

REVIEW

on the materials for participation in a competition for the academic position of "Associate Professor", Field of Higher Education: 6. Agricultural science and veterinary medicine, Professional Field: 6.1. Plant growing, Scientific Specialty „Vegetable growing“, Discipline „Vegetable growing“, announced by the University of Forestry in the State Gazette vol. 32/3.4.2020 r., procedure code AsP –0320-38 .

Candidates for the competition are:

Chief Assistant Professor Dr. Milena Hristova Yordanova

Reviewer: Slavka Prodanova Lukipudis, Prof. DSc, scientific specialty "Plant breeding and seed production of cultivated plants", Field 6. Agricultural Sciences and Veterinary Medicine, Professional Field 6.1. Plant growing,

1. Brief biographical data about the candidate

Ch. Assistant Professor Milena Hr. Yordanova was born on September 11, 1967 in the town of Kubrat, Razgrad region.

In 1985 she completed her secondary education obtaining the qualification "Operator in the furniture industry", specialty "Furniture making", in a high school in Kubrat.

During the period 1986-1992 she followed an MSc program in the Agricultural University, Plovdiv, specialty "Engineer-agronomist", studying and successfully passing exams in the main compulsory disciplines: vegetable growing, greenhouse vegetable growing, breeding and seed production of vegetable crops, fruit growing, viticulture, pomology, ampelography with basics of winemaking, floriculture, plant growing, phytopathology, entomology, agriculture, experimental methodology, statistics, agroecology, agrochemistry, soil science, microbiology, etc.

She graduated with a degree Engineer-agronomist from the Agricultural University of Plovdiv, majoring in Viticulture and Horticulture in 1992 (Diploma Series „A 90“ № 004684).

During the period 1995-1998, Ch. Assistant Professor Yordanova, graduated from Sofia University, majoring in Journalism and Mass Communications, studying courses in Sociology, Social Psychology, Public Relations, Persuasive Communication and Word Processing

In 2009, with a decision of the Higher Attestation Commission she acquired the educational and scientific degree "Doctor" (Diploma №33307/15.06.2009), in the scientific specialty 04.01.16 "Vegetable growing" on the basis of a defended dissertation on the topic „Biological studies of effects of using mulches in growing of broccoli - *Brassica oleracea* var. *italica* Plenck.” (Decision of the Scientific Commission 10, with Protocol №5 dated 14.04.2009).

The entire career of the candidate is in the Faculty of Agronomy of the University of Forestry (UF), as follows: during the period 1999 - 2003 Yordanova worked as an assistant, from 2003 to 2007 she was a senior assistant, and from 25.10.2007 to the present moment, for 13 years, in her capacity of Ch. Assistant Professor Dr. M. Yordanova has been active in teaching theoretical courses and providing practical training to students by conducting lecture courses, seminars and labs, supervising students in developing coursework and theses, developing and publishing teaching materials (*textbooks, handbooks, manuals, etc.*), editing scientific publications and etc.

The participation of Ch. Assistant Professor Dr. M. Yordanova in research projects and public presentation of their results by organizing and participating in scientific forums increase her experience, knowledge, competence and ability for quality training of students in the main disciplines Vegetable growing and Agrochemistry.

Her educational activities and the training confirm the high qualification degree and abilities of the candidate for holding the academic position "Associate Professor".

She passed a total of 16 training courses in various fields of study (during the period 2004-2020), of which 10 (62.5%) in 2014, which is the most intensive period for the acquisition of new knowledge and the acquisition of new skills necessary for the scientific growth of the candidate.

Ch. Assistant Professor Dr. M. Yordanova is the main instructor of the disciplines "Vegetable growing", "Mushroom growing", "Greenhouse vegetable growing", "Rare vegetable crops", "Introduction to Organic Agriculture", "Technology in vegetable growing", where she proves her qualities as an effective and competent teacher.

Dr. M. Yordanova is a member of the General Assembly of the University of Forestry, a member of the General Assembly of the Faculty of Agronomy and a member of the Faculty Council of the Faculty of Agronomy. She is a member of I.S.L.E Association and of the International Society for Horticultural Science (ISHS)

2 Compliance of the submitted documents and materials of the candidate with the requirements according to the Regulations of Academic Staff Development (RASD) at the University of Forestry (UF);

The application form filled by the candidate for the academic position "Associate Professor", with registration number and date of submission KD 3040/1.6.2020 to the Rector of UF (address) presents the necessary supporting documents, precisely prepared and arranged (according to the list), in accordance with the requirements of RASD at the University of Forestry, Sofia.

These include: a CV (European model), copies certified by a notary of the Diploma for completed higher education (Diploma Series "A 90" № 004684) and acquired educational and scientific degree "Doctor" (Diploma № 33307/15.06.2009).

Also submitted are documents for an academic position (from October 26, 1999 until the moment of submitting the application for participation in this competition), medical certificate (dated 11.05.2020) and criminal record certificate (dated 12.05.2020), with confirmation from the Sofia District Court for lack of court proceedings for the person.

An Employer's Note № UP 2693/15.05.2020 certifies that Ch. Assistant Professor Dr. M. Yordanova holds her consecutive academic positions from 26.10.1999 to 13.05.2020 in the Department of Agronomy, Faculty of Agronomy, at the University of Forestry – Sofia, with a total length of employment of 20 years, 6 months and 18 days, which gives her the right to participate in the current competition for the academic position of "Associate Professor" at the same University.

3. Assessment of the teaching activity of the candidate

The main activity carried out by Ch. Assistant Professor Dr. M. Yordanova since she started working at the university has been teaching. Due to her responsible attitude and strict performance of her official duties, she successfully and fully deserves the received successive educational and scientific titles and degrees. (*assistant, senior assistant, ch. assistant and doctor*). This gives her the right to participate in the announced competition for the academic position of "Associate Professor" at the university, where she has been working for nearly 21 years.

The Employer's Note (№ AF-2652-1/14.05.2020) issued by the administrative bodies of the University proves (together with the data sheet) her auditorium and extra-auditorium activity (by year), during the academic years for the period from 2015/2016 to 2019/2020.

The document certifies the academic disciplines in which the candidate has taught classes (lectures and labs) with students (full-time and part-time) from both degree programs (bachelor's and master's) in the specialties "Agronomy" and "Plant Protection".

Ch. Assistant Professor Dr. M. Yordanova has taught students in the disciplines "Vegetable growing", "Mushroom growing", "Greenhouse vegetable growing", "Rare vegetable crops", "Introduction to Organic Agriculture", "Technology in vegetable growing".

The candidate performs her auditorium activity by conducting teaching in the scheduled academic hours.

The data sheet shows an increasing excess of the required hours (360 academic hours) during the five years under consideration (during the period from 2015/2016 to 2019/2020).

The average annual workload with academic hours (568.7 hours) exceeds 1.5 times (157.92%) the required workload of this category of specialists (chief and senior assistant).

In the last year, the workload increased by one third of hours compared to the beginning of the period. And while the first three years, this workload changed slightly, in the last two years (2018/2019 and 2019/2020) the total workload with auditorium and extra-auditorium hours almost doubled (169.2 to 186.9%).

The actual extra-auditorium workload of the candidate is much more intense than at the beginning of the period. This is also confirmed by the 13 graduates who successfully defended their theses and the 14 reviews for evaluation of successfully defended theses, which account for 2.6 graduates and 2.8 reviews per academic year. Taking into account the fact that the supervision of graduates and the evaluation of diploma theses through a review is just as an important and responsible activity (6.4 per year), I personally give a very high assessment of the teaching activities of Ch. Assistant Professor Dr. M. Yordanova.

Considering also the feedback from students who have been taught trained (in previous years), the highly evaluated performance is well-deserved.

4. Evaluation of the scientific, scientific-applied and publishing activity of the candidate

The scientific production of Ch. Assistant Professor Dr. M. Yordanova consists of 38 scientific publications of which: • **monograph - 1, on the topic "Composting of vegetable waste". Sofia. Intel Entrance. 2020. ISBN 978-619-7554-08-3. Reviewers: Prof. Dr. Maya Nustorova and Assoc. Prof. Dr. Ekaterina Todorova;** • - a university textbook published (*in 2015*); and • university handbooks (*2 in 2008 and 2012*); • **34 scientific articles and papers.**

Regarding the two scientific publications (in 2006 and 2007) related to her dissertation research, the candidate is the first author of the scientific team.

Of the scientific production - articles and papers (34 in number) - 89.5%, are published in scientific journals referenced and indexed in scientific sources.

Publications in worldwide databases with scientific information account for 32.4% (11 in number), and two thirds of the scientific publications (23) or 67.6% are published in non-refereed journals with scientific review.

An equal share (50% each) have the scientific papers published in Bulgarian (19) and in a foreign language, mainly English (19).

The scientific publications in which the candidate participates independently (6) and as the first author (11) prevail, i.e. 17 - 44.7%, which exceeds the publications as a second author (15 - 39.5%); this shows pronounced determination in carrying out research activities - 32 = 84.2%, providing appropriate information and experimental data for processing and publishing in scientific publications.

4.1. Participation in scientific, applied and educational projects

The document from the Center for Research and Development of the University of Forestry, № 2514/05.05.2020 certifies the participation of Ch. Assistant Professor Dr. M. Yordanova as a member of the research team for the implementation of a total of 10 research projects in the period 2008 – 2020, for 12 years. All research projects are funded by Bulgarian scientific organizations, mainly by the University of Forestry, Sofia.

The thematic orientation of the research projects is specifically professionally oriented, mainly in the field of production of agricultural products under non-traditional conditions, exploring the possibilities of using biochar and different types of compost, projects on the movement of nitrates in the soil, on the influence of biotic and abiotic stress factors, as well as on the study of energy and water saving technologies for the production of competitive agricultural products depending on the application of good practices in plant nutrition. The bioenergy potential of non-traditional plant (vegetable) species has been

studied, as well as the influence of soil types on the agrochemical properties of the soil in the cultivation of vegetable species (broccoli - late field production).

One of the research projects with international participation and co-financing from the International Institute of Plant Nutrition for testing good practices for sustainable management of crop nutrition in Bulgaria. One of the projects is ongoing - until the end of 2020.

4.2 Characteristics of the published scientific results

Most active publishing activity Ch. Assistant Professor Dr. M. Yordanova demonstrated in the period 2017 - 2019 - a total of 18 scientific papers (6 papers per year) which is 47.4%, i.e. almost half of the scientific output. This shows an increasing in the professional experience in terms of precision in research and analysis of experimental results.

The experimental results were obtained from methodologically correct field experiments, according to the requirements of their specific methodology (by Shanin). The indicators for observations and for reporting the results have been determined appropriately and purposefully. Optimal conditions of research are provided according to the biological requirements of the plants for growth and development, and the conditions required for production yield in accordance with their productive potential. The survey of all indicators and crops was conducted over a period of two to three years (for field trials), which guarantees reliable results as it covers a longer period of time, with different climatic conditions influencing the components of the productivity obtained, i.e. the yield as a final result of the research which is affected by all plant growth conditions.

The analyses of the obtained results from the research are performed taking into account the specifics of the tested agricultural crop and the studied indicators.

The data are processed mathematically by the method of analysis of variance to prove the reliability of the results, their accuracy and precision in the experimental activity.

4.3. Impact of scientific activity of the candidate in literature (citation)

The citation of the scientific production (in Bulgaria and abroad) is an indicator of the value of the scientific research which is of interest and has the potential for being applied under other conditions different from the area of the conducted research.

In scientific, international sources, there are 15 citations of 5 scientific publications of the candidate. It is noteworthy that the recent studies (2015-2018) and their results are of interest to the international scientific community, and the citations are mainly in the period 2018-2020 - 10 citations = 66.7%.

There is a clearly defined tendency for constant increase of the interest, i.e. the citation rate from 13.3% (in 2010-2011) to 21.0% (2014) to reach 66.7% (10 in the period 2018-2020), i.e. 5 times higher at the end of the 10-year period.

The results of the citations, and especially the rate of their growth, are a very good sign for the scientific growth of Ch. Assistant Professor Dr. M. Yordanova, whose competitiveness is increasing progressively and proves her high value as a scientist and lecturer.

4.4. Contributions in the works of the candidate (scientific, scientific-applied, applied)

Based on the complex study of vegetable waste generated under different conditions, the scientific contributions can be formulated as follows: ● hypothesis on the possibility of aerobic composting of vegetable crops (3.1); ● the influence of various factors on the duration of the active phase of composting, their interaction, the strength of their impact, the use of mixture by studying its influence on the degree of weeding and on the yield of vegetable crops. (8,13); ● the influence of the main factors was established: the C / N ratio in the starting materials, the volume of the compost material, the temperature optimum in the thermophilic phase. [3.1], the frequency of inversion of the layer and the duration of the active period; ● the resistance to biotic and abiotic stress factors has been established (7.2; 8.5; 8.6; 8.9) of the studied varieties of lettuce of the Batavia type; ● the importance of organic mulching materials (mushroom compost - SMC, barley straw - BS, grass - GW), for maintaining moderate soil temperature and protection of the soil from overheating, studying soil temperature in depth (7.8; 8.10; 8.18). **Scientific and applied contributions can be formulated as**

follows: ●● establishing the possibility for composting of frostbitten vegetable waste (six compost piles were built: three piles of vegetable waste and three other which exclude vegetable waste (3.1), temperature range ($C / N < 20$) for active composting, as well as the good characteristics and disadvantages of compost); ●● the positive influence of organic soil coverings (mulches) on the suppression of a number of weeds has been proven (*Echinochloa crus-galli* L, *Setaria glauca* L, *Galinsoga parviflora*, *Polygonum lapatifolium* L, *Portulaca fleraceae* L) developing in the agroecosystems of different vegetable species (leek, variety *Bulgarian giant*). (7.1; 7.9; 8.8; 8.19), increase in yields (up to 3.7 to 4 times) when mulching (7.1; 7.9; 8.8; 8.13; 8.19), reducing the number of treatments and minimizing them, increasing the microbiological activity of the soil, which leads to increased soil fertility, and proves the effectiveness of mulching (8.22).

●● It has been established that the application of biochar has an impact on the water-physical and chemical properties of the soil, leading to an increase in soil pH (7.4; 8.1; 8.2) and on the physiological processes in the plants - the amount of individual pollen and the visit of the bees to the plants (7.7; 7.10; 8.1; 8.2; 8.4); ●● the efficacy in the use of soil herbicides - oxyfluorfen and a combination of oxyfluorfen + S-metolachlor (8.12; 8.14; 8.16); ●● the positive results in growing the so-called. energy crops for biofuels - beetroot, *Beta vulgaris* L, *ssp vulgaris* var. *confitiva* Alfer (8.20; 8.21), as well as ●● the application of small-scale composting in small mixed farms, using different bioindicators - the structure of nematode communities to establish the stages of compost development. The effect on soil microorganisms has been established depending on the method of application (7.3; 7.5; 7.6; 7.11; 8.7; 8.11).

Applied contributions –●●● the interrelation between the individual factors and their influence on the composting processes have been established (3.1) due to the alkaline pH of the compost from frostbitten vegetable waste (3.1); ●●● the influence of various mulching materials obtained from waste materials from organic farming (barley straw, well-rotted horse manure, sawdust from walnut, grass) on the soil temperature has been established (7.8; 8.8; 8.9; 8.10), as well as their influence on the reduction of the risk of secondary annual monocotyledonous and dicotyledonous weeds (7.1; 7.9; 8.8; 8.19)

It is recommended that the regulation of irrigation norms be carried out according to the meteorological conditions (8.15; 8.17). The importance of vegetable species in gardening in the urban environment has been established (in Sofia) (8.3), as well as the state of organic farming and the problems facing organic vegetable production in the early 20th century. (8.3)

5. Assessment of the candidate's personal contribution

The fulfillment of the Criteria for the academic position "Associate Professor" show the qualities and personal contributions of the candidate Ch. Assistant Professor Dr. M. Yordanova. The analysis of the submitted documents is an evidence of the qualities of the candidate as a lecturer and fully confirms her personal contribution to her development as a valuable specialist and lecturer: - her constant professional growth (the acquired educational-scientific titles and degrees, - the duration of the work experience in the Higher School (where she has started her career), - the disciplines taught to students, - the progressively increasing auditorium and extra-auditorium activity over the years.

An excellent impression brings her overall teaching and research activity, the results of which are reflected in the scientific studies, as well as their publication in national and foreign scientific sources, - the reaction of the international scientific community (citations) is indicative, - her participation in the development and implementation of scientific projects, - curriculum development, graduate students supervision, academic mentoring to students, - development of reviews, - the issued certificates, as well as the availability of communication and organizational skills. All of the above make Ch. Assistant Professor Dr. M. Yordanova a high-ranking specialist with a good future for development in the scientific field.

Her membership in our governing bodies demonstrates her public responsibility, and her participation in international organizations (ISLE member, ISHS member) increases the authority and competitiveness of the Faculty of Agriculture of the University of Forestry.

CRITERIA for assuming the academic position of "Associate Professor" (according to the Development of Academic Staff in the Republic of Bulgaria Act (DASRBA), the Regulations on the Application of the Development of Academic Staff in the Republic of Bulgaria Act (RADASRBA) and Regulations of Academic Staff Development (RASD) at the University of Forestry (UF)

INDICATORS Announced competition in SG no. 32 / 03.04.2020 / code.ASP-0320-38 Application.01.06.2020		Criteria for "Associate Professor "	Ch. Assistant Professor Milena Hristova Yordanova, PhD
Science degree (of the Higher Attestation Commission)		PhD	2009 (Diplom №33307/15.06.2009
Scientific title, scientific degree - academic position		Assistant, S. assistant Ch. assistant	UF – 26.10.1999 – 2003 UF – 25.04.2003 – 2007 UF - от 25.10.2007 – 2020
Teaching activity - service. note UP № 2688 /15.05.2020 - general teaching experience		--	20 years, 6 months and 18 days
Teaching activities - № /15.05.2020 - by Service. Note № AF.2652 N 1 dated 14.05.2020. annual average - 568.7 academic hours = 157.97%		Required 360 academic hours	2015-2016 – 525 - 145.8 % 2016-2017 - 506 - 140.5 % 2017-2018 - 531 - 147.5 % 2018-2019 – 609 - 169.2 % 2019-2020 - 673 - 186.9%
Disciplines taught in bachelor's and master's degree programs, full- and part-time study, and preparatory courses in master's degree program		"Vegetable growing", "Greenhouse vegetable growing", "Rare vegetable crops", "Mushroom growing", "Introduction to Organic Agriculture", "Technology in vegetable growing "	
A1. Dissertation for "doctor"		50	50 = 100.00
C.5. Published Monograph (vegetable production)		100	100 = 100.00
D.7. Scientific articles in Nation. editions - referenced		30 -150 p	116.0 = 77.3 %
D.8. - unreferred		10 – 50 p	116.42 = 232.8 %
		TOTAL 200	total 232.42= 116.2%
E.13. Citation - in national scientific sources - in international scientific sources		total 50 points	180 =
Six scientific papers - 15 citations			20 =
			= 4 times more
F.18. Participation in national research projects		15 points	150.0 - 10 times more
F.19. participation in international scientific education. projects		20 points	20.0 - 100.00
F.22. Published University textbooks		40 points	8.0
F.23. Publishing textbooks		20 points	11.7
FOR THE SECTION TOTAL - Total points in connection with the "Associate Professor" competition		95. points 470	189.70 = 255.5% 772.12 points = 164.3 %
Supervision of Graduates		-	13 students
Academic mentor "Student internships"		-	6 students
Reviews for successfully defended diploma theses			14
Developed scientific and innovative training programs (vegetable growing, rare vegetable crops, Introduction to organic vegetable production); Methods for distance learning in mushroom growing		2017 - 3 curricula For Plant Protection degree program - 2017 - 2 curricula Agronomy degree program 2017 - mushroom production Horticulture and Viticulture Master degree- 2019 - 1 curriculum	
- average per year (14 years of publication activity - 2005-2019) - Participation in scientific forums in Bulgaria and abroad (2005-2019 annual average (for a 14-year period), number / year		2.71 publications/ scientific 2.71 scientific publications Over 20 publications 1.4publications / year	
- Published textbooks / teaching aids (UF, Sofia)		1+ 2.	3. – in vegetable growing
Participation in research projects including . funded by external organizations		-	12 .
Issued certificates for excellent performance in university and international activities		-	2 .
Communication, organizational, professional and digital skills and competencies		14 including. 10 from the UF; 4 from foreign organizations.	
Membership in authoritative professional organizations (in scientific councils; scientific jury		Very good. Excellent computer skills, incl. for e-learning	
Member of the General Assembly of the UF; member of the General Assembly of the Faculty of Agronomy; member of the Faculty Council of FA; ISLE member; member of ISHS.			

6. Critical remarks and recommendations –

I have no critical remarks concerning the candidate's participation in the competition.

I congratulate her on the precision in the preparation, arrangement and presentation of the documentation for participation in the competition..

My recommendation to Ch. Assistant Professor Milena Yordanova, PhD, is to continue working for the degree of Doctor of Agricultural Sciences because I believe that she has the potential and diligence to achieve it.

7. Personal impressions

My personal impressions of Ch. Assistant Professor Dr. M. Yordanova date back from my employment as a lecturer at the Faculty of Agriculture. I have always been impressed by Milena's modesty and diligence. Her integrity in her relations with her colleagues, as well as towards the students, the strict fulfillment of her duties due to the perfect mastery of the material taught do not go unnoticed.

8. Conclusion

Based on the acquaintance with the documents provided to me in connection with the competition and their detailed analysis, confirming the scientific and scientific-applied activity of the candidate,

I PROPOSE that **the candidate** Ch. assist. prof. Dr. Milena Yordanova **be approve to assume the academic position** "Associate Professor" in the discipline „Vegetable growing“ of Professional Field 6.1. Plant growing, in the Department of Agronomy at the Faculty of Agronomy at the University of Forestry, Sofia

Reviewer's signature



Review submitted: 9.7.2020 r.