



PRINCE AGRI PRODUCTS, INC.

Advancing Nutrition for Healthy Animals®



229 Radio Road
Quincy, IL 62305
217-222-8854
princeagri.com

Glenpointe Centre
East, 3rd Floor
Teaneck, NJ 62305
201-329-7300
phibroah.com

News Release

Media contacts

Stephanie Meyers, Osborn Barr
816-410-5162

stephanie.meyers@osborn-barr.com

Michelle Watts, Prince Agri Products
217-592-1316

michelle.watts@princeagri.com

Research Studies Presented at 2014 ADSA-ASAS Joint Annual Meeting Demonstrate Effects of OmniGen® and Animate® in Dairy and Beef Cattle Health

Quincy, Ill. (July 25, 2014) – Prince Agri Products Inc., a division of Phibro Animal Health Corporation, together with independent research and academic participants, presented 10 research studies at the 2014 American Dairy Science Association – American Society of Animal Science Joint Annual Meeting in Kansas City, Missouri. The research reinforces the importance of a well-functioning immune system to dairy and beef cattle health and the benefits of a negative DCAD diet for healthy, transition dairy cows.

Seven of the studies reported on the effects and mode of action of OmniGen-AF®, a nutritional specialty product that helps support normal immune function in dairy cattle:

- **“OmniGen-AF® supplementation inclusion rate independently promotes immune function in a rat model.” (Abstract M023)** In a study to evaluate the efficacy of OmniGen-AF supplementation amounts, 79 immune-associated genes were expressed and demonstrated the supplement’s ability to help improve immune function through pathogen recognition, adaptive immune cell activation and various transcription factors. OmniGen-AF rates were doubled in the study, compared to control, but didn’t change gene expression, indicating there are not incremental benefits to increasing OmniGen-AF feeding rates.
- **“Identification of immune response markers to OmniGen-AF® supplementation in a rat model.” (Abstract M036)** In a 28-day study to identify immune response markers influenced by feeding OmniGen-AF, 77 immune-associated genes were expressed and several were up-regulated on days 7 and 28, suggesting that both the innate and adaptive arms of the immune system are changed by OmniGen-AF supplementation.
- **“A six-year study evaluating health, milk and milk quality in 427 dairy herds fed OmniGen-AF® to dry and lactating cows.” (Abstract M217)** A six-year study, known as the Immunity Challenge, from 2007 to 2012 conducted on 427 U.S. dairies with more than 274,000 cows, demonstrated the benefits of supplementing dairy cow diets with

OmniGen-AF. After 90 days of feeding OmniGen-AF, there was a 24.3 percent reduction in mastitis cases, 28.6 percent reduction in late-term abortions, 16.7 percent reduction in cows delivered to the hospital pen and a 33.0 percent reduction in total herd death loss. Bulk tank somatic cell count averages also dropped by more than 50,000 in 72.6 percent of the herds. Though not a focus of the study, 208 herds reported on milk production, which averaged a 1 pound per head per day increase.

- **“Milk production, dry matter intake and body condition score evaluated in cross-bred commercial cows supplemented with OmniGen-AF[®] during and following heat stress.” (Abstract T242)** In a Texas study of 266 early to mid-lactation dairy cows, OmniGen-AF supplemented animals increased milk production during and after heat stress compared to the control group. Milk yields averaged 2.8 more pounds per cow per day during the 15-week study and 5 more pounds per cow per day during the second half of the study. There were no differences in dry matter intake or body condition scores at any point in the study.
- **“The effects of OmniGen-AF[®] on serum metabolites, calcium concentrations and hormones of the adrenal axis during heat stress in lactating Holstein cows.” (Abstract W318)** Research conducted at the University of Arizona, using cows housed in environmentally controlled modules, indicated animals receiving OmniGen-AF had significantly lower serum cortisol, increased serum ACTH (a hormone that stimulates the release of cortisol) and lower somatic cell counts during heat stress than control cows. Non-esterified fatty acids also tended to be greater, indicating the OmniGen-AF-fed cows were mobilizing more body fat than control cows. Serum insulin, serum calcium and plasma glucose levels were not different between groups.
- **“Milk quality and milk components in lactating dairy goats fed OmniGen-AF[®] from dry-off through the entire lactation.” (Abstract 91)** Two-year-old does on a Wisconsin commercial goat dairy were supplemented with OmniGen-AF for a complete dry and milking cycle. The supplemented goats had significantly lower somatic cell counts (SCC), particularly at the end of lactation when SCCs typically increase. Milk fat and milk protein percentages increased in supplemented goats.
- **“Modulation of innate immune function and phenotype in bred dairy heifers during periparturient period induced by feeding an immunostimulant 60 days prior to delivery.” (Abstract 92)** Bred heifers receiving supplemental OmniGen-AF from 60 days prepartum to calving had less negative health events including displaced

abomasum, ketosis and udder edema compared to unsupplemented animals. Neutrophil L-selectin levels and leukocyte phagocytosis of *S. aureus* and *E. coli* were elevated in OmniGen-AF-fed heifers, while oxidative bursts were elevated in control heifers.

Two additional OmniGen-AF studies evaluated its effects on feedlot steers:

- **“Enhancement of the acute phase response to lipopolysaccharide in feedlot steers supplemented with OmniGen-AF®.” (Abstract 73)** Upon arrival at a University of Nebraska feedyard, steers were divided into two groups, one supplemented with OmniGen-AF for 29 days and one was the control group. After challenged with lipopolysaccharide (an endotoxin that generates a strong immune response in animals), supplemented steers had lower levels of cortisol and higher levels of cytokines involved in the initiation of the inflammatory process and activation of macrophages. These effects suggest that OmniGen-AF supplementation primes the immune system for immune challenges in feedyard cattle.
- **“Supplementation of OmniGen-AF® during the receiving period modulates the metabolic response to a lipopolysaccharide challenge in feedlot steers.” (Abstract 503)** In the same feedyard cattle study, after challenged with lipopolysaccharide, supplemented steers had lower levels of non-esterified fatty acids (NEFA) and blood urea nitrogen (BUN), and higher levels of glucose. These effects suggest that OmniGen-AF supplementation in feedyard cattle helps support immune function when under a challenge.

The 10th study evaluated extending the feeding period for Animate®, a highly palatable nutritional specialty product that helps reduce the risk of low blood calcium, as part of a negative dietary cation-anion difference (DCAD) diet fed to prepartum dairy cows:

- **“Effects of feeding a negative DCAD diet prepartum for varied lengths of time on serum metabolites and performance.” (Abstract 719)** In this University of Georgia study of 45 multiparous Holsteins and 15 springing heifers, the length of feeding a negative DCAD diet was evaluated for its effects on serum metabolites, dry matter intake (DMI), and milk yield and composition. Results of the trial demonstrated that a negative DCAD diet can be fed safely and profitably for at least 42 days with no reduction in fresh cow health or performance compared to feeding a traditional 21-day prepartum negative DCAD diet.

“These research projects add to our 12-year body of knowledge and understanding of OmniGen-AF and Animate and how they help dairy and beef cattle when the animals encounter change, stress or other types of challenges that can affect their health and performance,” says Jim Chapman, Ph.D., director of research and technical services for Prince Agri Products. “The better we can understand and document our product benefits through research, the more we can help beef and dairy producers manage healthy, productive, profitable herds.”

OmniGen-AF is a unique patented nutritional specialty product that helps support immune function and can be fed to all classes of dairy cattle as part of their regular diet.

Animate is a highly palatable nutritional specialty product which helps reduce the risk of low blood calcium in postpartum dairy cows by achieving a fully acidified diet and maintaining high dry matter intakes.

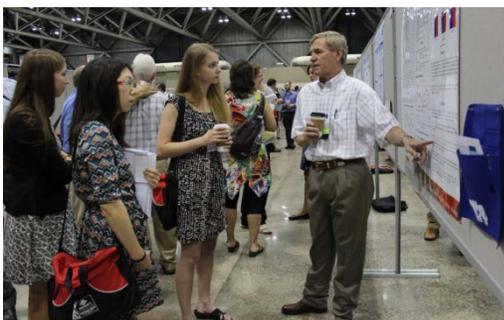
For access to the full abstracts, visit asas.org/meetings/jam2014/abstracts/abstract-book or call 800-6-PRINCE.

About Prince Agri Products

Prince Agri Products Inc. is a leading provider of high-quality trace minerals and nutritional specialty products that support nutrition for dairy and beef cattle, swine, poultry, aquaculture and companion animals. Prince offers innovative, science-based solutions that help enhance health, productivity and profitability in all classes of livestock. Prince is headquartered in Quincy, Illinois, and is a division of Phibro Animal Health Corporation. For more information, visit <http://princeagri.com> or call 800-677-4623.

###

Editor's note: High-resolution jpg is linked in the e-mail distribution or available by request.



Jim Chapman, Ph.D., of Prince Agri Products, visits with graduate students from Iowa State University's Department of Animal Science at the 2014 ADSA-ASAS Joint Annual Meeting. Chapman discussed one of Prince's research studies with the students.