

STATEMENT

Regarding the competition for academic position Associate professor in the professional field of Plant Breeding, specialty Selection and Seed Production of Cultivated Plants, announced in the State Gazette no. 65 from 06.08.2021.

Statement prepared by: Assoc. Prof. Dr. Stanimir Bozhidarov Enchev, Agricultural Institute, Shumen. Field of higher education: Agricultural sciences and veterinary medicine, professional field 6.1. Plant breeding, scientific specialty "Selection and seed production of cultivated plants".

The statement has been prepared according to Regulation no.572/21.09.2021 from the Rector of Technical University – Varna.

A short presentation about the candidate:

Chief Assistant Professor Dr. Nadya Georgieva Daskalova is the only candidate in the announced competition for academic position Associate professor in Technical University – Varna.

She graduated from the Higher Agricultural Institute (Agricultural University) - Plovdiv in 1997 - "Master" in "Agricultural Engineering - Plant Protection". In the same year she acquired pedagogical qualification at the Free Faculty of Agricultural University.

Her scientific career began in 2011 as a teacher with laboratory exercises in disciplines involving the entire palette of plant science. In 2015 at the Agricultural Institute-Shumen she acquired the Educational and Scientific degree "Doctor" with the dissertation topic "Selection in synthetic wheat and hybrids to improve some selection traits".

She is fluent in written and spoken English. She has excellent computer skills in using Microsoft Office (Word, Excel, Power Point) and various statistical programs.

Description of the scientific production:

In the competition for academic position Associate professor, chief assist. Prof. Dr. Nadya Daskalova has presented 26 scientific papers and a chapter from a collective monograph. Thirteen (13) of the presented papers were published in journals indexed in the data bases of Web of Science and Scopus. The other thirteen (13) papers were published in journals with scientific editing. From the presented scientific papers, chief Assist. Prof Dr. Nadya Daskalova has published one independent paper, also is the leading author in 12 papers, second author in 8 papers, and third or following author in the rest. Most of the scientific papers were published in English.

The total number of citations is 11, and a significant part of them are in prestigious international journals.

The presented list of participation in research projects includes 11 at the Technical University of Varna and 2 at the Agricultural Academy.

The summary report shows that the candidate meets or significantly exceeds the minimum requirements for the academic position of Associate Professor.

Assessment of pedagogical training and activity

The pedagogical activity of Assistant Professor Dr. Nadya Daskalova dates back to 2011 in the Department of Plant Breeding at the Technical University of Varna as a lecturer of laboratory exercises for students obtaining their Bachelor's degree in Agronomy in the disciplines of Plant Breeding, Plant protection, Fruit growing, Viticulture, Selection and seed production of cultivated plants, Genetics and biotechnology, Phytopharmacy and Educational degree "Master" in the specialties "Seed production and plant protection" and "Production of sowing and planting material" in the disciplines "Production of seeds from cereals and fodder crops", "Good plant protection practices and principles of integrated pest management", "Plant quarantine" and "Forecasting and signaling".

From the reference for the study load of the candidate for the last 3 years it is evident that there is a significant amount of work in the subject "Phytopharmacy" among the students obtaining their Bachelor's and Master's degrees.

She led production practice in "Plant Protection", "Plant Breeding" and Production Internship.

She participated individually or in a team in the preparation of 4 textbooks and books.

Her pedagogical activity includes diploma design and conducting experiments on diploma theses, as 11 successful defenses of diplomas have been reported.

The curricula developed by Ch. Assistant Professor Dr. Daskalova are 6.

Main scientific and applied scientific contributions

➤ The main contributions of Ch. Assistant Professor Dr. Nadya Daskalova are associated with the enrichment of the gene pool of triticale, rye and wheat using the methods of remote and related hybridization, polyploidization, mutagenesis and embryo culture, backcrossing, selection and evaluation.

➤ Crossings of winter wheat with species of the *Aegilops* genus with different levels of seed germination were carried out, confirming the effectiveness of embryo rescue of hybrid embryos and the influence of pollinators (publication 1a and monograph).

➤ Successful crosses of common and durum wheat with rye samples were made. The highest ties were found for Severina's combination with 395 rye specimens. A confirmatory scientific contribution is the determination of the influence of abiotic factors and lethal embryogenesis for the low degree of cross-breeding (publications 4, 4a, monograph).

➤ The gene pool is enriched with the use of amphiploids. A method of polyploidization for hybrids for obtaining fertile offspring of amphiploids has been prepared and applied. Selection evaluation of germination, genetic stability, heredity coefficient and progress was performed using the genealogical method for obtaining amphiploid lines (publications 5, 2a, 3a, monograph).

➤ An original contribution is the use of crosses of amphiploids with wheat for selection of hybrid seeds with high germination and high efficiency in reciprocal combinations (publications 2a, 4, 9a).

➤ Evaluation by morphological features with selection value, cytogenetic analysis and disease resistance, biochemical analysis of reserve proteins of amphiploid lines of different origin (publications 5, 2, 6a, 7a, 8a, 11a, 1 3a, monograph).

➤ Octa and hexaploid primary triticales forms have been developed and evaluated for selection. The presence of the D genome in crosses with octaploid triticales opens up new possibilities for selection (monograph).

The applied contributions include the selected new lines:

- Common wheat lines were obtained from a cross of *Triticum aestivum* x *Aegilops variabilis* (publication 2).
- Common wheat lines were obtained with the participation of synthetic amphiploid 530 (publications 3, 6, 10a, monograph)
- Durum wheat lines with the participation of amphiploid 8 BAP (publications 7, monograph).
- Offspring of two-grained spelt with the participation of amphiploid 5BAP (publication 7, monograph).

Significance of contributions to science and practice

The significance of the contributions to science and practice is great. The gene pool for wheat and triticales is enriched. Modern scientific methods have been applied in the experimental activity with regard to remote kinship hybridization, polyploidization, mutagenesis and embryo cultures, backcross, selection, biochemical and cytogenetic evaluation and selection.

The created new lines and forms are a valuable starting point for the selection of wheat, rye and triticales.

My personal impressions of Chief Assistant Professor Dr. Nadya Daskalova, acquired mostly from the doctoral studies at the Agricultural Institute-Shumen are entirely positive. From the analysis of her scientific, applied and pedagogical activity, I believe that she is an established scientist and pedagogue in the field of Plant Science and in particular the selection and seed production of cultivated plants.

CONCLUSION:

Based on the analysis of the scientific, applied and pedagogical activity of the candidate, I consider that she meets the requirements of the law on the development of the academic staff in the Republic of Bulgaria and the Regulations for its application at the Technical University of Varna and I give a POSITIVE ASSESSMENT on the overall research activity.

I allow myself to propose to the Honorable Scientific Jury to also vote Ch. Assistant Professor Dr. Nadya Georgieva Daskalova to take the academic position of "Associate Professor" in the professional field 6.1 Plant Breeding, scientific specialty "Breeding and seed production of cultivated plants."

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Statement prepared by:
Assoc. Prof. Dr. Stanimir Enchev

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