



Doc. Ing. Jan Krekule, DrSc.

Passed away on 18th November 2022 at the age of 91 years.

Jan was one of the leading personalities in the field of plant physiology for almost 50 years. He was born on 20th December 1931 in Prague. He soon developed an interest for plants and after finishing the secondary school, he decided to study at the Agricultural University in Prague. He defended a diploma thesis on cereal vernalization and after the one-year practical experience at the Regional Research and Breeding Institute, Jan became a PhD student at the Biological Institute of the Czechoslovak Academy of Sciences. He was one of the last students of prof. Němec and it was this period which *de facto* determined Jan's whole scientific life, giving him a lasting devotion to plant ontogenesis and morphogenesis. His PhD thesis was also dedicated to vernalization. Then he joined the new Institute of Experimental Botany (IEB) of the Czechoslovak Academy of Sciences at its foundation in 1962 where he worked until his death. Initially, he worked in the group of Lola Teltscherová where he began to study photoperiodic control of flowering using the short-day plant *Chenopodium rubrum* L. as an experimental model. Later on, Jan became a leader of this group, and flowering was studied from the point of view of photoperiodic control and the regulatory role of plant hormones. Special attention was paid to the anatomical changes in the apical meristem and to the role of leaves and cotyledons as receptors of a photoperiodic signal. Possible electric signals were studied as well. Later, the short-day model was joined by the long-day *Chenopodium murale* L. Thus, without exaggeration, Jan's professional life could be entitled „*My life with Chenopodium*“. Jan became the head of the whole Department of Plant Physiology and later also the vice director of the IEB. The studies of flowering led then to studies of the effect of photoperiod on the levels of plant hormones (IAA and cytokinins) and on their transport and also to the field of rhythmicity. It was in Jan's laboratory where the circadian rhythm of the hormone melatonin was shown for

the first time in a higher plant. Jan also participated in studies of plant regeneration and biotechnologies. He became a coordinator of the first big program for plant biotechnologies, which aimed to connect research with praxis.

His achievements in plant science were marked by two Awards of the Czechoslovak (since 1990 Czech) Academy of Sciences in 1982 and 1992. In 1989 he defended his thesis for the Doctor of Science degree, entitled *Multicomponental Regulation of Flowering*. Jan was awarded in 2018 for his scientific achievements with the honorary branch medal of Gregor Johann Mendel.

Jan was not only an excellent scientist but also a very good and experienced teacher. For many years he delivered lectures on plant development at the Department of Plant Physiology of the Faculty of Natural Sciences of Charles University, where he has supervised numerous diploma and PhD theses, for which he received the „docent“ (associate professor) degree. He was a co-author of several textbooks including: Šebánek, J. (ed.): Plant Physiology – Elsevier, Amsterdam 1992; Procházka, S., Šebánek, J. (eds.): Plant Growth Regulators – Academia, Praha 1997; Procházka, S., Macháčková, I., Krekule, J., Šebánek, J. (eds.): Plant Physiology – Academia, Praha 1998. Jan was an external member of the Department of Physiology at the Faculty of Natural Sciences of Charles University, a member of the Councils for Science of the Faculty of Natural Sciences and the Pedagogical Faculty of Charles University, and of the Biological Faculty of the Southbohemian University.

Jan's broad conceptual approach to science found application in many functions. As already mentioned he was for many years head of the Department of Physiology of Plant Growth and Development, in the period 1995-1997 he was the vice director of the IEB. He was a member of the Economic and Scientific Boards and vice president of the Editorial Board of the Academy of Sciences. At the end of the 90ies, he was a member of the Commission of the Czech Government for Science and Research and he was also a member of the Commission for Life Sciences of the Grant Agency of the Czech Republic. He was a member of the Czechoslovak (later Czech) Botanical Society and he aimed to connect botanists and plant physiologists. At the beginning of 90ies, he participated in the foundation of the Czech Society of Plant Experimental Biology. He acted as an executive editor of *Biologia Plantarum* in the years 1968-69 and later on as a member of the Editorial Board since 1991.

Jan was also an excellent science populizer. We remember his talks on the radio program Meteor. He contributed to the origin of the book edition *Průhledy*, in which editorial house

Academia publishes popularizing books from different science fields. As a member of the Editorial Commission of the Academy of Sciences, he contributed to the publication of many books. Last, but not least, he recently edited together with Jan Kolář a book about the history of the IEB to which he contributed several chapters. He actively collaborated with Živa, a journal for the popularization of biology.

Although science was the main part of Jan's life, it does not describe him fully as a personality with a very broad scope of interests and knowledge. Should I characterize Jan very briefly, I would say that he loved life and lived fully. He was bestowed by an unusual curiosity, sharp intellect, talent for languages, exceptional personal charm, good sense of humor, and ability to address and connect people of a broad spectrum – from those highly educated to those quite „ordinary“. As a boss, he listened to the opinions of his colleagues and he headed his group so that all its members knew that he knows about them, that he counts on them, and that they are important to him. He always found some time for fun and he was able to go over from a serious tone to a less serious view. At the occasion of various festive gatherings, he used to give fascinating humorous talks. He traveled a lot and brought from his journeys interesting new knowledge, literature, and personal experience. He spent two years in Ghana where he studied the flowering of coffee plants and he also joined the international sea expedition organized by Ukrainian colleagues. Jan had very close relations with Slovak colleagues, from the Botanical Institute of the Slovak Academy of Sciences as well as from the Faculty of Natural Sciences of the Comenius University in Bratislava. Similar close relationships bounded Jan and his colleagues with Polish colleagues from Cracow, Gdansk, and Torun as well as colleagues from Moscow. In a time when it was not usual, Jan with his group collaborated with western colleagues, who visited the IEB and they managed to organize several international symposia in Liblice.

Jan had a very good knowledge of humanities. He knew a lot about architecture, especially of the baroque period. In the walks through old Prague, he always showed us something which we did not know before. And when we went abroad Jan always knew what interesting we can see in that place and when we went by a car he knew even what of interest is on the road. He even managed to connect art and science when by his effort busts of two famous plant physiologists Julius Sachs and Bohumil Němec were placed into the campus of the Department of Plant Physiology at Viničná street. We can say that Jan was a real polyhistor. He found time even for sport, namely lawn tennis and running, due to which he sometimes missed planned meetings. He made friends with the inhabitants of a small village Pozdyně, where the family

has a weekend house and where he found his second home. He acquired knowledge of the history of the place and its surroundings, he founded the Club of Beneš of Blíživa and he initiated the publication of the book Hvožd'ansko. He was a big fan of literature, he read also in foreign languages, namely in his beloved French. He became a member of the commission for granting awards for the best Czech books of each year Magnesia Litera. Love for the word, spoken as well as written, and love for nature connected him with his wife and daughter. Jan had also a deep interest in politics, he was a great but critical patriot. He liked to discuss politics and I remember many hot discussions when I or another colleague had a different opinion. Jan had a strong social feeling and in personal relationships was tolerant and loyal. He had a strong sense of real friendship. It was impossible to be bored with Jan. He had an excellent sense of humor and it was fine to be with him. In a time of narrow specializations, he was one of the few renaissance personalities.

We thank Jan for everything that he made for Czech plant physiology, for our Institute, and for many of us, for everything by which he enriched our life. We will miss him.

Ivana Macháčková