Use of antibiotics for non-therapeutic purpose in food animal production in Sri Lanka: current status, need for control, measures and initiatives

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Content

• Livestock & Poultry Industry of Sri Lanka

• Animal Feed Industry of Sri Lanka

• Animal Feed Regulatory System in Sri Lanka

• Use of Antibiotic Growth Promoters (AGPs) in Sri Lanka

• Measures to reduce AGPs in Livestock & Poultry sector in Sri Lanka
Livestock & Poultry Industry of Sri Lanka

• Livestock rearing is mainly a rural livelihood activity

• Livestock is rapidly growing sector in Sri Lanka

• Livestock sector contributes 1% to National GDP

• Though there is a low contribution to GDP, consumption of livestock products has increased dramatically.
Livestock & Poultry Industry of Sri Lanka

Dairy Sector
• Small scale dairy farming is predominant
• Extensive & semi intensive farming systems prominent but intensive system is also there

Poultry sector
• Well developed, self sufficient industry
• Intensive farming system is predominant

Other Sectors (Swine, Goat etc)
• Also developing
## Per-capita availability of livestock products per year

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk &amp; Milk products (l)</td>
<td>43.83</td>
<td>46.18</td>
<td>43.96</td>
<td>45.16</td>
</tr>
<tr>
<td>Chicken Meat (Kg)</td>
<td>5.57</td>
<td>6.80</td>
<td>7.09</td>
<td>7.19</td>
</tr>
<tr>
<td>Egg (numbers)</td>
<td>81.78</td>
<td>112.10</td>
<td>102.56</td>
<td>107.91</td>
</tr>
</tbody>
</table>

*Source: Livestock Statistical Bulletin, DAPH*
## Livestock Population

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poultry (mn)</td>
<td>15.41</td>
<td>15.72</td>
<td>16.26</td>
<td>20.08</td>
</tr>
<tr>
<td>Cattle (mn)</td>
<td>1.19</td>
<td>1.24</td>
<td>1.27</td>
<td>1.12</td>
</tr>
<tr>
<td>Swine</td>
<td>85,461</td>
<td>88,789</td>
<td>89,334</td>
<td>71,838</td>
</tr>
<tr>
<td>Goat</td>
<td>396,909</td>
<td>393,816</td>
<td>408,787</td>
<td>312,846</td>
</tr>
</tbody>
</table>

*Source: Livestock Statistical Bulletin, DAPH*
Animal Feed Industry

• Well Developed industry in Sri Lanka

• Majority of feed produced are poultry feed

• Major ingredients used for feed production
  • Energy supplements: Maize, Rice and rice by products (Broken rice, Rice polish/Rice bran)
  • Protein supplements: Soy bean meal, Fish meal, Coconut meal , Sesame meal
  • Mineral supplements: Di calcium Phosphate, Shell grit, Calcite, MBM
## Animal Feed Production (‘000 MT)

<table>
<thead>
<tr>
<th>Type of Feed</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>% (2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poultry Feed</td>
<td>386.3</td>
<td>363.74</td>
<td>384.87</td>
<td>426.63</td>
<td>528.52</td>
<td>55</td>
</tr>
<tr>
<td>Cattle Feed</td>
<td>28.2</td>
<td>14.69</td>
<td>94.33</td>
<td>25.32</td>
<td>30.54</td>
<td>3</td>
</tr>
<tr>
<td>Swine Feed</td>
<td>1.7</td>
<td>3.99</td>
<td>2.07</td>
<td>1.47</td>
<td>2.7</td>
<td>0.28</td>
</tr>
<tr>
<td>Goat Feed</td>
<td>0.4</td>
<td>0.08</td>
<td>0.003</td>
<td>0.10</td>
<td>0.5</td>
<td>0.05</td>
</tr>
<tr>
<td>Other</td>
<td>2.0</td>
<td>4.23</td>
<td>6.67</td>
<td>7.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vitamin Premixers</td>
<td>8.8</td>
<td>0.60</td>
<td>0.30</td>
<td>0.55</td>
<td>0.77</td>
<td>0.08</td>
</tr>
<tr>
<td>Self Mixed (mainly poultry feed)</td>
<td>208.8</td>
<td>351.50</td>
<td>384.22</td>
<td>386.00</td>
<td>396.39</td>
<td>41</td>
</tr>
<tr>
<td>TOTAL FEED PRODUCTION</td>
<td>636.10</td>
<td>738.82</td>
<td>872.46</td>
<td>847.16</td>
<td>959.29</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Livestock Statistical Bulletin, DAPH
Regulatory system in Sri Lanka

• Animal Feed Industry is regulated by Animal Feed Act No. 15 of 1986
Animal Feed Act

• Regulate, supervise & control the manufacture, sale & distribution of animal feed

• National Feed advisory committee

• Authorised officers
Animal Feed Act

• Registration of
  • Animal feed manufactures
  • Feed, feed ingredient, feed additive importers
  • Feed, feed ingredient, feed additive distributors
  • Self mixers

• Quality assurance of animal feed & feed ingredients

• Monitor & maintain the standards of animal feed and feed ingredients which has direct influences on safety of animal originated food which is the main public health concerns
Use of Non-Therapeutic Antibiotics

- Used mainly for growth promotion

- Non-Therapeutics Antibiotics or Antibiotic Growth Promoters (AGPs) are highly used in animal feed production in SL

- Low, sub therapeutic levels are add to feed

- Most of the poultry feed formulas (except layer) contain AGPs
Use of Non-Therapeutic Antibiotics

• Earlier there were many AGPs used in Sri Lanka

• However after implementation of feed act in 1996, use of AGPs are regulated

• There are only four (4) AGPs are permitted to use in poultry feeds in SL
## Permitted antibiotic Growth Promoters in Sri Lanka

<table>
<thead>
<tr>
<th>Permitted AGP</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacitracin</td>
<td>Polypeptide</td>
</tr>
<tr>
<td>Virginiamycin</td>
<td>Streptogamine</td>
</tr>
<tr>
<td>Flavomycin</td>
<td>Complex of antibiotics derived from <em>Streptomyces bambergiensis</em></td>
</tr>
<tr>
<td>Avilamycin</td>
<td>Mixture of oligosaccharides of the Orthosomycin group</td>
</tr>
</tbody>
</table>
## Quantities imported to SL

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016 (up to June)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virginiamycin (Kg)</td>
<td>2,500</td>
<td>500</td>
<td>1,450</td>
</tr>
<tr>
<td>Bacitracin (Kg)</td>
<td>43,000</td>
<td>47,700</td>
<td>54,400</td>
</tr>
<tr>
<td>Flavomycin (Kg)</td>
<td>5000</td>
<td>3000</td>
<td></td>
</tr>
</tbody>
</table>

Source: *Division of Regulatory Affairs, DAPH*
Measures to reduce AGPs & Antibiotics in Livestock & Poultry Sector

1. Preparedness

• Formulated National Action Plan to combat Antimicrobial Resistance in Sri Lanka with the contribution of Ministry of Health, Department of Agriculture, Sri Lanka and WHO
Measures to reduce AGPs & Antibiotics in Livestock & Poultry Sector

2. Awareness

• Commenced awareness programs on prudent usage of Antibiotics for therapeutic & non-therapeutic purposes in livestock & poultry industry for Veterinary Surgeons and extension officers of the Department of Animal Production & Health, Sri Lanka

• Plan to conduct awareness programs for all stakeholders and farmers in livestock, poultry and animal feed industries
Measures to reduce AGPs & Antibiotics in Livestock & Poultry Sector

3. Surveillance & Research on AMR

• Targeted surveillance on identified bacteria in farm animal sector

• Residue analysis of food of animal origin & inputs (animal feed)
Measures to reduce AGPs & Antibiotics in Livestock & Poultry Sector

4. Alternatives

• Conduct research on suitable alternatives to AGPs

• Reformulate feed ration with alternatives and reduce the use of AGPs

• Advise farmers to take suitable actions to reduce the use of therapeutic & non-therapeutic use of antibiotics
  • improve biosecurity
  • adopt proper vaccination programs
Measures to reduce AGPs & Antibiotics in Livestock & Poultry Sector

5. Regulations

• Further strengthen the available regulations in Animal Feed Act & Animal Disease Act to reduce the use of antibiotics (both therapeutic & non-therapeutic)

• Gradual reduction of using AGPs in animal feed
Thank You