



Jaguar Animal Health Field Study Confirms Beneficial Effect of Neonorm on Average Daily Weight in Calves

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Results Support Study to Investigate Potential Prebiotic Effect on Calf Gut Microbiome

SAN FRANCISCO--(BUSINESS WIRE)--Jun. 9, 2015-- Jaguar Animal Health, Inc. (NASDAQ:JAGX), an animal health company focused on developing and commercializing first-in-class gastrointestinal products for companion and production animals, announced today the results of a recently completed field study conducted in association with Cornell University College of Veterinary Medicine ("Cornell"). The results confirm that Jaguar's Neonorm™ Calf product ("Neonorm") offers a beneficial effect in supporting weight gain in preweaned calves at 60 days of life.

The Cornell field study, which involved 200 preweaned dairy calves, was initiated to examine the relationship between Neonorm treatment and the changes that this treatment leads to in preweaned weight gain and daily fecal dry weight. While no difference was seen in the fecal dry weight score, the results of the field study confirmed the beneficial effect in average daily weight gain observed during an initial challenge study in newborn dairy calves completed at Cornell in 2014. Average daily weight gain influences lifetime productivity for dairy cattle, as preweaning nutrition has a significant effect on mammary gland development, the timing of puberty, and the age at which the dairy cow first produces milk.

On average, each calf receiving Neonorm treatment in the recent field study gained approximately 1.2 kilograms more than the placebo-treated calves during the preweaning period. "This data confirms the findings of the challenge study. Based on current industry cost standards, we estimate that Neonorm could save approximately \$110 on average per treated dairy calf presenting with scours, accounting for costs to replace the dairy calf and costs of supportive care, and that approximately 44% of the \$110 savings is attributable to improvements in future milk production that results from Neonorm-induced weight gain," explained Lisa Conte, Jaguar's CEO. "We believe our study demonstrates the potential for Neonorm to be a novel first-in-class product that provides health and economic benefits to the dairy industry."

Both studies were conducted by Dr. Rodrigo Bicalho, Associate Professor of Dairy Production Medicine at Cornell University's Department of Population Medicine and Diagnostic Sciences. Dr. Bicalho has previously published data indicating that calves with increased fecal microbial diversity after the second week of life experienced higher weight gain during the preweaning period.

The gut microbiota of dairy calves is known to influence major aspects of postnatal life, such as development of the immune system and potentially altering the host's physiology. Low incidence of diseases and efficient growth in preweaned dairy calves are highly important for an optimal post-weaning performance.

Jaguar is now supporting work in Dr. Bicalho's lab to use Next Generation Sequencing to characterize the fecal microbiota of diarrheic from the challenge study to identify possible relationships between Neonorm treatment and the altering of intestinal microbiota profiles, and a contributing explanation for improved weight gain in the animals.

"It's really exciting to explore this new frontier in gut biome research pioneered by Dr. Bicalho, supported by the results of our recently completed field study and previously completed challenge study. The mechanism would supplement and is potentially synergistic with the anti-secretory benefit of Neonorm Calf. There are recent data in humans published in the *World Journal of Gastroenterology* that support this additional potential prebiotic mechanism for the chemical class of Jaguar's suite of gastrointestinal products derived from *Croton lechleri*," stated Conte.

These are results from the first of four field studies involving a total of approximately 700 preweaned dairy calves conducted to support Jaguar's commercial launch of Neonorm.

About Neonorm Calf

Neonorm Calf is an enteric-coated tablet designed to be orally administered to preweaned dairy calves twice daily for three days. It has been formulated and clinically tested to specifically address the normalization of stool formation and ion and water flow in the intestinal lumen of newborn dairy calves. The product acts locally in the gut and is minimally absorbed systemically. It does not alter gastrointestinal motility, and, to date, has shown no significant effects on normally functioning intestinal ion channels and electrolyte or fluid transport, nor shown any side effects different from placebo. As a result, stool formation is normalized in a short period of time, weight loss is mitigated, and supportive care costs and rehydration therapies such as oral rehydration solution, or ORS, are reduced. Neonorm has not been evaluated by the FDA for use in animals.

About Jaguar Animal Health, Inc.

Jaguar Animal Health, Inc. is an animal health company focused on developing and commercializing first-in-class gastrointestinal products for companion and production animals. Canalevia™ is Jaguar's lead prescription drug product candidate for the treatment of various forms of watery

diarrhea in dogs. Neonorm™ Calf is the company's lead non-prescription product. Canalevia is a canine-specific formulation of crofelemer, an active pharmaceutical ingredient isolated and purified from the *Croton lechleri* tree, which is sustainably harvested. Neonorm is a standardized botanical extract derived from the *Croton lechleri* tree. Canalevia and Neonorm are distinct products that act at the same last step in a physiological pathway generally present in mammals. Jaguar has filed nine Investigational New Animal Drug applications, or INADs, with the FDA and intends to develop species-specific formulations of Neonorm in six additional target species, and formulations of Canalevia for cats, horses and dogs.

For more information, please visit www.jaguaranimalhealth.com.

Forward-Looking Statements

Certain statements in this press release constitute "forward-looking statements." These include statements regarding the estimated savings per treated dairy calf presenting with scours provided by Neonorm™ Calf, the potential relationships between treatment with Neonorm™ Calf and altering the intestinal microbiota profiles, and a contributing explanation for improved weight gain in the animals, and potential synergies with the anti-secretory benefit of Neonorm™ Calf. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "expect," "plan," "aim," "anticipate," "could," "intend," "target," "project," "contemplate," "believe," "estimate," "predict," "potential" or "continue" or the negative of these terms or other similar expressions. The forward-looking statements in this release are only predictions. Jaguar has based these forward-looking statements largely on its current expectations and projections about future events. These forward-looking statements speak only as of the date of this release and are subject to a number of risks, uncertainties and assumptions, some of which cannot be predicted or quantified and some of which are beyond Jaguar's control. Except as required by applicable law, Jaguar does not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.

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