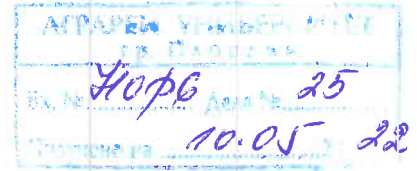


# STATEMENT



on dissertation work for obtaining the educational and scientific degree "Doctor" in: field of higher education 6. Agrarian sciences and veterinary medicine, professional field: 6.1 Crop science, scientific specialty: Crop science

**Author of the dissertation:** Radko Petrov Hristov part-time PhD student at the Department of Crop Science at the Agricultural University, Plovdiv.

**Thesis topic:** "Influence of some foliar treatment products on grain yield and quality in common wheat varieties".

**Reviewer:** Assoc. Prof. Dr. Vanya Atanasova Delibaltova, Agricultural University, Plovdiv. Crop Science Department, professional field: Crop science, scientific specialty: Crop science, appointed from the Rector of the Agricultural university as a member of the Scientific Jury with Order No. RD-16-263/14.03.2022.

## **Relevance of the problem.**

With modern technologies for cultivation of field crops, including wheat, the use of products that stimulate plant growth and development is becoming increasingly important. These compounds affect the plants by enhancing metabolism, activating the absorption of nutrients and promoting their redistribution in the organism. In this connection, the presented dissertation is not only relevant but also important for agriculture, because it gives an answer for the influence of plant stimulants on the productivity and quality of wheat varieties under different soil nutrition regime.

## **Purpose, tasks, hypotheses and methods of research.**

The purpose of the dissertation is clearly and precisely formulated and in order to achieve it four main tasks are indicated. In accordance with the stated purpose and tasks, three annual field experiments were conducted on the experimental base of the Crop Science Department at the Agricultural university of Plovdiv. Methodologically, the study is well-established. The examined factors and their levels are correctly indicated. In the study during the period 2016-2019 are included, four common wheat varieties, created in different breeding centers, two products for leaf treatment - applied alone and in combination in the end of tillering phase – stem starts to elongate of the plants. To achieve the purpose of the thesis a sufficient number of indicators have been selected and tracked. The working methods under field conditions, the agricultural technology of the field experiment, as well as the methods for statistical data processing are described in detail. It should be noted that the extent of the study carried out is quite large, conducted under field conditions and valuable from a practical and applied point of view. A detailed soil-climatic and agrometeorological analysis has

been made of the area where the experiment was conducted, as well as of the years of the research.

### **Visualization and presentation of the results obtained.**

The dissertation is written on 154 standard pages and includes 10 main sections, which in terms of volume, structure and balance between the separate parts fully meet the requirements for awarding the Doctoral degree. The results obtained are summarized and very well illustrated, by the skillful use of 49 tables, 4 figures, as well as 8 photographic material and show the ability of the PhD student to systematize scientific information.

### **Discussion of results and literature used.**

On the topic has been made a detailed and immersed literature review, outlining the views of a number of our and foreign researches on the described problem. There have been used 79 scientific publications, indicating that the PhD student is well informed about the variety specificity of triticale, the culture's response to various abiotic and biotic growing conditions, as well as the impact of various foliar treatment products on grain yield and quality in common wheat varieties.

Discussion of the results has been done consistently, competently and thoroughly, by interpreting the results in accordance with the current scientific advances in these field. In the discussion the PhD student skillfully opposes, compares and comments the results obtained on the basis of other authors' data. The dissertation work shows that the PhD student can carry out an independent field experimental work and correctly interpret the large amount of data obtained, and the used statistical methods increase the precision when evaluating the results.

### **Contributions to the thesis.**

The results obtained allow to form two groups of contributions:

#### **Scientific contributions**

The influence of Plantafol and Bombandier foliar treatment products on the growth and development of Enola, Annapurna, Ginra and Bilyana varieties has been established, as well as their impact on the structural elements of yield and productivity of the tested varieties of common wheat. The changes in the quality indicators of the grain (physical and chemical) of the varieties of common wheat Enola, Annapurna, Ginra and Bilyana were found under the influence of the tested foliar treatment products Plantafol and Bombandier.

#### **Scientific applied contributions**

The productivity of the common wheat varieties: Enola, Annapurna, Ginra and Bilyana was established under the influence of the independent and combined application of Plantafol and Bombandier. The positive effect of foliar treatment products has been proven, both in single and combined treatment on the studied indicators, the values of which are higher compared to untreated controls. The optimal combinations between the tested variety of common wheat and the applied products for foliar treatment Plantafol and Bombandier depending on its biological features and meteorological conditions during the vegetation period have been established. Under this cultivation regime, wheat cannot realize its genetic potential for gluten formation,

which changes the direction of production. The results of the study make it possible to apply the products for foliar treatment Plantafol and Bombandier in the technology for growing the tested varieties of common wheat: Enola, Annapurna, Ginra and Biliana.

### **Published articles and citations.**

Five publications directly related to the dissertation are attached, three of which are self-published and two are co-authored with the supervisor. The total number of points is 100 (30 points required), i.e. exceeding several times the minimum required for obtaining the educational and scientific Doctor degree in accordance with the Law for the Development of the Academic Staff.

No article citation has been submitted.

The presented self-report objectively reflects the structure and content of the dissertation.

### **CONCLUSION:**

On the basis of the various research methods, learned and applied from the PhD student, the correctly performed experiments, the summaries and the conclusions made, I consider, that the submitted dissertation meets the requirements of the Law for the Development of the Academic Staff of Republic Bulgaria and the Regulations of the Agricultural University for its application, which gives me a reason to evaluate it POSITIVE.

Taking into account the extensive experimental material, the originality of the results achieved and the importance of the scientific and scientific applied contributions in the dissertation, as well as the undoubted personal contribution of the PhD student, I dare to suggest to the venerable Scientific Jury also to vote positively and award Radko Petrov Hristov the educational and scientific degree „Doctor” in scientific specialty Crop Science.

**Date:** 07.04.2022  
Plovdiv

Подписите в този документ са заличени

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(Общ Регламент относно защитата на данни).