



# Invitation to the Innovative Researches in Egyptian Buffalo's Reproduction



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## Abstract

In the fact, all reproductive specialists know that there are many challenges to reproduction in farm animals. Now, there are many challenges affecting fertility in farm animals. Among these challenges are microbial infections that affect the animal during pregnancy, during or after parturition. Stress could be one important cause of decreasing fertility and is considered an important challenge affecting reproduction. This challenge requires the creation of research ideas characterized by scientific creativity and practical application. Veterinarians today are playing a more significant role and having a more substantial impact on the world than ever before. This is through innovation research that has changed the understanding of a lot of false knowledge in the field of veterinary medicine, especially in reproduction.

**Keywords:** Veterinarians; Veterinary medicine; Theriogenology Science; Antibiotic treatment; Ozone Therapy; ozone therapy

## Introduction

The aim of this article is not to cite all research conducted so far on livestock fertility, but to highlight the scientific innovative research that deserves attention to overcoming the infertility problems in livestock. In the field of veterinary medicine, particularly in Theriogenology Science, researchers must follow the treatments that are used for reproductive conditions and done the report which include the success rates of the treatment, so that it can be developed and improve treatment which leads to the innovation in the researches. Antibacterial agents used to treat uterine infections after parturition lead to a risk to human health that occurs as a result of the use of milk from these animals, which contain antibiotic residues. For this reason, the researchers are trying to establish new strategies to minimize antibiotic treatment for uterine infection in cattle.

It has been acknowledged that innovation leads to wealth creation as well as, it has a major factor in influencing strategic planning in reproduction and production for cattle. From this standpoint, innovative researches in animal reproduction lead to improvement in the reproduction and production for animals. Now, we must resort to innovative ideas in the field of veterinary medicine, in order to activate the saying that "innovative research leads to the growth of livestock and increase economic wealth."

One of these innovative ideas in the field of veterinary medicine, especially in reproductive treatments is ozone therapy. Ozone Therapy (OT) is safe and non-toxic and should therefore be widely used in veterinary and human medicine practice [1]. However, in Egypt, ozone therapy still insufficiently used in

veterinary practice. OT has been given in medical practice via several routes that include transdermal, intramuscular, rectal, nasal, oral, vaginal, intravenous, intra-arterial, intraperitoneal, intra-pleural, topical, dental, and by auto-hemotherapy [2]. Moreover, intrauterine irrigations with ozonated distilled water and vaginal irrigations with ozonated saline can be used [3]. OT acts through various mechanisms include activate the immune system, inactivating microorganisms and optimization of pro- and antioxidant systems. Ozone therapy has been shown to activate the immune system [4] by stimulating cytokine production and disrupts the integrity of the bacterial cell envelope through oxidation of the phospholipids and lipoproteins [5]. Moreover, Ozone therapy can leading to creation of balance between the levels of lipid peroxide products and the antioxidant defense system [6].

## Conclusion

The ozone product proved to be efficient in improvement of fertility in cows through local treatment of the postpartum uterine mucosa this is, with the advantage of no milk and meat withdrawal period due to antibiotic residues [7]. In addition, ozone has been found to be more effective in the treatment of endometritis and retained placenta in dairy cows, compared to hormonal and/or antibiotic treatment, with no negative effect on the host regarding residues [8].

## Ethics

This article is an original review article based on previously published papers and does not contain new original

### data. **References**

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