Antibiotic Usage Data-its value for the Animal Health sector

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Antimicrobial Resistance – Actions to keep antibiotics effective
5 Strategic Objectives of iNAP

1. Improve knowledge and awareness of AMR
2. Enhance surveillance of antibiotic resistance and antibiotic use
3. Reduce spread of infection and disease
4. Optimise the use of antibiotics in human and animal health
5. Promote research and sustainable investment in new medicines, diagnostic tools, vaccines and other interventions
Antimicrobial consumption database

- AMC data is needed in order to enable policy makers to fight AMR
- Identify areas of the animal population with low and high consumption
- Monitor use CIAs
- Compare consumption with other countries
- Monitor trends
More meaningful outputs

• Reporting by weight group
  – E.g. consumption of oxytetracycline in numbers of finishers per year

• Reporting overall consumption by species
  – E.g. consumption of oxytetracycline in numbers of pigs per year

• Reporting consumption at farm level
  – more meaningful for farmer
AMU Pig

• A National Antimicrobial Usage Database for pigs was introduced on the 1\textsuperscript{st} of November 2019

• Farm level, quarterly data

• Pig herd owners ≥ 200 pigs a year to slaughter register online www.agfood.ie

• Requirement under Bord Bia’s new QAS for Pigs
Why measure antibiotic use?

• Protect consumer confidence
• Competitiveness of Irish meat exports in global markets
• Bord Bia QAS
• Satisfy EU legislation January 2022
• To decrease antibiotic usage in the animal sector
• Increase profitability
• To address AMR - “we can’t improve what we can’t measure”
Welcome to AMU

AMU is the national database for the collection of antibiotic usage data.

To submit antibiotic usage data, you will need:

- Details of each antibiotic product used on each of your pig units including medicated feed, for each age category of pig during the current quarter.
- The numbers of pigs present today on each of your units, and the numbers which have left your units during the time period for which you are entering data.
- If your pig herd is not displayed it means that your herd is not on DAFF's Herds of Interest list and therefore you are not required to submit an antibiotic usage return to DAFF.
- Only herds slaughtering more than 200 pigs per year and currently being sampled under the National Salmonella Control Programme appear on our Herds of Interest list.
- If you feel that you should submit an antibiotic usage return for your herd and it has been omitted in error please contact 01-5659620 or 01-9658612 or amu@agriculture.gov.uk.

Why measure antimicrobial usage?

Antimicrobial resistance, specifically antibiotic resistance, where the antibiotics no longer work to treat disease, is a growing public health threat. In order to combat the development and spread of antimicrobial resistance the Department of Agriculture, Food and the Marine (DAFF) has developed this national antimicrobial usage database for the pig sector. This database will be a requirement under new European legislation.
Reports for Farmers

Which Antimicrobials are used on my farm?

- Chlorotetracycline
- Phenoxymethyl...
- Sulfaizine
- Betapenicillin
- Amoxicillin

Critically Important Antimicrobials (Category 2): use on my farm

- Fluoroquinolones
- 3rd and 4th gen cephalosporins
- Colistin

Total: 0.00kg
Benchmarking as a driver for change

How does my farm compare?
Consumption of Class 2 Critically Important antimicrobials (mg/kg)

<table>
<thead>
<tr>
<th>mg/kg liveweight sold</th>
<th>Farm rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>VALUE:</td>
<td>0.0</td>
</tr>
<tr>
<td>BENCHMARK:</td>
<td>1st</td>
</tr>
</tbody>
</table>

Ireland 12th lowest out of 31 EU/EEA MS for AMU in animals (mg/kg biomass) in 2017
Ireland’s Antibiotic Sales Trends

| Table 1. Sales (tonnes sold) of veterinary antibiotics for the years 2013 - 2018 |
|---------------------------------|---|---|---|---|---|---|
|                                 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| Tonnes sold                     | 99.1  | 89.4  | 96.9  | 103.4 | 99.7  | 99.4  |

- Sales of antibiotics in Ireland in tonnes from the years 2013-2017. *Source HPRA*
<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd &amp; 4th gen. cephalosporins</td>
<td>0.17</td>
<td>0.24</td>
<td>0.22</td>
<td>0.25</td>
<td>0.30</td>
<td>0.33</td>
</tr>
<tr>
<td>Fluoroquinolones</td>
<td>0.89</td>
<td>0.69</td>
<td>0.79</td>
<td>0.94</td>
<td>0.85</td>
<td>0.84</td>
</tr>
<tr>
<td>Macrolides</td>
<td>6.25</td>
<td>6.26</td>
<td>5.58</td>
<td>6.58</td>
<td>7.17</td>
<td>7.07</td>
</tr>
</tbody>
</table>

- 3rd & 4th gen Ceph - ↑ 94%
- Fluoroquinolones - ↓ 5%
- Macrolides - ↑ 13%
UK reporting a 53% drop in sales of antibiotics for food producing animals as well as a 68% drop in HP-CIAs since 2014.
UK 2018 VARSS Report

Antibiotic Usage
Antibiotic usage refers to the amount of antibiotics purchased, prescribed and/or administered per sector. The data have been collected and provided to the VMD by the animal industry on a voluntary basis.

<table>
<thead>
<tr>
<th>Antimicrobial</th>
<th>Total coverage</th>
<th>2018 Total tonnage</th>
<th>2018 Total per unit</th>
<th>Compared with 2015</th>
<th>Compared with 2016</th>
<th>Compared with 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pigs</td>
<td>89</td>
<td>76</td>
<td>110 mg/kg</td>
<td>$60</td>
<td>$40</td>
<td>$16</td>
</tr>
<tr>
<td>Turkeys</td>
<td>90</td>
<td>16</td>
<td>47 mg/kg</td>
<td>$77</td>
<td>$46</td>
<td>$3</td>
</tr>
<tr>
<td>Broilers</td>
<td>90</td>
<td>16</td>
<td>12 mg/kg</td>
<td>$55</td>
<td>$27</td>
<td>$26</td>
</tr>
<tr>
<td>Ducks</td>
<td>90</td>
<td>3.2</td>
<td>0.63 bird days</td>
<td>—</td>
<td>$13</td>
<td>$11</td>
</tr>
<tr>
<td>Gamebirds</td>
<td>90</td>
<td>9.7</td>
<td>—</td>
<td>—</td>
<td>$92</td>
<td>$25</td>
</tr>
<tr>
<td>Salmon</td>
<td>100</td>
<td>1.0</td>
<td>6.5 mg/kg</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Trout</td>
<td>90</td>
<td>0.2</td>
<td>13 mg/kg</td>
<td>—</td>
<td>$32</td>
<td>—</td>
</tr>
<tr>
<td>Dairy</td>
<td>30</td>
<td>4.9</td>
<td>17 mg/kg</td>
<td>$30</td>
<td>$36</td>
<td>—</td>
</tr>
<tr>
<td>Beef*</td>
<td>5.5</td>
<td>(4.0)</td>
<td>21 mg/kg (25 µg/kg)</td>
<td>$9</td>
<td>$—</td>
<td>$—</td>
</tr>
</tbody>
</table>

Highest Priority Critically Important Antibiotics by food-producing animal species

Poultry Data IE

Antibiotic Usage

- 2015: 9.5Mg/Kg
- 2016: 6.5Mg/Kg
- 2017: 3.5Mg/Kg
- 2018: <1.5Mg/Kg

92% of birds produced without the use of antibiotics
Pharmaceutical form breakdown of veterinary antibiotics sold in 2016 in Ireland

Pharmaceutical form breakdown of veterinary antibiotics sold in 2018 in Ireland

- Injectable: 28.1%
- Premix: 29.2%
- Oral remedy: 38.1%
- Tablet: 1.7%
- Intramammary dry: 2.8%
- Intramammary milking: 0.6%
- Other: <0.05%

38 Tonnes
29 Tonnes
New VMP Regs EU 2019/6

• January 2022.

• Antibiotics must not be applied routinely,

• Antibiotics must not be used to compensate for poor hygiene, inadequate animal husbandry, or poor farm management,

• Antibiotics must not be used for prophylaxis (preventive treatment to a healthy animal) except in very exceptional circumstances,

• Antibiotics must not be used for metaphylaxis, (treatment of healthy cohort animals) except when the risk of spread of an infection or of an infectious disease in the group of animals is high and no other appropriate alternatives are available;

• Restrictions apply regarding the use of certain types of antibiotics (e.g. HP-CIAs);

• Veterinary prescriptions should be based on clinical examination or other proper assessment, are only valid for 5 days; and are limited to the amount required for the treatment concerned.
In conclusion..the value of antibiotic usage data?

• Identify Best Practice
• Evidence based policy change
• Address market concerns – food security/societal good
• Better understanding of AMR
• Behavioural change
Fight

#AntiMicrobialResistance

- Misuse and overuse of antimicrobials increase resistance risk, endangering both animal and human health and welfare.

- But you can help. By acting prudently when using antimicrobials, you can preserve their efficacy for our future.