



OPINION

**on a dissertation for awarding an educational and scientific degree "doctor",
Higher education area 6. Agricultural sciences and veterinary medicine,
Professional field 6.3. "Animal husbandry" Scientific major "Breeding of farm
animals, biology and biotechnology of reproduction"**

Author of the dissertation: Rami Yaccoub, doctoral student in part-time study at the Department of "Anatomy, Physiology and Animal Breeding Sciences", Faculty of Veterinary Medicine at the University of Forestry, Sofia.

Title of dissertation: "THE EFFECT OF FEEDING WEANED LOCAL MALE KIDS GOATS OF "BALADI BREED" AND AWASSI MALE LAMBS FAVA BEANS AS COMPARED TO SOYBEAN MEAL ON BODY PERFORMANCE AND MEAT QUALITY".

Member of the scientific jury: Prof. Dr. Maya Mitkova Ignatova, Agricultural Academy, Higher education area 6. Agricultural Sciences and Veterinary Medicine, Professional field 6.3. "Animal husbandry", Scientific major "Animal nutrition and feed technology", appointed as a member of the scientific jury by order No. ZPS-168/01.04.2024 by the Rector of LTU.

The presented dissertation is written on 124 pages and includes 13 tables, 23 figures, one appendix. The list of references covers 394 sources. The scientific work is properly structured in terms of the individual sections and meets the requirements of the LDASRB for a doctoral dissertation. Four papers related to the dissertation and published in scientific journals are presented.

1. State of the art of the problem.

The problem is current, and the subject of the research work – successfully chosen. This comes from the fact that the research carried out by the PhD student concerns the use of protein sources (in this case, fava beans) to replace soybean meal or part of it in the feeding of small ruminants.

2. Status of the problem and evaluation of the literature review.

The literature review includes 394 sources in the field of the research conducted by the doctoral student. The issues discussed are presented in a comprehensive manner. In general, the literature review reveals the doctoral student's good awareness and skills in working with scientific literature.

3. Aim and tasks of research.

The aim of the research is correctly defined, and the tasks set guarantee its accomplishment.

4. Material and research methods.

The studies are methodically correct. Appropriate methods are applied. Statistical evaluation of the experimental data was performed, allowing convincing comments of the obtained results.

Here I will make the following remarks: In my opinion, the number of animals per group is small, especially when reared in a group, although this number allows some statistical processing of the results. It would be correct to account for both quality and intake of roughage, especially when the forage consumption/utilization is calculated, and some economic evaluation is made. Since the purpose of the research in the dissertation is to study the protein component in the ration, it would be good to indicate other (besides crude protein) indicators characterizing the protein value of forages.

5. Illustration and presentation of the results obtained.

The experimental data are presented at a very good scientific level, illustrated with a sufficient number of well-made tables (13) and figures (23), plus an appendix. In my opinion, some of the results would have been better presented in tabular rather than graphical form, as the chosen version of the graphs in these cases is not informative enough.

6. Discussion of results and references.

The discussion and comments of the results are correct. Comparisons are made with similar studies by other authors.

As a result of the conducted research, information was obtained and an assessment was made of the use of fava beans in the ration of fattening lambs of the Awassi breed and male kids goats of the Baladi breed, in terms of productive indicators and meat quality.

7. Conclusions.

The conclusions drawn reflect the main results obtained in the study. They are formulated clearly and precisely.

Recommendations for the practice are made on the basis of the scientific research and the obtained results.

I accept the scientific and scientific-applied contributions as presented by the doctoral student. A study was carried out on the possibility of including fava beans in the ration as a replacement (partially or totally) for soybean meal when

fed to Awassi male lambs and male kids goats of “Baladi breed” and the effect on weight development, feed utilization and meat quality.

8. Critical remarks and questions.

I have no additional critical remarks and questions for the doctoral student, other than those I have already made in the respective sections.

CONCLUSION

The presented dissertation meets the requirements for a dissertation in terms of relevance, volume, methodological approaches, level of research work.

A good impression is made by the writing style, the presentation of the material and the technical layout of the work, all of which reveal a very well prepared, intelligent young scientist.

All this gives me the reason to provide my **positive** opinion on the presented dissertation. I recommend to the esteemed Scientific Jury to award **Rami Yaccoub** the educational and scientific degree "doctor" in the scientific major "Breeding of farm animals, biology and biotechnology of reproduction", Professional field 6.3. "Animal husbandry", Higher education area 6. Agricultural sciences and veterinary medicine.

10.05.2024

Member of the Scientific Jury:

/prof. Dr. M. Ignatova/