



## KEY WORDS

- ✓ fertility
- ✓ pregnancy
- ✓ energy supplementation
- ✓ propylene glycol
- ✓ glycerol

## CONTACT

E-MAIL:  
mustafa.demir10@gmail.com

## THESIS SUPERVISOR

TELEPHONE:  
224-294 13 63

E-MAIL:  
gencoglu@uludag.edu.tr

# THE EFFECT OF ENERGY SUPPLEMENTATION ON PREGNANCY PERFORMANCE IN DIFFERENT SYNCHRONIZATION PROTOCOLS IN DAIRY COWS

**Mustafa DEMİR**

0009-0008-0313-3948

**BURSA ULUDAĞ UNIVERSITY GRADUATE SCHOOL OF HEALTH SCIENCES ANIMAL NUTRITION AND NUTRITIONAL DISEASES DEPARTMENT PhD PROGRAM**  
**GRADUATION DATE: 13.09.2024**

## SUPERVISOR

Prof. Dr. Hidir GENÇOĞLU  
0000-0003-1067-2874  
BURSA ULUDAĞ UNIVERSITY GRADUATE SCHOOL OF HEALTH SCIENCES  
BURSA – TÜRKİYE



## THESIS ABSTRACT

The aim of this study was to investigate the effects of different energy supplements on fertility in dairy cows close to insemination. In the first stage, no energy supplementation was given to Control1 Group, Group 2 cows were given energy bolus before artificial insemination, Group 3 cows after artificial insemination and Group 4 cows before and after artificial insemination. In the second phase, no energy supplementation was given to the Control2 group, monopropylene glycol was administered to the PG group, glycerol to the Glycerol group and energy bolus to the Bolus group. No difference was observed between the groups in terms of pregnancy performance and milk yield in the first and second phase of the study. From this study, it was concluded that different energy supplementation before or after insemination had no effect on pregnancy performance and milk yield.

## APPLICATION AREAS OF THE THESIS RESULTS

Infertility constitutes an important part of economic losses in dairy farms. Negative energy balance is one of the most probable causes of infertility. This thesis emphasizes the effects of energy supplementation during artificial insemination period on fertility.

## ACADEMIC ACTIVITIES

Demir, M., Gencoglu, H., Gümen, A., & Orman, A., (2022). Effect of Energy Supplementation on Pregnancy Performance and Betahydroxy Butyric Acid Levels in Different Synchronization Protocols in Dairy Cows (Oral Presentation). 7<sup>th</sup> National & 3<sup>rd</sup> International Herd Health and Management Congress, Antalya, Türkiye.

Gencoglu, H., Acar, A., Kara, E., A., Bilgen, O., Caglican, C., Demir, M., & Koca, C., (2024). Relationships Between Fecal Nutrient Content Milk Composition of Dairy Cows in Different Lactation Periods (pp 354). *The 32<sup>nd</sup> World Buiatrics Congress, Cancun, Quintana Roo, Mexico . XXIII. Middle European Buiatrics Congress, Brno, Czech Republic.*

Uztemur, A., Orman, A., & Demir, M., (2024). Features of Suckling Behaviour of Gazella Marica Fawns In Semi-Captive Conditions. *Journal of Animal and Plant Sciences.*

Senturk, N., Selvi, T., N., Demir, M., Ustuner, H., Samli, H., & Ardicli, S., (2024). The Impact of LEP gene polymorphisms located at exon 2 (LEP-HinfI) and intron 2 (LEP-Sau3AI) on Growth and Reproductive traits in Saanen Goats. *Archives Animal Breedig.* <https://doi.org/10.5194/aab-67-523-2024>.

