



ABSTRACT BOOK



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ASVMForum2022

International Forum on
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Nutraceuticals: how to enhance fertility in stallions

Stallion semen preservation has played a fundamental role in the success of artificial insemination (AI) and several attempts have been made to improve male fertility over years. Cooling and freezing storage of semen is not immune from deleterious effects on spermatic cells such as decrease in cell viability, motility, and fertility. Nutraceutical supplementation has been proposed as a tool to increase the quality of stallion semen and improve the reproductive efficiency of horses. Substances of vegetable origin, minerals, and vitamins are available on the market for the management of male infertility in both human and veterinary medicine. Several strategies and nutraceutical compounds have been explored to have a beneficial effect on stallion sperm quality. Polyunsaturated fatty acids (PUFAs) from different sources (pomegranate seed oil, heterotrophically grown microalgae, algae- and flaxseed-based supplements, linseed oil), carnitine, antioxidants and vitamins (selenium, carotene, tocopherol, ascorbic and folic acid, vitamins A, C, and E), botanical extracts (including herbs, fruits, vegetables, enriched plasmolysed yeast) has been added to stallions' diet, alone or as a mixture, in order to investigate the effects on semen characteristics and redox status. Starting from the last decade, the frame of research directed toward the use of nutritional supplements able to improve the ability of equine semen to cope with cryodamage and oxidative stress has produced remarkable results. The advantage of PUFAs as unique dietary supplement is fairly conflicting, minor improvements have been reported in some studies, whereas no improvement has been observed by other authors, probably related to redox imbalance following excessive dietary fatty acids intake, which has been recognized as a major cause of male infertility. Providing optimal levels of antioxidants resulted to be essential for the maintenance of normal reproductive functions and the most promising results have been obtained in those studies investigating the combination of PUFAs and antioxidants.

Biography:

Marilena Bazzano, Research fellow.

The main field of interest and research concerns equine medicine and reproduction, especially the application of innovative management modalities to increase male fertility. MB is author of publications in both national and international scientific journals and speakers in several national and international conferences.