Scientific advances to enhance responsible use of antibiotics in livestock

Elanco Animal Health has made scientific and structural advancements toward enhancing responsible antibiotic use and bringing new alternatives to decrease the need for shared-class antibiotics in livestock.

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In an update tracking progress of its Eight-Point Antibiotic Stewardship Plan unveiled last year, Elanco announced the following actions:

• Completing label change submissions to remove growth promotion from shared-class antibiotics globall and to require veterinary oversight where infrastructure exists

• Created two new research teams and invested 90 percent of annual food animal research budget to deli new alternatives

• Eight new candidates moving into Elanco's product development pipeline

• $2 million innovation incentive support against five livestock diseases

• Launched or expanded geographic availability of four antibiotic alternatives including vaccines, enzymes, and a protein, and gained approval for two new animal-only antibiotics.

• Creation of nutritional health business to protect animal health using the latest science to improve microbiome

“Elanco is committed to bringing greater clarity to issues around antibiotic stewardship and shaping scienc based recommendations on responsible use, animal welfare, and the long-term sustainability of the food system," said Jeff Simmons, president, Elanco Animal Health. “We have a responsibility to the health and welfare of animals, to treat the ones that get sick while safeguarding antibiotics for future generations through responsible use.”

Bacteria resistance is an evolving science, and we must continue to better understand the drivers. Of the 1 organisms identified by the United States Centers for Disease Control and Prevention (CDC) as antibiotic resistance threats, just two of them were directly related to animal use of antibiotics. Human, animal, and environmental sectors all have a role to play in protecting antibiotics for the long-term. The Elanco Eight-Point Antibiotic Stewardship Plan promotes responsible antibiotic use, decreasing the need for shared-cla antibiotics and brings treatment alternatives to livestock producers to keep animals healthy while decreasir the need for shared-class antibiotics.

Among the scientific advances realized:

• Nearly 50 new development ideas have been brought forward for assessment, with eight new candidates moving into Elanco’s research and development pipeline and 21 additional candidates completing proof-c concept studies over the next year.

• Research efforts focused on the greatest areas of unmet need for livestock producers where shared-cla antibiotics are the only option today.

In 2016, Elanco also launched two animal-only antibiotics for intestinal diseases in pigs and poultry, as wel as a completely new non-antibiotic alternative to reduce mastitis in dairy cows, the greatest use of shared-class antibiotics in the dairy industry today. These new products give livestock producers alternatives to protect animal health and welfare without impacting antibiotic treatment outcomes for people.

Elanco is also progressing on a number of other efforts to increase responsible use, including:

• Completed 75 label change submissions to remove growth promotion claims around the world. This includes full compliance with US FDA Guidance 213 in advance of the end-of-year deadline.
• An additional 18 label change submissions will be completed in Latin America by end-of-year.
• Completed submission of 67 labels for shared class molecules to move products from over-the-counter be under veterinary oversight in the United States, Canada, and Brazil - the countries where over-the-count use remains and veterinary infrastructure exists.

New commitments

“To continue progress made over the past year, Elanco is sustaining its commitment to finding alternatives to antibiotics,” said Aaron Schacht, vice president of Elanco Research and Development. “Through our internal and external innovation efforts, we are poised to deliver a pipeline with a mix of preventatives and treatments that could help reduce the use of shared-class antibiotics.”

By 2020, Elanco aims to deliver a total of 25 viable antibiotic alternative development projects that addres critical unmet challenges in livestock production via alternatives to shared-class antibiotics. We believe we can provide solutions that address five of these disease challenges in a fundamentally new way by 2020.

Grand challenge

Elanco will incentivize new innovation from many sources, including internal development, external partnerships, and open source innovation.

The Elanco Advancing Antibiotics Alternatives Grand Challenge, in partnership with InnoCentive, will offer more than $2 million in support and incentives to find new innovation ideas for five of the most challenging livestock diseases that rely on shared-class antibiotics today, including:

- Liver abscesses in beef cattle
- Necrotic enteritis in poultry
- Coccidiosis in poultry
- Lawsonia in pigs
- Strep suis in pigs

The first challenges are now open for response and can be found here.

New nutritional health business unit

Finally, Elanco is creating a nutritional health business to protect and improve animal health using the lates science to improve gastrointestinal health and the microbiome. Early disease prevention with non-medicat feed additives, like enzymes, prebiotics, and probiotics, can improve microbiome health, helping protect from disease even before clinical signs develop thus lessening the need for antibiotics. In addition to Elanco's current product in this space, the new business is anticipated to deliver two new non-antibiotic products to customers annually between 2017 and 2020.

Prevention 360: aggregating information, interventions, and innovations

To help prevent diseases and aid early disease detection, Elanco is also introducing Prevention 360 to aggregate the many sources of production, health, and post-harvest data. Prevention 360 will help more effectively identify early indicators of disease, develop alternative production practices and provide produ solutions.