

Research title:
Functional nutrition and animal health

Nutrizione funzionale e salute animale

Tutor: Prof. Raffaella Rossi

Contact details:

Università degli Studi di Milano

Department of Health, Animal Science and Food Safety (VESPA),

Phone : +390250315758

e-mail address: raffaella.rossi@unimi.it

ORCID id: 0000-0001-8926-7235

<http://www.vespa.unimi.it/ecm/home>

State of the art and aim of the project

The relationship between inflammatory response and oxidative stress indicates their roles in the pathogenesis of several animal diseases. There is a great deal to deepen its role in livestock health. Biomarkers of antioxidant status and oxidative stress products, represent reliable indicators of animal health.

The aim of the project will be to evaluate antioxidant status of livestock in several breeding conditions/phases, dietary intervention and health status. Moreover, considering that an emergent approach in terms of functional nutrition is the use of natural extracts, the future challenge is to define their rule as health-enhancing compounds. Natural extracts are too heterogeneous and a standard method for identify their antioxidant activity in a biological model is required. Several chemical tests and the biological test KRL will be compared for define the optimal in feed dosage. This approach is important for evaluate nutritional interventions for enhance health and guarantee a sustainable livestock breeding.

Recent publications of the tutor in the field

1. Rossi R., Corino C., Modina S., Di Giancamillo A. (2019). Dietary Verbascoside Influences Gut Morphology and the Expression of α -Transducin and α -Gustducin in the Small Intestine of Weaned Piglets Exposed to n-6 Polyunsaturated Fatty Acids-Induced Oxidative Stress. *Animals* 9, 20.
2. Di Giancamillo A., Rossi R., Martino P. A., Aidos L., Maghin F., Domeneghini C., Corino C. (2018). Copper sulphate forms in piglets diet: microbiota, intestinal morphology and enteric nervous system glial cells. *Animal Science Journal*. (2018) 89, 616–624.
3. R. Rossi, S. Ratti, G. Pastorelli, F. Maghin, G. Martemucci, D. Casamassima, A.G. D'Alessandro C. Corino (2017). Effect of dietary plant extract on meat quality and sensory parameters of meat from Equidae. *Journal of the science of food and agriculture*, 97 (14): 4690-4696.
4. Rossi R., Stella S., Ratti S., Maghin F., Tirloni E., Corino C. (2017). Effects of antioxidant mixtures in the diet of finishing pigs on the oxidative status and shelf life of Longissimus dorsi muscle packaged under modified atmosphere. *Journal of Animal Sciences*, 017 95: 11: 4986-4997.
5. Di Giancamillo, A., R. Rossi, G. Pastorelli, D. Deponti, V. Carollo, D. Casamassima, C. Domeneghini and C. Corino (2015) The effects of dietary verbascoside on blood and liver oxidative stress status induced by a high n-6 polyunsaturated fatty acids diet in piglets. *Journal of Animal Science* 93(6): 2849-2859.