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News Release

Bayer Inc. Launches the First DNA Immunostimulant in Canada for Bovine Respiratory Disease (BRD)

Zelnate® jumpstarts animals' innate immunity, offering an innovative non-antibiotic approach to help mitigate BRD

Mississauga, ON, September 1, 2016 – Bayer Inc. announces the launch of Zelnate® a non-antibiotic technology and first-of-its-kind DNA immunostimulant that aids in the treatment of bovine respiratory disease (BRD) due to *Mannheimia haemolytica* bacteria.

Authorized by the Canadian Centre for Veterinary Biologics, Zelnate has demonstrated effectiveness in reducing BRD associated mortality and lung lesions in cattle in clinical and field trialsⁱ. Zelnate jumpstarts the animal's own innate immune system providing a rapid and broad protective response to infectious agents.

BRD is the most common and costly disease affecting the Canadian cattle industry and accounts for 65-80 per cent of bovine sickness and 45-75 per cent of the mortality in some feedlots.ⁱⁱ BRD causes an estimated \$1 billion USD of annual economic loss in North American feedlotsⁱⁱⁱ and seven per cent of total production costs can be attributed to BRD-related costs.^{iv}

“Zelnate offers producers a non-antibiotic, non-vaccine approach to help mitigate BRD, a complex infectious disease that has long impacted the cattle industry,” said Dr. Tamara Hofstede, Senior Manager, Veterinary Technical Services, Bayer Animal Health. “Zelnate is different from an antibiotic because it works to support the animal's innate immune

system instead of acting directly on the invading pathogens. Unlike a vaccine, Zelnate contains no specific antigens.”

Developed at birth, the innate immune system is a natural, fast-acting and potent defense mechanism against infectious diseases. An immunostimulant, like Zelnate, stimulates the animal’s own innate immune system by mimicking a pathogen, preparing its immune system to better respond to disease challenge.

Zelnate is indicated for use as an aid in the treatment of Bovine Respiratory Disease due to Mannheimia haemolytica in cattle four months of age or older, when administered at the time of, or within 24 hours after a perceived stressful event.

Zelnate is available through veterinarians. For more information, please visit www.animalhealth.bayer.ca.

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.

In Canada, Bayer had sales of \$1.8 billion CAD in 2015 and 1,500 employees at year-end. For more information on Bayer Inc. in Canada, go to www.bayer.ca

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Forward-Looking Statements

This news release may contain forward-looking statements based on current assumptions and forecasts made by Bayer management. Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here. These factors include those discussed in Bayer's public reports which are available on the Bayer website at www.bayer.com. The company assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.

ⁱ Nickell, J., Keil, D., Settje, T. Zelnate: A novel approach to BRD management in cattle (2014). Abstract submitted and accepted for presentation at the American Association of Bovine Practitioners Annual Conference, Sept 2015.

ⁱⁱ Beef Cattle Research Council, <http://www.beefresearch.ca/research-topic.cfm/bovine-respiratory-disease-38> May 10, 2016 (DR June 9, 2016)

ⁱⁱⁱ Hodgins DC, Shewen PE. Pasteurella and Mannheimia spp. infections. In Coetzer JAW, Tustin RC, eds. (2004). Infectious Diseases of Livestock, Volume 3. 2nd ed. Cape Town, South Africa: Oxford University Press; 1672–1676.

^{iv} Griffin D. (1997). Economic impact associated with respiratory disease in beef cattle. *Vet Clin North Am Food Anim Pract.* 13(3):367–377.