

ЭКСПЕРИМЕНТАЛЬНЫЕ И ОБЗОРНЫЕ СТАТЬИ

Anatoly Gitelson, Alexei Solovchenko, Andrés Viña. Foliar absorption coefficient derived from reflectance spectra: a gauge of the efficiency of in situ light-capture by different pigment groups. *Journal of Plant Physiology*. 2020. In press.

Solovchenko, A. E., Lukyanov, A. A., Nikolenko, A. A., Shurygin, B. M., Akimov, M. Y., and Gitelson, A. Physiological foundations of spectral imaging-based monitoring of apple fruit ripening. *Acta horticulturae* (2020). In press

Oxana Ptushenko, Vasily Ptushenko, Alexei Solovchenko. Spectrum of Light as a Determinant of Plant Functioning: a Historical Perspective. *Life* 2020, 10, 25; doi:10.3390/life10030025

Alexei Solovchenko, Alexandr Lukyanov, Alexandr Nikolenko, Boris Shurygin, Anatoly Gitelson. Physiological foundations of spectral imaging-based monitoring of apple fruit ripening. *Acta Horticulturae*. 2020. In press.

Соловченко А.Е., Шурыгин Б.М., Николенько А.А., Чивкунова О.Б., Соловченко О.В., Ахаев Д.Н. Мониторинг изменений качества срезанных листьев салата по гиперспектральным оптическим изображениям. *Фотон-Экспресс. Спецвыпуск «Фотон-Экспресс-НАУКА 2019»*. 2019. 6. 72-73. DOI 10.24411/2308-6920-2019-16032

Gitelson A., Viña A., Solovchenko A., Arkebauer T., Inoue Y. Derivation of canopy light absorption coefficient from reflectance spectra. *Remote Sensing of Environment*. 2019. Volume 231, 15 September 2019, 111276. DOI 10.1016/j.rse.2019.111276.

Anatoly Gitelson, Alexei Solovchenko. Non-invasive quantification of foliar pigments: Possibilities and limitations of reflectance- and absorbance-based approaches. *J Photochem Photobiol B: Biol*. 2017. DOI: 10.1016/j.jphotobiol.2017.11.023.

Anatoly Gitelson, Alexei Solovchenko. Generic algorithms for estimating foliar pigment content. *Geophysical Research Letters*. 2017. 44. 2017GL074799 <https://doi.org/10.1002/>

Anatoly Gitelson, Olga Chivkunova, Tatiana Zhigalova, Alexei Solovchenko. In situ optical properties of foliar flavonoids: implication for non-destructive estimation of flavonoid content. *Journal of Plant*

Physiology. 2017. 218. 258-264. DOI 10.1016/j.jplph.2017.08.009

Anatoly A. Gitelson, John A. Gamon, Alexei Solovchenko. Multiple drivers of seasonal change in PRI: Implications for photosynthesis. 2. Stand level. Remote Sensing of Environment. 2017. 191. 198–206. DOI 10.1016/j.rse.2016.12.015.

Anatoly A. Gitelson, John A. Gamon, Alexei Solovchenko. Multiple drivers of seasonal change in PRI: Implications for photosynthesis. 1. Leaf level. Remote Sensing of Environment. 2017. 191. 110-116. DOI 10.1016/j.rse.2016.12.014.

А.Е. Соловченко, О.Б. Чивкунова. Физиологическая роль накопления антоцианов в ювенильных листьях лещины. Физиология растений. 2011. 58 (4). 582–589.

Alexei Solovchenko, Liudmila Kozhina, Yuri Nazarov and Vladimir Gudkovsky. Relationships between internal ethylene and optical reflectance in ripening Antonovka apples grown under sunlit and shaded conditions. Postharvest Biology and Technology. 2011. 59. 206-209. DOI: 10.1016/j.postharvbio.2010.08.013.

Alexei E. Solovchenko, Mark N. Merzlyak and Sergei I. Pogosyan. Irradiation-induced decrease of reflectance provides an insight into photoprotective mechanisms of ripening apple fruit. Plant Sci. 2010. 178. 281–288.

Alexei E. Solovchenko, Olga B. Chivkunova, Anatoly A. Gitelson, Mark N. Merzlyak. Non-destructive estimation pigment content, ripening, quality and damage in apple fruit with spectral reflection in the visible range. Fresh Produce. Fresh Produce 4 (Special Issue 1) (2010): 91-102 (Print ISSN 1749-4788)

Mark N. Merzlyak, Olga B. Chivkunova, Alexei E. Solovchenko, K. Razi Naqvi. Light absorption by anthocyanins in juvenile, stressed and senescing leaves. J. Exp. Bot. 2008. 59 (14). 3903-3911.

Соловченко А.Е., Мерзляк М.Н. Экранирование видимого и УФ излучения как фотозащитный механизм растений. Физиология растений. 2008. 55(6). С. 803–822.

Alexei E. Solovchenko, Olga V. Avertcheva and Mark N. Merzlyak. Elevated sunlight promotes ripening-associated pigment changes in apple fruit. Postharvest Biology and Technology. 2006 40. 183–189.

Alexei E. Solovchenko, Olga B. Chivkunova, Mark N. Merzlyak and Vladimir A. Gudkovsky. Relationships between chlorophyll and carotenoid pigments during on- and off-tree ripening of apple fruits as revealed non-destructively with reflectance spectroscopy. *Postharvest Biology and Technology*. 2005. 38 (1). 9–17.

Alexei Solovchenko, Anne Matthes, Michaela Schmitz-Eiberger The role of solar UV in long-term adaptation of ripening apple fruits to high sunlight. *J. Appl. Bot. Food Qual.* 2005. 79. P. 72-76.

Merzlyak M., Solovchenko A., Pogosyan S. Optical properties of rhodoxanthin accumulated in *Aloe arborescens* Mill. leaves under high-light stress with special reference to its photoprotective function. *Photochem. Photobiol. Sci.*, 2005, 4, 333 - 340.

Merzlyak MN., Solovchenko AE., Smagin AI., Gitelson AA. Apple flavonols during fruit adaptation to solar radiation: spectral features and technique for non-destructive assessment. *Journal of Plant Physiology*. 2005. 162 (2). P. 151-160.

Solovchenko A., Schmitz-Eiberger M., Significance of skin flavonoids for UV-B-protection in apple fruits. *Journal of Experimental Botany*. 2003. 54 (389). P. 1977–1984.

Solovchenko A., Merzlyak M. Optical properties and contribution of cuticle to UV protection in plants: experiments with apple fruit. *Photochemical and Photobiological Sciences*. 2003. 2. P. 861–866.

Sokolskaya S.V., Sveshnikova N.V., Kochetova G.V., Solovchenko A.E., Gostimski S.A., Bashtanova O.B. Involvement of phytochrome in regulation of transpiration: red-/far red-induced responses in the chlorophyll-deficient mutant of pea. *Functional Plant Biology*. 2003. 30. P. 1249–1259.

Merzlyak M.N., Solovchenko A.E., Gitelson A.A. Reflectance spectral features and non-destructive estimation of chlorophyll, carotenoid and anthocyanin content in apple fruit. *Postharvest Biology and Technology*. 2003. 27. P. 197–211.

Мерзляк М.Н., Гительсон А.А., Чивкунова О.Б., Соловченко А.Е., Погосян С.И. Использование спектроскопии отражения в анализе пигментов высших растений. *Физиология растений*. 2003. 50 (5). С. 785–792.

Merzlyak M.N., Solovchenko A.E. Photostability of pigments in ripening

apple fruit: a possible photoprotective role of carotenoids during plant senescence. *Plant Science*. 2002. 163. P. 881–888.

Merzlyak M.N., Solovchenko A.E., Chivkunova O.B. Patterns of pigment changes in apple fruits during adaptation to high sunlight and sunscald development. *Plant Physiology and Biochemistry*. 2002. 40. P. 679–684.

Chivkunova O.B., Solovchenko A.E., Sokolova S.G., Merzlyak M. N., Reshetnikova I.V., Gitelson A.A. Reflectance Spectral Features and Detection of Superficial Scald-induced Browning in Storing Apple Fruit. *J. Russian Phytopathol. Soc.* 2001. 2. P. 73–77.

Соловченко А.Е., Чивкунова О.Б., Мерзляк М.Н., Решетникова И.В. Спектрофотометрический анализ пигментов в плодах яблони. *Физиология растений*. 2001. 48 (5). С. 801–808.

L.A. Ischenko, I.N. Chesnokova, Yu.E. Firsova, M.I. Kozaeva, A.E. Solovchenko. Protective immunity of fruit plants. *Eucarpia Breeding Section Newsletter*. 2001. 5. P. 32-33.

КНИЖНЫЕ ГЛАВЫ

Alexei Solovchenko, Elhadi Yahia, Chunxian Chen. Pigments. In: *Postharvest Physiology and Biochemistry of Fruits and Vegetables*. Eds. Elhadi M. Yahia and Armando Carrillo López. Elsevier. 2018. ISBN 9780128132784.

Anatoly Gitelson, Alexei Solovchenko. Non-invasive quantification of foliar pigments: principles and implementation. In: *Hyperspectral remote sensing of vegetation*. Ed. P. Thenkabal. Taylor and Francis. 2018. p. 135-162.

КНИГИ

Solovchenko A.E. *Photoprotection in Plants - Optical Screening-based Mechanisms*. Springer Series in Biophysics. Vol. 14. Springer. 2010. 1st Edition., 2010, X, 167 p. ISBN: 978-3-642-13886-4.