



Bayer AG
Communications,
Government Relations &
Corporate Brand
51368 Leverkusen
Germany
Tel. +49 214 30-1
www.news.bayer.com

News Release

World Buiatrics Congress 2016:

Bayer Focuses on Scientific Education, Innovations to Enhance Cattle Health

- Scientific exchange and advancements vital to enhancing cattle health and well-being
- Bayer introduces new digital resource, ***KetoLution***, and enhances ***BCS Cowdition*** smartphone application, to help minimize impact of metabolic diseases on dairy cows

Dublin, Ireland, July 4, 2016 – The global livestock production landscape is in transition. To support veterinarians in navigating current and future challenges, Bayer focused on scientific education and innovations that contribute to cattle health and well-being at the World Buiatrics Congress 2016.

“There is growing emphasis on quality and sustainability, and at the same time, producers are faced with various challenges that can impact cattle health and well-being,” said Dr Almut Hoffmann, Head of the Farm Animals business at Animal Health, Bayer.

“Innovations that contribute to cattle health are now more important than ever before. As a life science company, Bayer is well able, and committed to continue delivering such breakthrough products and solutions.”

Scientific exchange to address current and future challenges

To support veterinarians in addressing current and future challenges, Bayer’s International Cattle Symposium (pre-congress) and Satellite Symposium (July 6) features a line-up of experts on the latest scientific developments in dairy and beef cattle health. Key highlights include herd management and productivity, new insights to lameness, metabolic diseases, innate immunity, as well as the epidemiology of diseases in relation to herd size. The Symposium was a platform for the exchange of knowledge and ideas for over 270 participants from more than 25 countries.

New digital resource to better manage ketosis in dairy cattle

Bayer unveiled “Ketosis – latest insights: prevention, therapy and useful hints”, a first-of-its-kind, mobile-enabled digital whitepaper available at [KetoLution.com](https://www.ketolution.com) that offers veterinarians and farmers a resource on ketosis, scientific insights on the impact of the disease, as well as useful tools to help optimize dairy herd management.

The whitepaper also revealed that ketone bodies play a more significant role in metabolic diseases than was previously realized, and that beta-hydroxybutyrate is a good indicator of the presence of subclinical ketosis in dairy cattle. Metabolic diseases negatively impact dairy cattle health and welfare, and are associated with increased veterinary care and lost productivity.

“Recognizing the significance of ketone bodies is a positive step towards further enhancing dairy cattle health and welfare,” said Rinse Boersma, Dairy Species Manager, Animal Health, Bayer. “Veterinarians can now reliably detect the presence of subclinical ketosis in dairy herds with a simple blood test, and act quickly with the appropriate corrective measures to arrest disease progression.”

BCS Cowditiion enhanced to improve herd health management

Bayer unveiled its enhanced **BCS Cowditiion** smartphone application that is designed to support ease and accuracy of body condition scoring (BCS) of dairy cows. The upgrade helps farmers to improve herd health management, by enabling assessment of individual cows' BCS scores based on its lactation cycle, alerts for cows that need to be attended to, and a dashboard that offers farmers an overview of their entire herd's health. **BCS Cowditiion** is available in 10 languages and is free for download from the AppStore and GooglePlay.

Committed to continuous innovation

“At Bayer, we continually seek to discover new and better ways to contribute to cattle health, address unmet needs, and meet new disease challenges. A good example of our strong commitment to innovation is our novel immunostimulant recently authorized in the US to aid in the treatment of bovine respiratory disease,” said Dr Hoffmann.

In line with its commitment to Science for a Better Life, Bayer recently embarked on a [collaborative research agreement with BioNTech AG](#) to develop novel mRNA vaccines

and therapeutics for animal health applications. Separately, Bayer entered a [global license agreement with Université de Sherbrooke](#) to advance a novel vaccine candidate for *Staphylococcus aureus* mastitis.

About ketosis and ketone bodies

Ketosis is a metabolic state in which there is a reduced availability of glucose, and most of the body's energy supply comes from ketone bodies in the blood. Ketone bodies (acetoacetate, beta-hydroxybutyrate, and breakdown product acetone) are produced by the liver from fatty acids, and are particularly harmful due to their high oxidative potential and associated induction of oxidative damage.

Excessive or prolonged ketone metabolism has negative side effects and can severely impair health and performance. Signs of ketosis in cattle include: reduced appetite and motility of the rumen, solid consistency of the feces or constipation, and fruity smelling breath. Ketosis is associated with impaired performance, fertility and health disorders.

Subclinical ketosis is an important condition of dairy cows during the transition period. It is defined as increased blood concentration of beta-hydroxybutyrate without any clinical signs. Subclinical ketosis is estimated to be present in 20% of the global dairy cattle population, but is largely undetected due to the lack of signs. Untreated, it can lead to immunosuppression, and secondary diseases such as mastitis, metritis and ketosis, which are among the top dairy herd health challenges faced by veterinarians and farmers around the world.

Bayer: Science For A Better Life

Bayer is a global enterprise with core competencies in the Life Science fields of health care and agriculture. Its products and services are designed to benefit people and improve their quality of life. At the same time, the Group aims to create value through innovation, growth and high earning power. Bayer is committed to the principles of sustainable development and to its social and ethical responsibilities as a corporate citizen. In fiscal 2015, the Group employed around 117,000 people and had sales of EUR 46.3 billion. Capital expenditures amounted to EUR 2.6 billion, R&D expenses to EUR 4.3 billion. These figures include those for the high-tech polymers business, which was

floated on the stock market as an independent company named Covestro on October 6, 2015. For more information, go to www.bayer.com.

Contact:

Bayer Animal Health GmbH

Janice Chow, phone +49 2173 38 5649

Email: janice.chow@bayer.com

For more information, go to www.bayer.com.

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