

Photosynthesis

1. Lecturer: Tymoshenko Volodymyr Fedorovych, associate professor of the department of plant and microorganism physiology and biochemistry.
2. Status: optional for masters.
3. Course, semester: 2th academic year, 3th semester.
4. Number of credits – 3, general academic hours – 90, lectures – 25, seminars – 8; self-study – 57.
5. Preliminary requirements: basics of Biochemistry, Plant Physiology and Biochemistry
6. Description of the course: History of photosynthesis investigation, the structure and chemical composition of the photosynthetic apparatus, molecular organization of photosynthetic membranes, primary and secondary reactions of photosynthesis are presented. Regulation and evolution of photosynthesis. A specialist who mastered this course use theoretical knowledge to intensify crop production and to maximize agricultural harvest.

Parts: 1) Structure and chemical composition of the photosynthetic apparatus; 2) The mechanism of photosynthesis; 3) Transport of assimilates. Regulation and evolution of photosynthesis.

Knowledge and skills:

- knowledge of historical information about the development and formation of ideas about photosynthesis, terminology (conceptual apparatus);
 - knowledge of the structure and chemical composition of the photosynthetic apparatus, the mechanism of photosynthesis;
 - knowledge of the regulation and evolution of photosynthesis;
 - ability to analyze, structure, integrate theoretical training and lectures;
 - ability to use theoretical knowledge in carrying out investigations.
7. Course organization, forms of control: lectures and seminars, writing tests, writing final test.
 8. Educational and methodological support: program, work plan, educational and scientific literature, laboratory equipment and reagents.
 9. Language of teaching: Ukrainian.

References:

1. Дж. Эдвардс, Д. Уокер. Фотосинтез С3 и С4 растений: механизмы и регуляция. – М.: Мир, 1986. – 590 с.
2. Кочубей С.М. Организация фотосинтетического аппарата высших растений. – К.: Альтерпрес, 2001. – 204 с.
3. Кузнецов Вл.В., Г.А. Дмитриева. Физиология растений. – М.: Высшая школа, 2006. – 744с
4. Медведев С.С. Физиология растений. – СПб.: Изд-во С.-Петербур.ун-та, 2004. – 336 с.
5. *Физиология растений* / Н.Д. Алехина, Ю.В. Балнокин, В.Ф., Гавриленко и др.; Под ред. И.П. Ермакова. – М.: Академия, 2005. – 640 с.