

Volotovskii, I.D.: **Fitokhrom - Regulyatornyi Fotoretseptor Rastanii.** [Phytochrome - Regulatory Photoreceptor of Plants.] - Navuka Tekhnika, Minsk 1992. 168 pp., Rbl. 5.20, in Russian.

The paperback monograph written by a leading Belorussian scientist deals with the most important substance controlling plant growth, differentiation and morphogenesis. Its significance as a substance transferring the signals of red and far-red radiation is analyzed from the point of view of photophysics, photochemistry and photobiology.

The text is divided into ten chapters. The first three chapters deal with phytochrome localization, state *in vivo*, chemical structure and relations of chromophore groups to spectral properties of the molecule (compared with other porphyrin pigments, like phycocyanin and phycoerythrin). Chapter 4 deals with biosynthesis and metabolism of phytochrome in plant cells, chapter 5 with its fluorescence *in vitro* and *in vivo*. Next two chapters are on phytochrome phototransformation and on conformation differences of its red and far-red forms. Chapters 8 to 10 describe the effects induced by phytochrome and the supposed mechanisms of transduction (models of membrane or ion transduction, functions of Ca^{2+} , genetic hypothesis of transduction). Here also the questions of gene transcription and expression are described, in relation to expression of other light-sensitive genes like that for the small subunit of ribulose-1,5-bisphosphate carboxylase or for the proteins of chlorophyll light-harvesting complexes.

The explanations are based on a voluminous list of references (17 papers written in Russian and 265 in English) that include also nine papers of the author. The book brings a general information for those who read Russian; unfortunately, no abstract or list of contents in English is supplemented.

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