

## 110<sup>th</sup> ANNIVERSARY OF PROF. HRISTO DASKALOV – MEMBER OF THE BULGARIAN ACADEMY OF SCIENCES

*Danailov Zh. P.*

*Institute of Plant Physiology and Genetics, Bulgarian Academy of Sciences, Acad. G. Bonchev Street, Bldg. 21, 1113 Sofia, Bulgaria*

Accepted: 21 October 2014

**Citation:** Danailov Zh. P., 2014. 110<sup>th</sup> Anniversary of Prof. Hristo Daskalov – Member of the Bulgarian Academy of Sciences. *Genetics and Plant Physiology*, Conference “Plant Physiology and Genetics – Achievements and Challenges”, 24-26 September 2014, Sofia, Bulgaria, Special Issue (Part 1), 4(1–2): 126–128.



vegetable growing.

He was born on 18.02.1903 in Vaglevzi village, Veliko Tarnovo region, in a public-spirited family of teachers. He graduated elementary school in Mindia village, and later secondary school (1917-1921) in Veliko Tarnovo. After spending a year as a medical student in Bucharest, he felt drawn to agrobiological science and continued his education at the Martin Luter University, Hale, Germany (1923-1926), where he received his MSc degree in agronomy.

Coming back to Bulgaria, Dr. Daskalov started his career as an agronomist-trainee in Veliko Tarnovo, but soon after that

during the period 1927-1928 he became a head of the Experimental Station “Obraztsov chiflik”, near Ruse (now Institute of Agriculture and Seed science), where he worked also as a teacher. In 1929 he went on training in Svalöf Institute for Plant Breeding, Sweden and Biological Institute of Daalem near Berlin, Germany. In 1930 he became a Director of the Experimental Station in Knezha (now Maize Research Institute); in 1931 - Head of Department “Wheat Breeding” at the Experimental Station in Sadovo (now Institute for Plant Genetic Resources). In 1932 he was appointed as a Director of the Experimental Station for Vegetables and Rice (now Maritsa Vegetable Crops Research Institute), where he worked for fifteen years till 1946. During this time he was dedicated mainly to vegetable crops – genetics, breeding and growing, and here he realized remarkable achievements. This period is considered most fruitful in his career.

In 1946 he was promoted Professor and

Head of Department “Vegetable growing” at the Faculty of Agronomy, Plovdiv University (now Plovdiv University “Paisii Hilendarski”). In 1948 he was elected as Rector of the same University and from 1950 up to 1952 he was the first Rector of the newly established Institute of Agriculture in Plovdiv (now Agricultural University). He put great effort, talent and leadership in the establishment of this institution.

In 1952 Prof. Daskalov was appointed as Director of the Institute of Plant Growing at the Bulgarian Academy of Sciences (BAS) in Sofia. In 1961 the Institute of Plant Growing was transferred to the newly established Academy of Agricultural Sciences (AAS) and in 1966 it was named Institute of Plant Genetics and Breeding. After AAS ceased to exist in 1976 the Institute of Plant Genetics and Breeding was transferred to BAS as Institute of Genetics. In the course of 25 years (1952-1977), as its Director, Acad. Daskalov made his greatest contribution to the development of the Institute as one of the leading centers in agrobiological sciences not only in Bulgaria but also abroad. In 1987 the Institute of Genetics was named “Acad. Doncho Kostoff Institute of Genetics” in memoriam of the world-known Bulgarian scientist. In 2010 it merged with the Plant Physiology Institute to become today’s Institute of Plant Physiology and Genetics at BAS, Sofia.

In 1947 Acad. Daskalov was elected as Corresponding member of BAS. In 1952 he became full member of BAS; 1955-1959 – Scientific secretary of the Section of Agricultural Sciences, BAS; 1966-1972 – President of AAS; 1972-1982 – Vice-president of BAS.

The most significant and permanent scientific interests of Acad. Daskalov were focused mainly on explaining and utilizing the phenomenon “heterosis” especially in tomatoes; interspecific hybridization as a tool for creation of breeding material with high combining ability for valuable economic traits, enhancement of the nutritional and organoleptic qualities of tomatoes, improvement of hybrid seed production, etc. His profound investigations on tomato lines derived from interspecific crossings established the higher general combining ability of such lines according to the earliness, productivity, vitality and fruit quality. Later through the hybridization of these lines (“№10”, “Plovdivska conserva”, “XXIVa”, “XXIV-2”, “XXIV-13”, “123”, etc.) with large fruited tomato cultivars, the first F<sub>1</sub> hybrids were created, exhibiting high heterosis effect of economically important traits.

The first F<sub>1</sub> tomato hybrid in the world, named “Zarya x Comet”, was created by Acad. Daskalov in 1934, while in other countries F<sub>1</sub> tomato hybrids were produced much later (Japan – 1938, USA – 1940, Holland – 1946, France – 1956, etc.). In 1949 he released the early-ripening F<sub>1</sub> tomato hybrid “№10 x Bison”, initiated and organized the production of F<sub>1</sub> hybrid seeds on scientific ground. The increased demand for F<sub>1</sub> tomato hybrid seeds (due especially to their earliness) forced the production of large amounts in order to meet the requirements not only of the local, but also the foreign market - mainly from the eastern part of Europe. The demand and commercialization of the F<sub>1</sub> hybrid “№10 x Bison” continued for more than 10 years.

The most distinctive contributions

of Acad. Daskalov were the creation of F<sub>1</sub> hybrids and cultivars (“№10 x Bizon”, “№10 x Rudgers”, “Triumph”, “Testa”, “Ogosta”, “Kristi”, “Standart 69”, “Determinantna Ogosta“, “Directna Ogosta”, “Drujba”, “Drujba 1300”, “Bela”, “Venera”, etc.), which due to their excellent qualities remained in production for many years.

At that time Bulgaria appeared to be one of the major exporters of fresh tomatoes. Heterosis breeding was applied successfully also to eggplant, pepper, cucumber, melon and watermelon. It is also worth mentioning his achievements in plant grafting, early vegetable production, agrotechnologies of vegetables in greenhouse and hothouse – an important basis for development of these production systems in Bulgaria.

Results and achievements of scientific and applied research of Acad. Hristo Daskalov and his team have been presented in more than 150 papers published in Bulgarian, German, English, Russian and other languages; books “Heterosis in tomatoes”, “Heterosis and its application in vegetable growing”, “Genetic investigations on tomato quality” and others. They are equally valuable for the theory as well as for the practice and brought him a worldwide recognition, evidenced by hundreds of citations in the scientific literature.

Testimony for his high recognition

was the election of Acad. Daskalov as Honorary member of five foreign scientific Academies. He was also honored with numerous national awards.

All his life he worked very close with producers – farmers and gardeners – applying his theoretical knowledge directly to practice. He established close relations not only with gardeners from different regions of Bulgaria, but also with horticulturists from Hungary, Austria, Russia, Moldova and many other countries. Meetings with producers inspired him and kept his enthusiasm.

Acad. Daskalov created a school for people devoted to genetics and breeding of crop plants. He was not only a researcher, but also a scientific leader – a man of principles, discipline and wide reading. He was a supervisor of many specialists in the field of genetics and breeding of cultural plants, which became faithful followers of his work.

Today, 30 years after Acad. Hristo Daskalov passed away (04.05.1983), his scientific achievements are used by many specialists in the field of genetics and breeding of horticultural plants. His applied scientific achievements, including latest tomato varieties, are still used in practice.

Acad. Hristo Daskalov is remembered now and will be forever for his scientific achievements, leadership, erudition and human virtues.