

STANDPOINT

by **Prof. Diana Lilova Svetleva, Dr. Sci.**, retired from the Agricultural University – Plovdiv, on a thesis for awarding of educational and scientific degree "**Doctor (Doctor of Philosophy - Ph.D.)**" in: field of higher education: **6.0 Agricultural Sciences and Veterinary Medicine**; professional field: **6.1. Plant growing**; Scientific specialty: "**Plant growing**" at the **Higher School of Agribusiness and Regional Development, Plovdiv**

Author: Assistant Dimitrinka Stoilova Krusheva, Ph.D. student

Title of Doctoral thesis: *"The impact of certain technological factors on the yield potential when growing triticale in the environmental conditions of strandzha mountain".*

Scientific adviser: Assoc. Prof. Svetla Dimitrova, Ph.D.

1. General presentation of the procedure and the Ph.D. student.

By order № 417 / 18.12.2020 of the Rector of the Higher School of Agribusiness and Regional Development, Plovdiv, I was appointed as a member of the Scientific jury to provide a procedure for defense of Doctoral thesis by Assistant Dimitrinka Krusheva. The author of the Doctoral thesis is a Ph.D. student of independent training at the Higher School of Agribusiness and Regional Development, Plovdiv.

Doctoral thesis was discussed and proposed for defense at a meeting of Faculty Council of the Economics and Management Faculty at Higher School of Agribusiness and Regional Development with minutes № 95 / 17.12.2020.

Presented set of materials, on paper and electronic variants, is in accordance with Art. 32 from the Rules of Higher School of Agribusiness and Regional Development, Plovdiv, for application of the Law for Development of the Academic Staff in the Republic of Bulgaria.

Ph.D. student Krusheva covers the minimum scientometric indicators for acquiring of educational and scientific degree "Doctor (Doctor of Philosophy - Ph.D.)" and as a result of the presented publications in connection with the defense of the thesis she has collected a total of 31.67 points.

Assistant Dimitrinka Stoilova Krusheva was born on September 25, 1977.

She completed his secondary education in 1996 at the Technical School of Agricultural Mechanization and acquired secondary special education in speciality "Plant Growing".

In 2001 she graduated from Burgas Free University with a bachelor's degree in "Agronomy - Agroecology and Integrated Plant Protection". She received a master's degree in "Agronomy - Organic Agriculture" at the same university in 2003.

Krusheva's research career began in 2009 at the Experimental Station for Agriculture in Sredets city, where she has been the Director since 2014. Since April the 1st, 2018, she has been selected as an assistant and started to work at the Agricultural Research Center in Sredets city.

She speaks and writes English at a good level.

2. Actuality of the subject.

The actuality of the Doctoral thesis developed by the Ph.D. student Dimitrinka Krusheva is determined by the following features:

- ❖ Implementation of triticale in production took place in the early eighties of the twentieth century.
- ❖ Triticale is the newest and youngest evolutionary annual cereal crop, created by man by combining the chromosome sets of wheat and rye.
- ❖ It has been established that the existing Bulgarian cultivars can successfully replace wheat, barley and rye in the foothills and hilly parts of Southern Bulgaria.
- ❖ Some of the positive characteristics of triticale are: the presence of high productive potential, high protein and lysine content in the grain, as well as resistance to fungal diseases.
- ❖ Based on the studies conducted so far, it is established that it is necessary to be held a more in-depth study related to the optimization of technological units in agrotechnics, considering the overall manifestation of the triticale's productive potential under the conditions of Bulgaria.

Described above actuality of the problem is well connected with all sections of the Doctoral thesis. New facts have been pointed out and very good results have been obtained, which can serve as a good basis for future investigations.

The aim and tasks for implementation by the Ph.D. student are in unison with the so far achievements in this field, well presented in the literature review.

The main goal of the Doctoral thesis is clearly set: To study the complex interaction of factors (sowing time, sowing and fertilizer rate) in triticale cultivation for the Strandzha specific conditions and their impact on grain productivity and quality. There are four main tasks that were performed during the conducted experiments.

3. Knowing of the problem.

This is evident from the "Literary Review" section, which is presented on 21 pages and is well systematized in 4 main sections and 5 subsections. The Ph.D. student is based on the used literature sources and quite skillfully tries to include this knowledge in his research.

242 titles are presented in the cited literature, of which 134 are in Cyrillic and 108 - in Latin.

Sources from 1876 to 2019 are reflected. Of these, only 4 titles (1.65%) have been published in the last 5 years.

4. Methodology of investigations.

Applied methodology of investigations is adequate and correctly selected. It allows to achieve the set goal and to solve exactly the tasks related to the realization of this goal.

Object of investigations are two cultivars of triticale - Vihren and Rozhen TC210.

Investigations were conducted in the experimental field of the "Scientific Center for Agriculture" – city of Sredets and the laboratory of the Institute of Agriculture - city of Karnobat.

Phenological observations were made on the field experiments; the structural elements of the yield are taken into account and the grain yield is established.

An agrochemical characteristic of the soil was conducted and meteorological observations were made.

Physical properties and chemical composition of the grain were determined in laboratory experiments.

Multivariate analysis of variance was applied to establish statistically significant influences of the studied factors and the differences between the tested variants.

The data were processed with the statistical package SPSS20 and EXSEL. This enabled the Ph.D. student to obtain statistically reliable results, which served her to formulate correct conclusions.

5. Characteristics and evaluation of the Doctoral thesis and contributions.

Doctoral thesis was written on 162 typewritten pages.

Obtained results are presented visually in 36 tables and 26 figures.

Tables and figures are well organized, so it is easy to follow the relevant trends. The data are in a clear form and are correctly interpreted in the course of their examination.

I believe that the dissertation presented by Assistant Dimitrinka Krusheva is well structured and balanced. The classical structure was used to form a thesis.

From the conducted investigations Ph.D. student formulates 4 implications at the end of her thesis, which in my opinion represent conclusions about the obtained and analyzed results.

Doctoral thesis meets the accepted and approved requirements specified in Art. 27 para. 2 of the Regulations for application of the Law for Development of the Academic Staff in the Republic of Bulgaria.

Three contributions are presented, one of which is original. I accept without objection the contributions.

6. Publications related to the defense of Doctoral thesis.

A part of the obtained results from Ph.D. student have been published independently or in co-authorship in 5 articles:

- ❖ One of them was published in 2018 in a booklet from the International Conference held in Turkey (https://agbiol.org/files/46/editor/files/AGBIOL_2018_Full_Proceeding_Book_new.pdf);

- ❖ Две са отпечатани през 2010 и 2014 г. в научното списание „Journal of mountain agriculture on the Balkans – Troyan“

- ❖ Two articles were published in 2010 and 2014 in the Scientific Journal "Journal of mountain agriculture on the Balkans - Troyan".

- ❖ In two of the published articles, which are under seal, the Ph.D. student is an independent author. For these articles are presented "Official Notes" that they have been accepted for publication in the Journal of Science "New Knowledge".

7. Author's abstract.

Author's abstract is written on 48 pages. It reflects very well in summary version the structure and content of the Doctoral thesis. It is illustrated with 31 tables and 12 additions to some of them, as well as 8 figures. It is presented according to all the requirements of the law for such type of publication.

8. Recommendations for future use of Doctoral thesis' contributions and results.

I have the following questions, notes and recommendations to the Ph.D. student:

Questions:

- Ⓢ In Doctoral thesis and Author's abstract was indicated that the investigations were conducted in the period of 2011-2013. Why the defense of it is being conducted only now?

Notes:

- Ⓢ There are a lot of technical mistakes in the text.
- Ⓢ In the content are not indicated the pages of the relevant sections, which makes it difficult to find them in the thesis.
- Ⓢ Some of the mentioned literature sources were printed in the period from 1876 to 1938. I am sure that the Ph.D. student did not find them in the original version. In her future works it is more correct for the Ph.D. student to cite the literary source and the authors who have cited these publications in recent years.

Recommendation:

- Ⓢ It would be much better to end the literature review with a summary of what has been described on the investigated issues from other researchers, from which to build on the results obtained by Ph.D. student.

These notes do not diminish the importance and significance of the presented thesis. They are made in order to improve the work of the Ph.D. student in her future investigations.

CONCLUSION

Doctoral thesis of Assistant Dimitrinka Krusheva includes information obtained as a result of research conducted in the period 2011 - 2013. It has the necessary qualities and is a overall and complete elaboration.

Based on the above, learned and applied by the Ph.D. student different methods of investigations, correctly performed experiments, valuable scientific and practical results, made summaries and conclusions, I believe that the presented Doctoral thesis meets the requirements of the Law for Development of the Academic Staff in the Republic of Bulgaria and the Rules for its application and the Rules of the Higher School of Agribusiness and Regional Development, Plovdiv.

This gives me reason to rate it **POSITIVE**.

I definitely believe that with positive evaluations of the other members of the Scientific Jury of the Doctoral thesis and its defense can be quite confidently awarded Assistant **Dimitrinka Stoilova Krusheva** the **Educational and Scientific Degree "Doctor (Doctor of Philosophy - Ph.D.)"** in: field of higher education: **6.0 Agricultural Sciences and Veterinary Medicine**; professional field: **6.1. Plant growing**; Scientific specialty: **"Plant growing"**.

Date: January 28th, 2021.
Plovdiv

Author of standpoint:
(Prof. Dr.Sci. D. Svetleva, Ph.D.)

