

110 YEARS SINCE THE BIRTH OF PROFESSOR GENCHO GENCHEV (02 SEPTEMBER 1906 – 25 NOVEMBER 1989)

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Summary: The subject of this article is the overall activity of Prof. G. Genchev who, along with Prof. Michael Hristov and Acad. Dontcho Kostoff, is one of the three founders of the genetic science in Bulgaria. Also, it is to Prof. Genchev that the Bulgarian genetics owes its survival during the dark period of “Lyssenkoism” (1949–1965) and the overcoming of the scientific backwardness that followed the above period. Prof. Genchev was alone against the rest. He would assert his truthful stand with incredible efforts and dedication, with staunchness and scientific arguments since, he put it, “TRUTH IN SCIENCE IS SACRED”. His scientific activity is manifested in over 60 works published, along with 6 books and 6 textbooks. He is the author of

many informative popular and publicistic articles. An outstanding pedagogue and lecturer as he was, he would teach Genetics and Breeding in the course of 40 years to dozens of streams of graduates in agronomy, as well as to several streams of graduates in biology and medicine at the same time. On various occasions, he delivered lectures on issues from the above courses of studies that were attended with the greatest of interest by numerous specialists throughout the country.

Keywords: Genetics; Breeding; Lyssenkoism.

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Professor Dr Gencho Zhelev Genchev was born in Sofia, where he finished high school. Then, in 1929 he took a degree in agronomy at the Faculty of Agriculture and Silviculture at Sofia University “St Kliment Ohridski”.

G. Genchev began his professional career as a trainee at the mobile farming department in Sofia. Then, within a short period of time (1930 - 1933), he was employed at various locations in the countryside.

He was “initiated” to science on the 16th January 1933 as an assistant professor to Prof. Mihail Hristov, the first Bulgarian geneticist who was renowned in this country and abroad. G. Genchev worked for the Department of Private Farming (later called Plant-Growing) at the Faculty, which was headed by Prof. Ivan Ivanov. In 1936, he took a PhD degree defending a dissertation entitled “Experimental and Karyological Investigation of the Interrelationship

within the Genus *Dianthus*". In 1938, he attained the academic rank of associate professor.

In 1939-1940, Assoc. Prof. Genchev was sent on a long-term specialization to Sweden, one of the leading countries in the area of genetics, to the world renowned geneticist Prof. Ake Gustafsson. There, along with the topics he was concerned with while in his native country, he took to new issues in partnership with Prof. Gustafsson. In co-authorship with the professor, he published in the prestigious scientific journals of *Hereditas* and *Botanica Notiser*.

Having returned from his specialization, G. Genchev was promoted to the academic rank of professor /1942/. Up until 1937, the subjects of Genetics and Breeding, as well as of Farming Botany had been included within the curricula of the Department of Private Farming and lectures in those subjects had been read by Prof. M. Hristov. It was only in 1945 that a separate Department of Genetics and Cytology was established that was headed by Prof. G. Genchev up until 1946, when Prof. Dontcho Kostoff a scientist renowned in this country and abroad, returned from the USSR. He became the Head of Department and the department itself was renamed into that of Darwinism, Genetics, and Breeding. Prof G. Genchev continued delivering the lectures in genetics, while Prof D. Kostoff prepared a course of lectures in the new subject of Evolution with Fundamentals in Breeding. In 1947, Prof. Genchev published a new textbook in genetics that was exceedingly profound, scientifically up-to-date, and whose reference list of over 500 works from all over the world gave it the characteristics of a work of

scientific value.

Up to 1942, Prof. Genchev worked exclusively in the field of cytology, cytogenetics, and karyology along various types of line given by Prof M. Hristov. Later he re-oriented focusing on genetic and breeding issues with tobacco, barley, and maize. He published theoretical works as well as such based on practical experiment and some of those have retained their topicality to these days.

His intensive work that was mainly concerned with breeding was discontinued after the so called "Conference in Biology" of 1949. The result of the conference was that the biological science was completely routed and lay "buried" for 16 long years and it took at least a further 16 years to overcome the effects. The conference was in fact an echo of the notorious August session of VASHNIL /or the All-Union Academy of Agricultural Science named after Lenin/ in the USSR in 1948. The conference condemned the first Bulgarian geneticists Prof. M. Hristov, Acad. D. Kostoff and Prof. G. Genchev as "idealists", "Weissman"-Morganists", "Mendel-Morganists", and the like. By concurrence of circumstances, Prof. Genchev was the only one remaining alive: after a humiliating self-criticism. Prof. Hristov ceased working on genetical issues, and Acad. Kostoff died shortly after (on 9th August 1949), having sent a written stands at the conference of that event.

Following the advice by Acad. N. Stoyanov, Prof. G. Genchev came out with a corrected position that was originally scathing. Imposed as he had been to produce a self-critical statement,

not only did he not give up on his stand, but he skillfully defended his views on the gene as the elementary carrier of heredity. Then he made a promise to work in conformity with the new “theory”. Prior to the conference, he had already offered the Faculty Council to remove his textbook “Genetics” from the curriculum.

The consequences of the act of imposing “Michurns teaching”, a doctrine that was later termed “Lyssenkoism” in the USSR and in Bulgaria after the name of its creator T. D. Lyssenko, were dismal. They were a complete failure in education, in research work, and in the economy of this country.

In the field of education “Lyssenkoism” affected Prof. G. Genchev directly, since he was the only one who remained alive to oppose the “teaching”. After the conference he initially delivered the lectures in genetics alone, but later, with the differentiation of various courses of studies /departments/ within the faculty, those were distributed among three lecturers. Lectures in Genetics for the course of studies in Genetics and Breeding were delivered by Acad. Raina Georgieva. Lectures for the courses of studies in Crop-Raising and in Agro-Economy were delivered by Prof. G. Genchev, and those for the course of studies in Plant Protection - by assistant professor Yanko Enchev who was promoted to the position of a lecturer. Lectures in Breeding and Seed Production were delivered by Prof. G. Genchev.

As a lecturer, Prof. G. Genchev did not take “Lyssenkoism indiscriminately. Instead, he attempted to find a grain of reason in it, to affiliate it with the genetical science he had been teaching so far. Acad. R. Georgieva and Y. Enchev, however,

were both orthodox Lyssenkoists and they trained students who attended Prof. G. Genchev’s next year course in Breeding totally ill-versed and unprepared in Genetics. This gave rise to lack of coordination in the subject matter in Genetics that was taught by Georgieva and Enchev, on the one hand, and what was taught in Breeding, on the other hand. The outcome was the unleashed incessant arguments which, in the course of time, lead to the constant criticism of Prof. Genchev on the part of various institutions from the bottom to the top level ranging from the Departmental Council to a ministry. On various occasions, the press abounded in materials written by specialists and philosophers regarding Prof Genchev’s “mistakes”. He himself asserted his truthful stand in genetics with persevering bravery, with competence, and with exceeding dignity, conscientiousness and propriety. All those features have been accurately substantiated in his articles, reports, and presentations, as well as in works of writing by his opponents, most of which have been preserved in his personal archives (M. Spirova, 2010).

Regardless of the fact that Prof Genchev himself removed his own textbook in Genetics of 1947 from the list of teaching materials, it kept being criticised on a regular basis. Such was the fate of his new textbooks in Breeding that were written in order to meet the new scientific demands (G. Genchev 1959; G. Genchev, Il. Vuzvuzov, 1963). Here, too, due to his adherence to principle, he didn’t compromise with truth, which he said was “sacred”. Prof. Genchev’s research activities after the conference revealed a personality that was equally adherent to principle, consistent, and unyielding. His

major works during this period focused on issues of methods (G. Genchev 1956, 1958, 1960; G. Genchev, Em. Markov, 1957, 1960). He was also involved in writing in the field of scientific criticism (G. Genchev, 1960) and regarding the relationship between biology and philosophy (G. Genchev, 1961, 1962). Based on his experimental practices, he produced some comprehensive works concerning the mutability of organisms (G. Genchev 1958, 1960).

Along with his research works, during this period Prof. Genchev published a number of popular and publicistic articles on topical issues in the daily newspapers.

After 16 years of obscurity in Bulgarian genetics, an end was put to Michurin's "pseudo-teaching", or rather to "Lyssenko's doctrine". This was achieved after a mass, heated discussion whereby university lectures, scientists in the field of biology and applied biology, philosophers, and students participate. The discussion was held in April 1965 within what was functioning then as the "Course of Lectures on Contemporary Issues in Biology" at the Higher Institute of Agriculture in Sofia. That discussion followed the twist in the field of genetics that preceded the turn in the USSR.

There Prof. Genchev delivered a substantial, convincing report, as did Acad. R. Georgieva; Prof. Genchev's report was the one that gained the upper hand in terms of discernible approval.

After 1965, Prof. Genchev was rehabilitated though not entirely: he was not reinstated to the position of Head of Department of Genetics that had meanwhile turned into the Department of Genetics and Breeding. This fact reflected the deep-rooted negative attitude to him

during the period of "Lyssenkoism". 1966 saw the nomination of Prof. Genchev for election as a corresponding member in genetics at the Bulgarian Academy of Sciences but the Academic Council rejected it. Later during the same year, another nomination of his was put up by the Institute of the Maize in Knezha and supported by other institutes and by the Scientific and Technical Society of Agricultural Specialists; yet that, too, was rejected due to a negative review, written by Acad. R. Georgieva.

The attitude of the scientific community to Prof. Genchev, however, was contrary to Acad. R. Georgieva's. A number of institutes at the Academy of Agricultural Sciences throughout the country welcomed him warmly as a member of their scientific councils. He also took an active part in the working out of joint tasks. He was the most desired reviewer of post-graduate and doctoral dissertations, of research works qualifying for academic degrees, etc. He was often invited to deliver reports to specialists. He was also the regular consultant to research associates from all over the country. Besides, he kept delivering lectures at the Faculty of Biology, both prior the discussion (1953, 1962, 1963) and after it (1971-1972).

The scientific circles from abroad, too, presented their deepest respects to Prof. Genchev. An impressive number of letters have been preserved from prestigious institutes and academies inviting him to participate and contribute in scientific events.

After the twist in the field of genetics, Prof. Genchev flung himself into an intensive scientific activity. He began by writing several informative works on

genetic issues whereby he discussed the state and development of this science during the period of “Lyssenko’s doctrine”. These writings were an important part in the process of completing the education of those specialists who had been offered unsatisfactory education leading to lame knowledge during “Lyssenkoism”. Then, with a remarkable impetus, he undertook scientific activities in several new spheres outlining two in particular: first, the genetic bases of cancerogenesis and opportunities for using the plant as a model object in oncogenesis; and second, the relationship and interaction between the biological and the social aspect and how those two affect human development and the personality formation. Furthermore, he focused on the heterosis and its use, on the induction of mutations in plants, on heritable and non-heritable categories of variability, etc., issuing a series of publications on these topics. The result of Prof. Genchev’s breeding activities was the SAF-1 variety of rye. He also published one more textbook in genetics whose co-author was Ya. Enchev (1988) but it was subjected to serious criticism on the part of certain geneticists.

Prof. Genchev was member of the editorial board of the “Genetics and Breeding” journal for almost 10 years (1978-1987). He was also the regular consultant to the “Zemizdat” publishing house.

Prof. Genchev’s entire pedagogical, scientific and creative activities, and in particular, his militant work for establishing the truth in science have secured him a well-deserved place in the pantheon of science and have provided the future generations with the highest standard of a devoted scientist.

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EDITORIAL REMARKS

The paper of Assoc. Prof. M. Spirova devoted to the 110th anniversary since the birth of Prof. G. Genchev contributes to the better understanding of the domination of “Lyssenkoism” over the classical genetics in Bulgaria during the dark period between the August Session of USSR Academy of Agricultural Sciences (1948), the Biological Conference in Sofia (1949), and the rehabilitation of genetics in our country starting in 1965.

Prof. Genchev was standing alone

against all to defend the principles of genetics as a science fully negated during this period. His difficult way exemplifies the absurdity of that times when the existence of genes was denied, the classical genetics proclaimed as “reactionary”, and its adherents labeled as enemies of people. The absurdity to be full, those times overlapped with the greatest discovery of the molecular biology – the discovery of the double helicoidal structure of DNA!

/ Prof. D.Sci. Aglika Edreva/