NewsLetter
Plants & plant extracts in animal nutrition

NOR-FEED
Botanicals • You know why

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Editorial

Nor-Feed at EUROTIER 2022 !

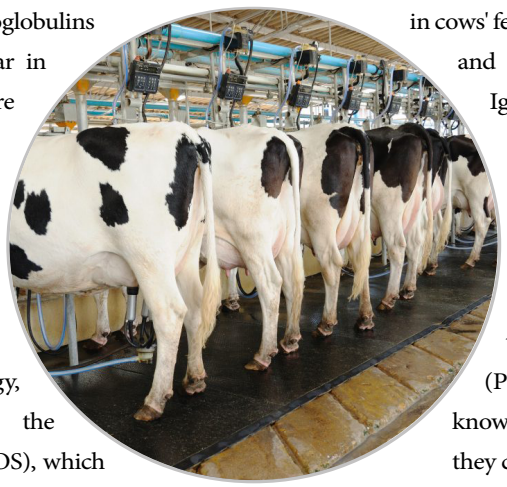
After 4 years, the Nor-Feed team was back in Germany at the EuroTier in Hanover, to share the latest news about our botanicals and to meet our current (and maybe future) partners in person. Send us a message if you didn't have the opportunity to meet us there!

In November, we also had two Live Sessions with our new studio, a customized tool that allows us to present our solutions in a more interactive and dynamic way. The themes were: the use of our solutions for aquaculture, and the interest of our botanicals for sow profitability. If you wish to organize a private Live Session, feel free to contact us!

Focus on...

Colostrum quality and oxidative stress

At birth, calf immunity is the most important point to ensure good health because of the lack of immune defenses transfer from the mother to the fetus[1]. This transfer of immunity occurs postpartum by colostrum intake containing immunoglobulins (IgG)[2]. As a consequence, colostrum is the vital 'early' milk produced during the first few days (usually four) of postpartum, bringing not only nutrients but also the richness of passive immunity protecting newborns against infection while their immunity is under development[1]. Colostrum excreted during the first 24h post-parturition would be expected to have the highest concentration of immunoglobulins and growth factors[2]. It is important to bear in mind that immunoglobulins, especially IgG are selectively transported to mammary secretion from maternal circulation already several weeks before parturition and cease at or near calving[3].



During the peripartum period, the massive modulation in metabolism, physiology, immunity, etc., frequently generates the overproduction of reactive oxygen species (ROS), which causes oxidative stress[1]. The negative correlation between maternal oxidative imbalance and quality of colostrum has been confirmed by several studies.

Ling T et al (2018) confirmed that calves born by cows having a higher oxidative stress index at late lactation have significantly lower body weight. Results from the study of Zheng S et al (2021) indicated that the reactive oxygen species (ROS) are positively related to stress-related indicators including catalase (CAT); superoxide dismutase (SOD); and glutathione peroxidase (GPX), and those indicators have a negative relation with milk production and composition like yield, fat, protein and lactose. Additionally, Çolakoğlu et al (2021) revealed that the oxidative stress state in late gestation cows results in significant reduction in colostrum quality, including gamma glutamyl transferase (GGT) and immunoglobulin G (IgG) and immunoglobulin M (IgM) and specific gravity of colostrum.

Some studies have shown that the supplementation of antioxidants in cows' feed increased their concentration in colostrum, and some antioxidants have shown to improve IgG production in colostrum to increase immune defenses. Thus, in order to optimize colostrum quality, it is very important to provide efficient protection ton control oxidative stress for the animal's wellbeing. Therefore, antioxidant status has shown to be as important as immunological status (Przybylska et al., 2007). Grape extracts are well known for the antioxidant power of the polyphenols they contain to tackle these issues.

Sources: [1] S. M. Godden, J. E. Lombard, et A. R. Woolums, « Colostrum Management for Dairy Calves », Vet. Clin. North Am. Food Anim. Pract., vol. 35, no 3, p. 535-556, nov. 2019, doi: 10.1016/j.cvfa.2019.07.005. [2] B. A. McGrath, P. F. Fox, P. L. H. McSweeney, et A. L. Kelly, « Composition and properties of bovine colostrum: a review », Dairy Sci. Technol., vol. 96, no 2, p. 133-158, mars 2016, doi: 10.1007/s13594-015-0258-x. [3] J. Przybylska, E. Albera, et M. Kankofer, « Antioxidants in Bovine Colostrum », Reprod. Domest. Anim., vol. 42, no 4, p. 402-409, août 2007, doi: 10.1111/j.1439-0531.2006.00799.x. Other sources upon request.

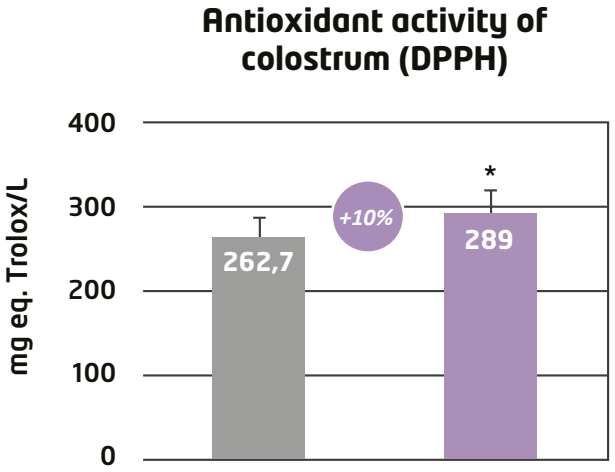
Field Evidence

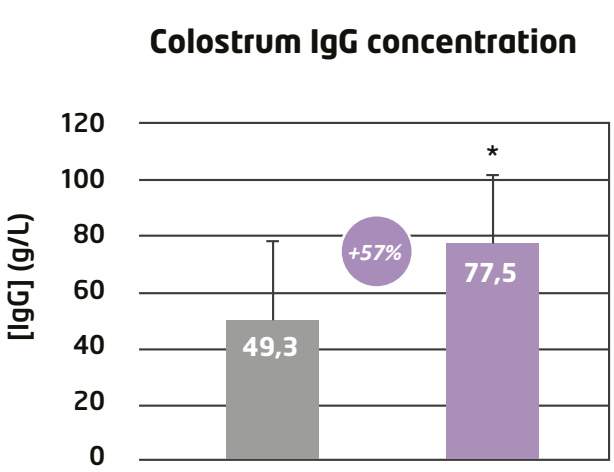
Nor-Grape® BP-O: Improving colostrum quality in cows

Materials and method:

21 Holstein cows (in late gestation) were divided in two groups: a control group (CTL, 9 cows) fed a ration with roughage (hay, corn silage), nitrogen corrector (soy/colza 70:30) and concentrate; and a Nor-Grape® BP-O group (NG, 12 cows) fed the same ration supplemented with 670 mg/cow/day of a commercial encapsulated grape extract (Nor-Grape® BP-O) for 2 weeks before calving. Colostrum was collected and analysed. Antioxidant activity was measured using DPPH method and immunity status was measured by radial immunodiffusion method with an analysis of IgG.

Results:





Results proved the significant positive effect of Nor-Grape® BP-O on the antioxidant capacity and IgG content of the colostrum ($p<0,05$) from supplemented cows.

Conclusion:

In this study, the supplementation of Nor-Grape® BP-O during the late gestation improves the colostrum antioxidant status by more than 10% and the colostrum immune status (IgG concentration) by more than 50%.

Do not hesitate to contact us for more information.

This month Nor-Feed was at the World Aquaculture Singapore 2022, where Dr. Paul Engler made a presentation about the use of Nor-Grape in shrimps. Speaking about that, we are also glad to announce the arrival of Joseph Bernot, who is starting a 2-year mission in Vietnam to support the development of Nor-Feed in aquaculture.

We have a new video about Nor-Spice AB® and its mode of action. You can watch it on Youtube and on LinkedIn.

If you want to have the video with subtitles in your language, please send an e-mail to:

contact@norfeed.net