTION PLAN **FOR THE REDUCTION** OF THE RISKS **OF ANTIBIOTIC RESISTANCE** IN VETERINARY **MEDICINE**

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Agro-Ecology : Produce differently

Ecoantibio: Who, What, How, When, How much?

The Ecoantibio Plan is a public policy promoted by the Ministry of Agriculture, Agrifood and Forestry.

The name, Ecoantibio, is inspired by another Plan by the Ministry of Agriculture: the so-called Ecophyto Plan, a plan aimed at reducing the use of pesticides.

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The first Ecoantibio Plan was spread over five years, from 2012 to 2016 inclusive. Data relating to the level of animal exposure to antibiotics are given with a lag of one year, hence the reference to 2017 in the name of the Ecoantibio Plan. Achievement of the Plan's target figure for 2012-2016 will only be disclosed in 2017.

The motto of the Ecoantibio Plan is *"Reduction is possible"*.

Reducing antibiotic use in veterinary medecine:
you can use less

Other key messages and formulas are also used when presenting the Plan, e.g., *"Antibiotics: only what's needed, just what's needed, only as much as needed"; or "The real danger isn't antibiotics but antibiotic resistance";* also used is, *"the problem isn't using antibiotics, it's misusing them".*

The overall objective of the Ecoantibio Plan is to promote responsible, prudent and rational use of antibiotics in veterinary medicine.

The first Ecoantibio Plan has 2 specific objectives:

- To reduce the exposure of animals to antibiotics by 25% in 5 years, with a particular attention to the use of critically important antibiotics in veterinary and human medicine (such as third and fourth generation cephalosporins and fluoroquinolones). The 25% reduction target was chosen to match the 25% objective set by the French Ministry of Health to reduce the use of antibiotics aimed at humans, which itself was chosen because the use of antibiotics by people in France is about 25% higher than the European average. The Ministry of Health hopes that 25% reduction objective will bring the France down to the European average. The French Ministry of Agriculture chose this target for veterinary medicine and deems it to be an ambitious and attainable objective and consistent with the objective set for human medicine, even though, at the start of the Ecoantibio Plan, the use of antibiotics in veterinary medicine in France was just below the European average;
- To preserve therapeutic arsenal of antibiotics in a durable way, especially because new antibiotics for veterinary use are currently minimal.

The Ecoantibio Plan concerns all categories of animals. Therefore, most of the measures in the Ecoantibio Plan are aimed at all types of animals (pets and livestock).

To reach these objectives, the Ecoantibio Plan comprises 40 measures based around 5 strategic priorities:

- Promote **good practices** and **raise awareness among stakeholders;**
- Develop **alternatives** to antibiotic use;
- Reinforce the regulation of **commercial practices** and prescribing rules;
- Improve the **system for monitoring** antibiotic use and antibiotic resistance;
- Promote **the same approach at European and international level.**

The écoantibio2017 plan

5 priorities
40 measures

Promote **good pratices** and **raise awareness among stakeholders**

Develop **alternatives** to antibiotic use

Reinforce the **regulation of commercial practices** and prescribing rules

Improve the **system for monitoring** antibiotic use and antibiotic resistance

Promote the **same approach at European and international level**

To help implement the Plan, the Ministry of Agriculture has appointed a leader for each of the Plans 40 measures. A leader may also implement one or more measures.

Below is a breakdown of the number of leaders by the number of measures implemented:

- Ministry of Agriculture (18 measures, including 14 by the General Directorate for Food/DGAL and 4 by the General Directorate for Education and Research/DGER),
- National risk assessment Agency, ANSES (9 measures, including 5 by the National Agency for Veterinary Medicine/ANMV),
- Union of Veterinary Medicine, SIMV (5 measures),
- Technical Association of Vets, SNGTV (3 measures),
- Ministry of Health (1 measure),
- Ministry of Environment (1 measure),
- Farmers Federation, GDS France (1 measure),
- Technical Agricultural Institutes, ACTA (1 measure)
- National Veterinary Council (1 measure).

Financial agreements are signed between the Ministry of Agriculture (DGAL) and the leaders for conducting advertising campaigns, training, studies and for applied research projects. An annual budget of 2 million Euros was set aside by the Ministry of Agriculture in 2013 to fund these conventions. Signatories of the agreements may entrust all or part of the implementation process to project developers (mainly ANSES laboratories and technical agricultural institutes).

A key to success of the Ecoantibio Plan is the time set aside to elaborate the Plan and the construction method adopted for its implementation.

Almost two years have passed since inception of the plan to tackle antibiotic resistance in veterinary medicine and its launch in November 2011 by the Agriculture Minister. Adequate time was invested in setting out the main priorities of Ecoantibio, with the participation of all stakeholders. The Ministry of Health had already started looking into a plan regarding medicines for humans way back in 2002.

Regarding the approach adopted for its creation, the Ecoantibio Plan was really a joint venture between the private and public sectors, under the leadership and coordination of the Agriculture Minister (General Directorate for Food). Working groups were set up, which involved mainly and directly:

- Other government bodies (the Ministries of Health, Environment, Research and Economy);
- Research and educational stakeholders;
- Stakeholders from the manufacturing and distribution of veterinary medicinal products sectors, including the area of medicated feed;
- Risk assessment agencies, health institutes and boards;
- Laboratories;
- Technical agricultural institutes;
- Veterinary and animal health care organisations;
- Veterinary Unions;
- Agricultural Unions.

The Ecoantibio Plan seeks to mobilise all those involved on a daily basis, in relation to the above-mentioned organisations and, more generally, with pet owners, i.e., 48% of French households that have a pet (12.7 million cats and 7.3 million dogs).

Why introduce a plan to tackle antibiotic resistance in veterinary medicine?

In 1928, the British scientist, Alexander Fleming, discovered penicillin, a discovery deemed as one of the most important of mankind. At the time, he also noticed that bacteria developed a resistance to the antibiotic every time the amount of penicillin used was too small or over an insufficient period of time.

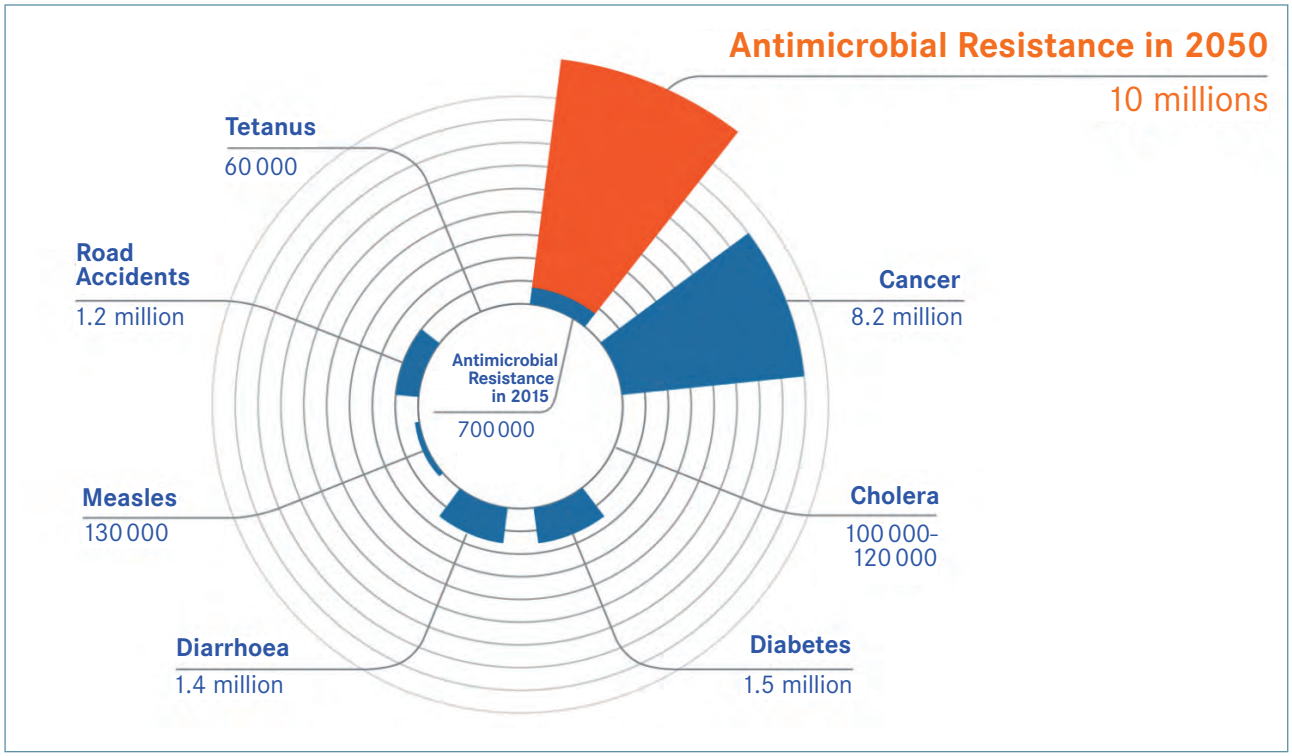
Whilst discovering the antibiotic effects of penicillin, which earned him the joint Nobel Prize for medicine 1945, Alexander Fleming was already laying the foundations for our fight against risks of antibiotic resistance. In many of the speeches he gave worldwide, Fleming stressed the importance of using penicillin correctly. He recommended that it should never be used inappropriately and without prior and correct diagnosis. He also said that you should never use too little of it or over an insufficient period.

The discovery of penicillin opened the way to its mass production and to the discovery of other antibiotics. Less than a century after the discovery of the first antibiotic, there is already talk of a post-antibiotic era, since some existing antibiotics are becoming less and less effective. Almost no new family of antibiotics is being put on the market and antibiotics of last resort in medicine are (or are expected to be) reserved for human medicine.

However, antibiotics remain an indispensable treatment for humans and animals; they constitute a world asset, whose efficacy is to be protected by joining forces in the fight against the risks of antibiotic resistance. The responsibility of public authorities is to protect this medical heritage by special regulation and to confer it with a different legal status from other medicinal products.

The fight against antimicrobial resistance is one of the main challenges of public health in the 21st century and a health issue for the breeding and food safety sectors worldwide.

If no measure to combat antibiotic resistance is taken at international level, it is estimated that from 2050, the death mortality will rise to 10 million, against 700 000 in 2015, which makes antibiotic resistance the number one cause of death worldwide, much ahead of the various forms of cancer *(source: Report on "Review on Antimicrobial Resistance - Jim O'Neill - Mai 2016).*



Antibiotics are also indispensable for animal welfare. Since an animal suffering from a bacterial disease has to be treated, it is important to have effective health products.

Antibiotics are also important for health and safety. With the growth in population worldwide (estimated at 9 billion in 2015), there will be an increase in the demand for animal proteins. The World Organisation for Animal Health (OIE) estimates that the global demand for animal proteins will go up by 50% by 2020.

However, bacterial diseases or secondary infections cause a loss of weight and production, or even the death of animals. Both for food safety and for maintaining the income of farmers, in addition to prevention and biosafety, it is important to have effective health products. Naturally, use of antibiotics for zootechnical purposes as growth factors should be prohibited in all countries. Misuse of this kind has been banned in the EU since 1 January 2006.

It is up to the public authorities to ensure good governance and adequate monitoring by their veterinary services; to develop appropriate legislation and regulations to bring about a change in practices, in partnership with the various stakeholders concerned, including veterinarians and breeders. This is the purpose of the Ecoantibio Plan.

Based on the "One Health " approach, the recommendations in terms of fighting against antimicrobial resistance by these international organisations are all consistent and convergent with each other.

Pathogenic bacteria are largely common to man and animals. The same family of antibiotics used in veterinary medicine are also used in human medicine. This is why the fight against antimicrobial resistance, the most important challenge to public health at world level, must involve all countries. Therefore, the recommendations of international organisations, such as the World Health Organisation (WHO), the World Organisation for Animal Health (OIE) and the Food and Agriculture Organisation (FAO) should be implemented. Based on the “One Health” concept, the recommendations relating to fighting antimicrobial resistance of these international organizations are mutually consistent and convergent.

Measures taken in the Ecoantibio Plan are fully in line with international recommendations relating to the fight against antimicrobial resistance by OIE, FAO, WHO and European institutions. These recommendations can be consulted on their websites.

http://www.oie.int/fr/pour-les-medias/amr-fr/

http://www.fao.org/antimicrobial-resistance/en/

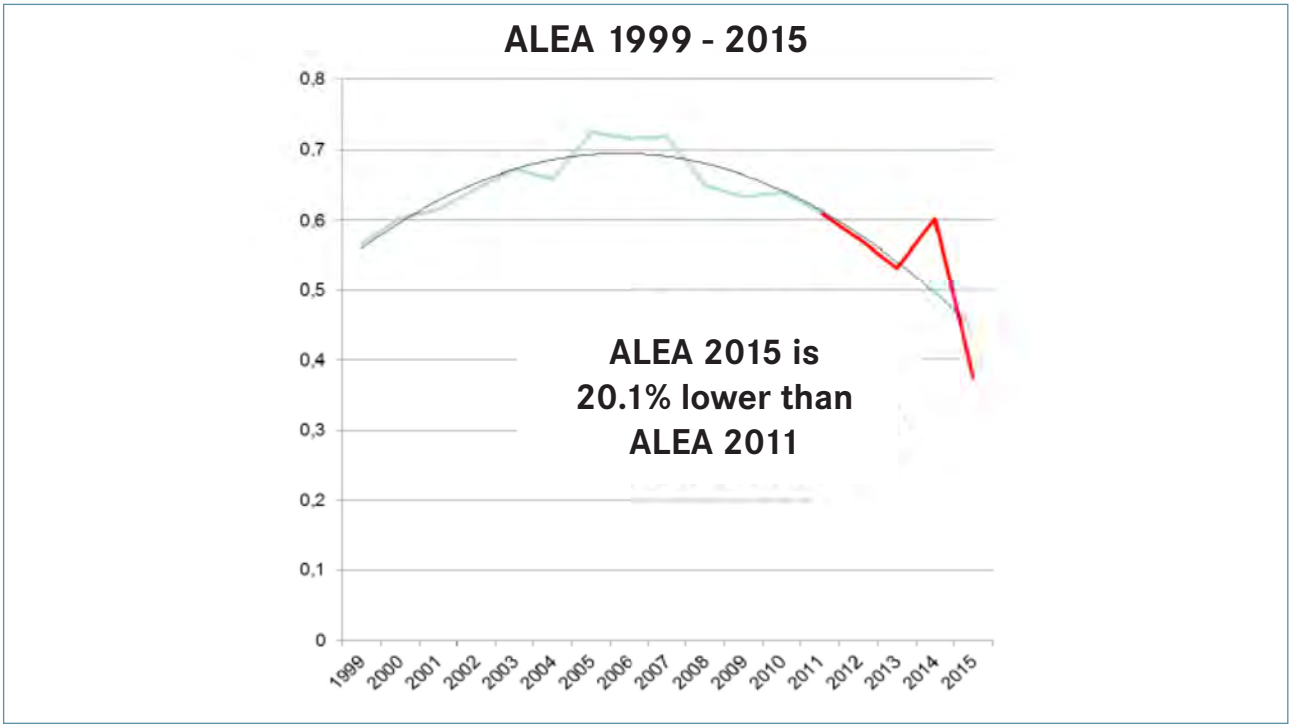
http://www.who.int/medicinal productresistance/global_action_plan/en/

http://ec.europa.eu/dgs/health_food-safety/amr/action_eu/index_en.htm

REPORTS AND RESULTS OF THE ECOANTIBIO PLAN

Figures relating to antibiotic use go in the right direction

The indicator used for monitoring exposure of animals to antibiotics is ALEA (Animal Level of Exposure to Antimicrobials), which has been calculated on an annual basis since 1999 by Anses-ANMV (the French National Agency for the Health and Safety of Food, the Environment and the Labour-National Agency for Veterinary Medicine). It is an exposure indicator and that does not relate only to the gross tonnage of antibiotics sold in France. ANMV'S annual reports are available on the Anses website.



According to ANSES, there has been a 20% reduction of antibiotics in veterinary medicine over the first four years (2012-2015) of implementation of the Ecoantibio Plan. This trend varies by species of animal and family of antibiotics. ANMV's annual report gives a full breakdown of the trend.

As the first Ecoantibio Plan concludes at the end of 2016, the figures relating to the reduction in the exposure of animals to antibiotics will be revealed in October 2017, when ANSES publishes its annual report on the sales of antibiotics for 2016. This is when we will know if the target figure of a 25% reduction in 5 years (2012-2016) was achieved.

Based on trends observed so far, since the launch of the Ecoantibio Plan, the target figure is expected to be reached. The Ecoantibio Plan has also supported by the veterinary profession, in the breeding sector, well before 2012, in the first year of the plan. Indeed, the inversion in the curve of the level of animal exposure to antibiotics dates back to the beginning of the millennium. There was a period of steady rise from 1999 (the year exposure started being monitored), followed by a plateau. There has been a reduction since 2007, with an acceleration in the reduction over the period covered by the Ecoantibio Plan.

The European Union also publishes an annual report on the exposure of animals to antibiotics, which serves as a comparison between Member States. In its last report published in 2015 relating to 2012, the use of antibiotics in France in the livestock sector was 99.1 mg of antibiotics per kg compared to 144 mg/kg for the European average. For comparative purposes, the average consumption in Europe of antibiotics in humans was 116.4 mg/kg in 2012.

Ecoantibio is much more than just figures

Setting a target helps keep you on course and makes it easier to keep stakeholders up to date on the monitoring indicator. Nevertheless, what is more important, because it is more sustainable, is implementing the 40 measures of the Plan and, in particular, actions aimed at changing people's practices, through providing information, training and enforcing the regulations.

The key actions of the Ecoantibio Plan, the results of which are expected to influence events well beyond the 2012-2016 plan cover the following aspects: **Awareness, Information, Communication, initial and continous Training for veterinarians and breeders, Innovation, Research, Support, Coordination, Mobilisation, Dialogue, Consultation, Regulation, Lobbying** other countries and European and international health institutions, by promoting actions that help spread awareness of the French Ecoantibio plan and its positive results beyond french borders and actively compelling the authorities in other countries to implement plans similar to ours.

The issue of **"Funding"** cannot be overlooked. Indeed, Ecoantibio provided funding to the tune of 7 million Euros over the period from 2012-2016, for applied research projects, advertising campaigns and for designing training modules.

Providing a full list of all 40 measures included in the plan would be impractical, especially as many of them relate mainly to livestock. This is why focus has been put on a number of key actions and intermediary actions of the Ecoantibio Plan.

Lastly, France has repeatedly defended its approach to combating the risks of antibiotic resistance in veterinary medicine. France's position, the basis of the Ecoantibio Plan, has been defended in presentations and key speeches at various forums: World Health Organisation (WHO), World Organisation for Animal Health (OIE), Codex Alimentarius, FAO, G7, G20, OCDE, Chief Veterinary Officers, The Council of Europe, The European Commission, and The European Parliament.

Focus on the results in terms of the development of antibiotic resistance

Regarding the monitoring of antibiotic resistance to pathogenic bacteria, the ANSES' Résapath network collects, analyses and summarises the results of the antibiograms conducted in laboratories affiliated to the network, at the request of veterinarians. When it was created in 1982, Résapath only related to the cattle sector. Over the years, it has evolved and increased the number of animal species it covers, the number of antibiogram results received and the number of affiliated laboratories. In 2007, Résapath widened its scope to cover domestic carnivores and horses.

In 2014, **Résapath** received 36,989 antibiograms from 67 affiliate laboratories, 18.1% of which relating to samples taken from dogs (7,002 antibiograms, i.e., the 3rd most common species after cattle and poultry, by the number of antibiograms received) and 5.2 % from cats (1,926 antibiograms).

In the absence of a unique indicator enabling us to monitor the development of antibiotic resistance, the monitoring of trends can only be conducted by family of antibiotics and by animal sector. The resistance rate varies according to animal species and family of antibiotics. Two extracts from the last Résapath report show by two examples how this trend is expressed and described:

- For one bacterial species (E. coli) regarding critical antibiotics;
- For a given sector (dogs).

However, the 2014 *Résapath* report came to a more holistic conclusion on the development of resistance to non-critical antibiotics:
"There has been a downward trend in resistance since 2006 for most antibiotics and in all sectors. The same applies to 2014".

Extracts from the Résapath report for 2014, published in November 2015

Development of resistance to E. coli regarding critical antibiotics

Resistance to C3G/C4G: the highest rates lie between 5% and 10% and relate to veal, dogs, cats and equines. In other animal species, the rate is equal or lower than 5% (especially in the case of hens/chickens, pigs and turkeys). There has been a large reduction in the last few years in the case of hens/chickens, pigs and turkeys, which is a major result, when we consider that the poultry sector had rates of 22.5 % in 2010. The dynamics of the trend is variable:

- There has been a drop in domestic carnivores (especially in dogs, for the 2nd year);
- Equines have remained stable;
- There has been a rise in veal, which was the main concern this year. Similarly, we should remember that resistance to cefquinome remains twice as high as to ceftiofur.

Resistance to fluoroquinolones: the resistance rates to fluroquinolones are overall higher than to C3G/C4G. For example, despite the downward trend, the rate is still over 20% in cattle, over 15% in dogs and over 10% in pigs. There has been an overall downward trend (cattle, dogs) or stabilisation (other species). The rate is low (around 5%) in hens/chickens, turkeys and equines.

Development of antibiotic resistance in dogs

he pathology has been specified for 88 % of the antibiograms. Three pathologies are dominant and represent 2/3 of all pathologies: ear infections (20% of antibiograms), skin and mucous membrane pathologies (21% of antibiograms), urinary and renal pathologies (20% of antibiograms).

Most antibiograms (29%) relate to strains of Positive coagulase Staphylococcus, mostly isolated from samples taken through skin and mucous membrane pathologies and ear infections. E. coli strains are in second position with 19% of antibiograms, most of which relate to urinary and renal pathologies. Pseudomonas strains are in third position of dog antibiograms (10% of antibiograms), mostly isolated from ear infections. Lastly, Streptococcus strains represent 8% of all samples and relate mainly to ear infections.

FIND OUT MORE:

The Résapath report details the level and development of antibiotic resistance by pathogen agent and family of antibiotic. The report can be consulted on the ANSES site: https://www.anses.fr/fr/system/files/LABO-Ra-Resapath2014.pdf

Focus on results in terms of national advertising campaigns

Focus on the results of the national advertising campaign to pet owners, *"Antibiotics are not automatical, for us either!"*

A national advertising campaign was conducted in the second half of 2014, aimed at owners of dogs and cats. The key message of this campaign was "Antibiotics are not automatical, for us either". This message was similar to the one at the start of the millennium, during the first fight against antimicrobial resistance in human medicine. The aim of this Ecoantibio campaign was to make pet owners aware of good usage of antibiotics (such as not stopping the use of antibiotics before the end of the treatment and prohibiting self-medication), to give advice on preventing diseases and limiting the transmission of bacteria between Animal and Human.

Following are samples of the visual communication aids (posters and banners).


ANTIBIOTICS
ARE NOT
AUTOMATICAL
FOR US EITHER
These simple hygienic actions help
avoid infections and the use of antibiotics.
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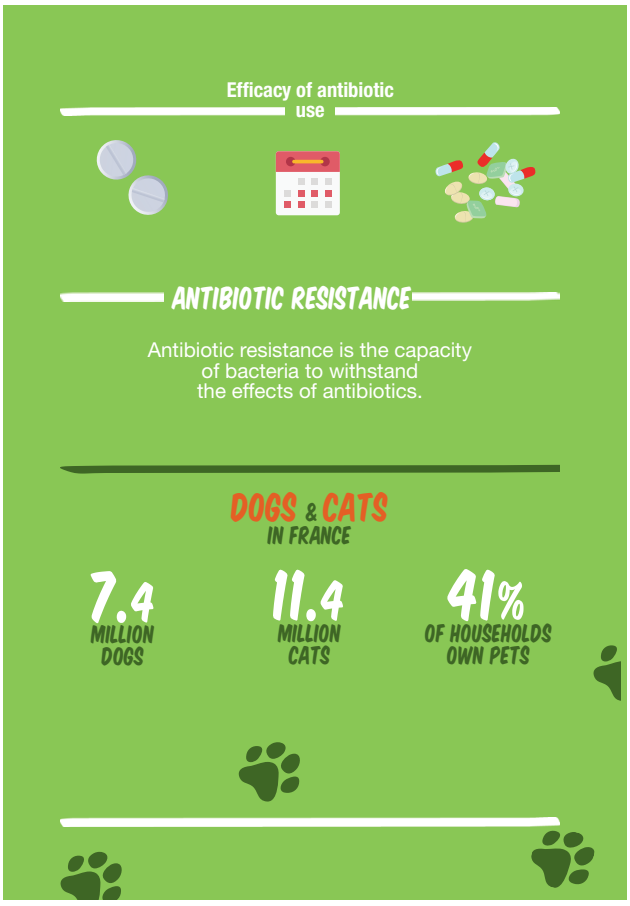
For informations: agriculture.gouv.fr


Cats and Dogs
are Great Companions
Simple hygienic actions
If you dog or cat is sick
Best practices for antibiotic use


Efficacy of antibiotic
use
ANTIBIOTIC RESISTANCE
Antibiotic resistance is the capacity
of bacteria to withstand
the effects of antibiotics.
DOGS & CATS
IN FRANCE
7.4
MILLION
DOGS
11.4
MILLION
CATS
41%
OF HOUSEHOLDS
OWN PETS

The national advertising campaign included a press pack with sound clips, consisting of 11 news items for radio lasting 90 seconds each. The campaign was rolled out in the second half of 2014. The French National Veterinary Council and the French Association of Veterinarians for Pets (AFVAC) were widely consulted during the making of the campaign.

The campaign was funded entirely by the State (Ministry of Agriculture) to the tune of approximately 200,000 Euros, 17,000 Euros of which was set aside for prior studies by a market research agency to determine the key messages to send out. Most of the budget was spent on buying advertising space in the media and for printing and distributing advertising posters.

The result of the radio campaign is as follows:
- it was well received by the public;
- The 11 x 30 second sound clips were aired by 124 radio stations, i.e., 85 hours of air time and 2.3 million listeners (mostly between the ages of 25 and 59);
- The clips were aired on regional radio.

The video clip of Dr Jean-François Rousselot (AFVAC) was one of the top 10 clips viewed on the Ministry of Agriculture website (15,000 people viewed the clip in October 2014).

The results of the advertising campaign on social networks was more mixed with only 17,000 viewings on Twitter and 80,000 on Facebook.

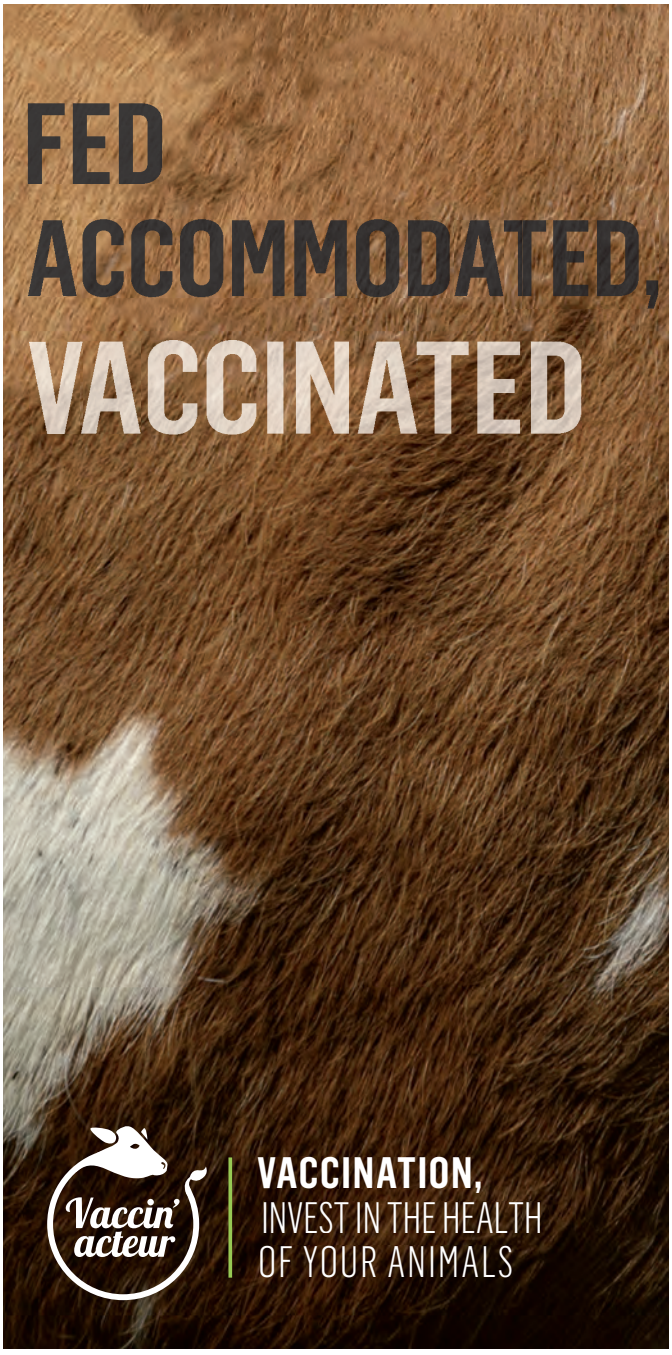
The campaign was well covered in the specialised press (pets, press aimed at veterinarians and the farming industry) and consumer magazines.

Focus on the results of the national advertising campaign aimed at cattle breeders of "Fed, Accommodated, vaccinated".

The campaign, with a budget of 180,000 Euros, was launched in the second half of 2014 and will end in 2017. It aims to promote vaccination as an alternative to antibiotics, based on the principle, “Prevention is better than cure”. It is aimed specially at the cattle sector. Indeed, due to its importance, a reduction in the use of antibiotics in this sector would have a significant effect on the overall trend of ALEA.

The key messages aimed at cattle breeders are, *“Become a vaccin’Actor”* and *“Vaccination, investing in the health of your herd”*. Concerning veterinarians, the key messages are *“veterinarians are more than just field workers, they give me advice on prevention and vaccination”* and *“I don’t call my veterinarian only in an emergency, they are experts that help my herd to thrive”*.

The advertising campaign also included the distribution of posters, banners and buying space in specialized magazines and the use of visual aids at trade fairs. The campaign will also be shared via social networks (Facebook, Twitter, Instagram).



4 GOOD REASONS TO VACCINATE YOUR ANIMALS

1 Worthwhile **Investment**

In hindsight, vaccinating your herd seems like a good investment, if you compare the cost of treatment for one or more animals. When you do the sums, treating each sick animal individually disorganises your work schedule and it often costs more than what you would have spent on collective prevention. Add to that the cost of losing one or more animals and the loss of production by the sick animals.

2 Recognized **Efficacy**

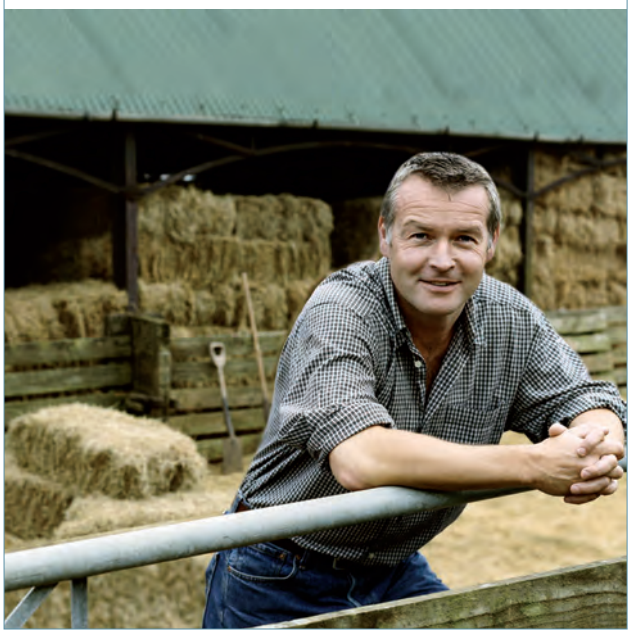
Vaccines protect animals from diseases in most cases. The efficacy of vaccines is rigorously tested before they are put into the market. The Marketing Authorisation of a vaccine is only granted if the benefits for using it outweigh the risks.

3 Long Term **Protection**

Vaccination protects animals from diseases. Widespread vaccination also prevents the spread of a disease to all the other animals in the herd by immunising the whole group. The advice provided by vaccine manufacturers help you maintain its protection.

4 Use Less **Antibiotics**

Since vaccination helps keep your animals in good health, less antibiotics are heeded.



BECOME A VACCIN'ACTOR

- Discuss your vaccination needs with your veterinarian, based on the requirements of your farm.
- Vaccination must be linked to prevention and other factors for it to be effective: a balanced diet, good practices, monitoring parasitism, healthy surroundings. Take care of these factors to help your animals maintain their immunity.
- Ask your veterinarian for advice on vaccination and the most appropriate vaccine for the health of your animal.

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RÉDUIRE L'UTILISATION DES ANTIBIOTIQUES VÉTÉRINAIRES

More information: agriculture.gouv.fr/ecoantibio

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Focus on new legislation and regulation

The main legislations and regulations that have resulted from the implementation of the Ecoantibio Plan are:

- A ban on discounts and rebates on the purchase of medicinal products containing antibiotic substances. The law forbids flouting this law by applying discounts and rebates on other products;
- Regulation of prescriptions and the delivery of critical antibiotics;
- New ethical obligations regarding the responsible use of antibiotics.

Another measure yet to be introduced: the obligation to declare all antibiotics sold will be introduced in 2017.

The law on the future of agriculture, food and forestry of 13 October 2014

The law on the future of agriculture, food and forestry (LAAAF) consists of 96 articles covering the economic and environmental performance of the farming, agri-food and forestry sectors, food policy and health performance.

✓ Contents of the LAAAF

In terms of veterinary pharmacy, the LAAAF has 3 important articles:

- **Article 1 defines agro-ECOLOGY, which relates to** the principle of reducing the use of antibiotics in breeding (see box below);
- **Article 48 amends the Public Health Code.** Some provisions relate to all types of medicinal products and others relate specifically to antibiotics and the fight against antimicrobial resistance;
- **Article 49 (see box below)** does not amend any code but sets a target figure of a 25% reduction in 3 years (2014 to 2016 inclusive) for the use of critical antibiotics in veterinary medicine. This objective, which relates solely to critical antibiotics, is in addition to that of the first Ecoantibio Plan, i.e., a 25% reduction in the use of antibiotics (all families of antibiotics, critical or not).

Article 1 - II. of LAAAF– *Public policy aims to promote and sustain agro-ecological production methods (...) that combine economic and social performance, through a high level of social, environmental and health protection. These systems favour independent farms and competitiveness, whilst maintaining or increasing economic viability, improving the added value of the products and by* ***reducing the consumption*** *of energy, water, fertilisers, plant protection products and* ***veterinary medicinal products, in particular, antibiotics.***

Article 49 of LAAAF– *Aimed at reducing* ***the use*** *of antibiotic substances belonging to each of the three families of* ***fluoroquinolones and third and fourth generation cephalosporins*** *by 25% no later than 31 December 2016 compared to 2013. All stakeholders are aware of the risks relating to antibiotic resistance; good breeding practices and good practices relating to the prescription and use of these substances are encouraged; so is the development of alternatives that reduce the need to resort to them. At the end of this period, the level of reduction achieved will be assessed and a new objective set.*

✓ Impact of the legislative measures

The consequences of LAAAF relate to the legislative measures concerning veterinary medicinal products introduced in its article 48, which amend the Public Health Code. Some legislation requires implementation law to become effective.

The consequences of the provisions of LAAAF are described below.

Since 1 January 2014, it has been prohibited to give or receive discounts and rebates or free units on the sale of veterinary medicinal products containing one or more antibiotic substances (L.5442-10-I-4° of the Public Health Code). Any commercial transaction aimed at circumventing, directly or indirectly, this ban by giving a discount or rebate on a range of products linked to the purchase of antibiotics is banned. This ban applies to every stage of the sale of veterinary antibiotics; from the manufacturer of the medicinal product or medicated feed to those with dispensation authorisation, i.e., veterinarians and pharmacists. LAAAF has withdrawn antibiotics from the positive list of medicated substances that can be dispensed by accredited groups to their breeder members. Contravention of this ban is punishable by a maximum fine of 15,000 Euros for individuals and a maximum of 75,000 Euros for a company. These amounts are doubled in the event of a repeat offence within two years, with the possibility of a daily penalty of a maximum of 1,000 Euros if the offender has not ended the breach by a set deadline (article. L.5141-14-4.).

LAAAF also provides the legislative basis for setting by Decree, "restrictions that can be imposed on restrictions and the dispensation of certain medicinal products due to the particular risk they pose to public health."(L.5141-16-18°). It is on this legislative basis that the **decree on the use of critical antibiotics in veterinary medicine** will be taken in 2016. LAAAF also introduced a penalty of 150,000 Euros and two years' imprisonment for contravening these regulatory restrictions relating to the prescription and dispensation of critical antibiotics (L.5442-10-I-1 and 2).

Collusion is punishable by a fine of 150,000 Euros and two years' imprisonment (L.5442-10-I-4). LAAAF defines collusion as, *"People qualified to prescribe or dispense veterinary medicinal products forming an agreement to obtain advantages of whatever nature, to the detriment of a breeder or third party."*

LAAAF provides a legislative framework for sheets and a good practice guide for using antibiotics in veterinary medicine. LAAAF states that, *"the use of medicinal products containing one or more antibiotic substances in veterinary medicine must be done in compliance with the good practice guide aimed at preventing the development of risks to human and animal health linked to antibiotic resistance"* (L.5141-14-3). The Inter-ministerial decree of 22 July 2015 on the good practice guide for using medicinal products containing one or more antibiotic substances in veterinary medicine recalls the existing rules relating to the prescription, dispensation and administration of antibiotic medicinal products and the content type of the sheets or good practice guide.

The sheets or guides are not binding and non-compliance with their recommendations are not subject to administrative or criminal penalties. However, non-compliance may lead to a penalty being imposed by the board because taking account of the consequences of one's professional activity on public health, especially in terms of antibiotic resistance, is a veterinary obligation set out in the ethical code (article R.242-33-VII of the Rural Code, which was introduced by decree on 13 March 2015, updating the veterinarian ethical code).

LAAAF has made it obligatory to declare any sale of antibiotics (L.5141-14-1). The aim is to put in place a system for monitoring antibiotic use in animals. This declaration, which is not only aimed at those with dispensation authorisation, requires further implementation laws that are expected to be introduced during the course of Ecoantibio Plan2. Therefore, this obligation was not yet in force at the time this report was being written.

A special regulation on the use of critically important antibiotics

✓ Periodically revised list

The law on the future of agriculture, food and forestry of 13 October 2014 defined critically important antibiotic substances as, *"substances whose efficacy should be primarily preserved for human and animal interest, a list of which has been set out by order of the Ministries of Agriculture and Health, following consultation with the French National Agency for the Health and Safety of Food, the Environment and Labour (Anses) and the National Agency for the safety of Medicinal Products and Health (ANSM)"*(article L.5144-1-1 of the Public Health Code).

The Inter-ministerial decree of 18 March 2016 was drafted in consultation with ANSES (report 2015-SA-0118 of 23 September 2015) and ANSM (report of 6 July 2015). The order set out the list of critically important antibiotic substances set out in article L.5144-1-1 of the Public Health Code. It also set out a list of methods for conducting tests to determine the sensitivity of bacterial strains (antibiogram), as set out in article R. 5141-117-2 of the Public Health Code.

The list of critical antibiotic substances may be revised to reflect new recommendations issued by ANSES and ANSM. The list of methods or standards for antibiograms may also be reviewed. Revision of these lists will be subject to Inter-ministerial decree amending the order of 18 March 2016.

The decree of 18 March 2016 consists of 3 lists of critically important antibiotic substances and colistin is not included in these lists:

- 1 list of substances with veterinarian Marketing Authorisation. This list contains 9 substances (3 x 3rd generation cephalosporins, 1 x 4th generation cephalosporin and 5 fluoroquinolones). Veterinarians may prescribe and dispense them in compliance with the decree of 16 March 2016 amending the Public Health Code;

- 1 list of substances without veterinarian Marketing Authorisation but only human Marketing Authorisation. This list contains 47 substances (including fluoroquinolones, last generations of cephalosporins, anti-tuberculosis and penems). These substances cannot be prescribed in veterinary medicine, with the exemption of the two specified below;
- 1 list of substances without veterinarian Marketing Authorisation but only human Marketing Authorisation, which, by exemption of the above-mentioned ban, may be prescribed and dispensed in veterinary medicine in compliance with the decree of 16 March 2016. This list contains 3 fluoroquinolones (ciprofloxacin, ofloxacin and norfloxacin), for limited use (topical ophthalmology) and for two categories of animals (pets and equines)

The second exemption to the prescription ban of critically important antibiotics without veterinarian Marketing Authorisation but only human Marketing Authorisation regards medicinal products for equines, for which a veterinarian can prescribe, in compliance with the decree of 16 March 2016, essential substances also categorised in French law as critically important antibiotic substances. The list of essential substances is included in EU regulation N°1950/2006 and comprises the following critically important antibiotic substances: ticarcillin, rifampicin and ofloxacin (the latter also appears in the third list of the Inter-ministerial decree of 18 March 2016. A fixed period of 6 months before slaughter is required for all equines that have been administered an essential substance.

✓ Special Regulation

The terms and conditions for prescribing and dispensing critically important antibiotic substances are set out in the Council of State Decree 2016-317 of 16 March 2016. The law was published in the Official Journal of the French Republic on 18 March 2016 and became effective on 1 April 2016.

As much as this decree is short, its provisions are very far reaching in the fight against antimicrobial resistance.

IIt is an unprecedented regulation that is not derived from an European law. It is a special regulation in France that only exists in veterinary medicine.

The decree of 16 March 2016 introduced 3 new articles into the Public Health Code (articles R.5141-117-1, R.5141- 117-2 and R.5141-117-3) and amends article R.5141-111 on dispensation renewal and the validity period of a prescription.

The two most important provisions for French veterinary medicine are:
- A ban of critical antibiotics for preventive purposes;
- Mandatory clinical examination followed by an antibiogram before prescribing a critical antibiotic for curative or metaphylactic purposes. There are some exceptions.

The decree defines preventive, metaphylactic and curative treatment (R. 5141-117-1):
- *Preventive treatment: individual or collective prophylactic treatment applied to healthy animals exposed to a risk factor of a considered infectious disease;*
- *Curative treatment: individual or collective treatment of only animals showing symptoms of a disease.*
- *Metaphylactic treatment: treatment applied to clinically sick animals and other animals of a same group that, although healthy, show a strong sign of infection due to their close contact with the sick animals.* The regulatory article also states that, *"the veterinarian can only prescribe metaphylactic treatment with a medicinal product containing one or more of the substances if they suspect that it is a disease with a high rate of mortality or morbidity that is likely to spread to all the other animals if it is not treated early"*. The law does not specify what a high rate of mortality or morbidity is; it is left to the prescriber's professional discretion.

Prescription regulation of critical antibiotics concerns all animal sectors, including pets and all methods of administration, including local (dermatology, ophthalmology, auricular therapy, etc.).

The reason for conducting an antibiogram is to assess the sensitivity of the bacterial pathogen strain isolated from the critical antibiotic that the vet wants to prescribe. In addition to getting a history of the pathology and the clinical examination, **the results of the antibiogram are part of the items to help the veterinarian make a decision on whether to prescribe**

an antibiotic or not (critical or not). The veterinarian remains responsible for the prescription. Article R. 5141-117-1-II of the Public Health Code states that, *"the veterinarian cannot prescribe a curative or metaphylactic treatment with a medicinal product containing one or more of these substances unless in the absence of a medicinal product not containing these substances sufficiently effective or adapted to treat the diagnosed disease".* **The spirit of the law is that prescribing a critical antibiotic is not prohibited but must be rational and justified.** Besides, exam results and test justifying a medicinal product containing one or more critically important antibiotic substances must be kept by the prescribing veterinarian for five years.

Renewal of the prescription of a critical antibiotic is prohibited and the validity period of the prescription is limited to one month, as opposed to one year for other medicinal products (including non-critical antibiotics).

The duration of the treatment with a critical antibiotic is limited to one month. Therefore, the treatment cannot be prolonged by a new prescription until a new clinical examination has been performed on the animal.
It may be exempt from conducting an antibiogram if the sample required for isolating the bacterial pathogen strain cannot be conducted because obtaining the sample is only possible if "the location of the infection, the type of infection or the general status of the animal(s) allow you to get a sample".

It may also be exempt from taking a new sample and antibiogram if the prescribing veterinarian is aware of the "complementary examination results (i.e., isolation of the bacterial pathogen strain and the antibiogram) conducted within three months on the same animal or animals at the same physiological stage at the same site and for the same condition". This exemption is mainly suited to collective medicinal products for livestock. However, it may relate to the breeding of dogs, cats or packs. However, it cannot be exempt from the obligation to conduct a new clinical examination.

Lastly, the veterinarian may initially prescribe a critical antibiotic before becoming aware of the isolation results of the bacterial strain and the antibiogram, if it is an acute case of bacterial infection against which treatment with another family of antibiotics would be inadequate. On the other hand, the veterinarian must adapt the treatment within four days of the prescription, based on the change in the clinical and epidemiological context and on the results from the complementary examinations that he becomes aware of.

THE NEXT ECOANTIBIO PLAN

Another Ecoantibio Plan is required to safeguard the good results of the first plan in terms of a reduction in the exposure of animals to antibiotics and a decrease in antibiotic resistance. The fight against antimicrobial resistance is a major, collective challenge, which, as a principle, must endure. This is why, even if the exposure of animals to antibiotics has been going down since 2007, it is appropriate to support and coordinate the mobilisation of professionals, especially veterinarians and breeders, in a national action plan, mindful of international (OIE, WHO, FAO) and European recommendations.

Ecoantibio Plan2 will take account of the results from the first plan: notable measures or simply measures that were not achieved in the first plan will be re-proposed. Ecoantibio Plan2 is also expected to assess the effects of Ecoantibio Plan1, their costs and to compare them against measures taken in other major European farming countries. The economic aspect will be taken into account so as to assess the cost in terms of the impact to public health and the economy of the various sectors.

Ecoantibio Plan2 will certainly be interested in the expectations and needs downstream of the breeding sector, i.e., consumers, distribution and the food industry.

One point deserves reiterating, i.e., the prevention of animal diseases, especially by improving the biosafety of breeders.

Finally, synergies will have to be consolidated with other breeder-related national plans (Animal Welfare Strategy, building modernisation support plan, AmbitionBio plan promoting organic farming, Environment-Health plan, 4th Human Plan to Fight Antimicrobial Resistance).

Find out more, **www.agriculture.gouv.fr/ecoantibio**

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