Developing a Model to estimate the AH Market

Rome – February 04, 2020
**ESTIMATED ACTUAL MARKET**

- Actual Population
- Presently Vaccinated
- Present Diseases
- Actual Treatments
- Actual Value: Prevention + Treatment

**PROJECTED MARKET**

- Projected Population
- Potentially Vaccinated: Present & Potential vaccines
- Present & Potential Diseases
- Projected Treatments: Present & Potential treatments
- Projected Value: Prevention + Treatment

**Growth**

**Prevention**

**Diseases**

**Treatments**

**Compliance**

**Costs**
Goals

• To define for each specie a model to estimate
  • The Actual AH Market size (and hence its potential size)
  • To focus on the most relevant diseases/conditions affecting the specie
  • To use the AH Products available in the country to control / prevent them
  • To include products available elsewhere & future products in the pipeline
  • To take into account in each country the different production schemes

• Each model shall be applicable at least to ET, TZ, NG & ideally to any Emerging Market lacking official AH data.

• To populate each model by country with best available data.
Production schemes & Species
Aim is to minimize as much as possible the number of **animals types** to be considered per production scheme, while reflecting the reality, to keep the model relevant.

<table>
<thead>
<tr>
<th>Animals Types</th>
<th>Pastoral</th>
<th>Sedentary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small Holder Farmers</td>
<td>Mixed Crop Livestock Producers</td>
</tr>
<tr>
<td>Cattle &amp; Water Buffaloes</td>
<td>Dual</td>
<td>Dual, Dairy</td>
</tr>
<tr>
<td>Sheep</td>
<td>Dual</td>
<td>Dual</td>
</tr>
<tr>
<td>Goats</td>
<td>Dual</td>
<td>Dual</td>
</tr>
<tr>
<td>Swine</td>
<td></td>
<td>Meat</td>
</tr>
<tr>
<td>Chicken</td>
<td></td>
<td>Dual</td>
</tr>
<tr>
<td>Horses &amp; Donkeys</td>
<td>Dual</td>
<td>Dual</td>
</tr>
<tr>
<td>Camels</td>
<td>Dual</td>
<td>Dual</td>
</tr>
<tr>
<td>Dogs</td>
<td>Guard</td>
<td>Companion</td>
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<tr>
<td>Cats</td>
<td></td>
<td>Companion</td>
</tr>
</tbody>
</table>
Segmentation of food animal species: a Must

- Animal Population is a picture taken at the time of the census
- It does not reflect the number of animals produced according to production cycle
  - Life cycle in different species varies greatly: Cattle in Years, Broiler in Weeks
  - Within the same specie segments have a very different life span
- Individuals will be subjected to different health risks during their life
- To estimate the value of the market you need to assess the total number of animals produced during a given time period.
- In each food animal specie we estimate by segment the number of animals produced during a given time period (= 1 Year).
A simple segmentation of Cattle

- Beef Cows
- Calves Pré-weaning
- Dairy Cows
- Cattle Bulls
- Milk
- Heifers Y1
- Heifers Y2+
- Fattened Cattle
- Meat & Leather
- Replacement
- Time
- Possible Grouping
- Reform
A simple segmentation of Poultry

- **Layer Breeders in Rearing**
- **Layer Breeders in Production**
- **Layer Pullets in Rearing**
- **Layers in Production**

Dual purpose birds considered as layers

**Genetic**
- Parental Birds
- Layer Breeders

**Multiplication**
- Broiler Breeders in Rearing
- Broiler Breeders in Production

**Production**
- Production Layers
- Production Broilers

- Eggs
- Meat

Broilers
Diseases & Conditions
Which Diseases & Conditions to consider?

- Diseases & Conditions encountered covering > 90% of the cases requiring the use of AH products for treatment or prevention,
- Diseases having a major economical impact
- Zoonotic Diseases because of potential impact on Human Health,
- Emerging Diseases with a trend representing a significant threat
- Time Frame to be considered: 10 years
- Key point is to get an reasonable picture of the market size in order to be able to rank the segments and prioritize the opportunities
- Consistency is the most important…
Market Valuation
Which Treatments to consider?

• For each disease:
  • Using the reference treatment (Max two products, i.e. Antibio + NSAID)
  • Using the common name of the active ingredient (neutrality)
  • In its most common formulation & strength available in the market
  • Used at the officially approved/recommended dose & regimen
  • Actual Compliance Rate to be used to estimate actual market value
  • 100% Compliance Rate to be used to estimate potential market value

• Valuation of products
  • Using product local purchase cost in LC (paid by the animal owner)
  • Price collected in LC and converted to USD @ Actual ROE to allow aggregation
Market valuation by Segment

Total Number of animals

Animals with Condition

Treated Animals

Dose \times Regimen = Potential Doses

Compliance

Properly Treated Animals

Actual Doses

Cost / Dose

Potential

Actual Value

\[ N_A \times (I) \times (MR) = N_T \times C_D \times C_R \times N_{PT} \times \text{Cost / Dose} \times \text{Potential} \rightarrow \text{Actual Value} \]
At which Price level to value the Dose?

Distributor Market

Maker

Competitor

Distributor

Maker ASP

Equivalent

Distributor ASP

Wholesaler

Retailer / Vet

Animal Owner

Market with Direct Presence

Maker

Competitor

Maker ASP

Equivalent

Wholesaler

Retailer / Vet

Animal Owner

Easiest