

EDITORIAL BOARD

I.V. SAVCHENKO (Moscow, Russia) — Chairman (plant biology)

BESPALOVA L.A. (Krasnodar, Russia)

DRAGAVTSEV V.A. (St. Petersburg, Russia)

DZYUBENKO N.I. (St. Petersburg, Russia)

FEDOROVA L.M. (editor-in-chief)
(Moscow, Russia)

GONCHARENKO A.A. (Moscow, Russia)

KHARITONOV E.M. (Krasnodar, Russia)

KHOTYLEVA L.V. (Minsk, Belorussia)

KORPELA T. (Turku, Finland)

LUGTENBERG E.J.J. (Leiden,
The Netherlands)

LUKOMETS V.M. (Krasnodar, Russia)

PIVOVAROV V.F. (Moscow, Russia)

SANDUKHADZE B.I. (Moscow, Russia)

SEDOV E.N. (Orel, Russia)

SHABALA S. (Tasmania, Australia)

TIGERSTEDT P.M.A. (Esbo, Finland)

TIKHONOVICH I.A. (St. Petersburg, Russia)

A peer-reviewed academic journal for delivering current original research results and reviews on classic and modern biology of agricultural plants, animals and microorganisms

Covered in Scopus, Web of Science (BIOSIS Previews, Biological Abstracts, CAB Abstracts, Russian Science Citation Index), Agris

Science editors: E.V. Karaseva, L.M. Fedorova

Publisher: Agricultural Biology Editorial Office NPO

Address: build. 16/1, office 36, pr. Poleskii, Moscow, 125367 Russia

Tel: + 7 (916) 027-09-12

E-mail: felami@mail.ru, elein-k@yandex.ru **Internet:** <http://www.agrobiology.ru>



For citation: Agricultural Biology,

Сельскохозяйственная биология, Sel'skokhozyaistvennaya biologiya

ISSN 0131-6397 (Russian ed. Print)

ISSN 2313-4836 (Russian ed. Online)

ISSN 2412-0324 (English ed. Online)

© Agricultural Biology Editorial Office (Редакция журнала
«Сельскохозяйственная биология»), 2020

CONTENTS

REVIEWS, CHALLENGES

- Goncharova Yu.K., Kharitonov E.M., Ochkas N.A. et al.* Features of rice (*Oryza sativa* L.) varieties for organic farming in connection with marker assisted breeding (review) . 847

SELECTION AND SEED PRODUCTION OF VEGETABLE

CROPS IN RUSSIA (the 100th anniversary of the Federal Research Center for Vegetable Growing)

- Pivovarov V.F., Soldatenko A.V., Pyshnaya O.N. et al.* Federal Research Center for Vegetable Growing — 100-year history as a basis for future developments (review) . 861
- Balashova I.T., Sirota S.M., Pinchiuk E.V.* Large fruit of tomato *Solanum lycopersicum* L.: genetic determinants, organogenesis and fruit development (review) . 876
- Domblides A.S., Bondareva L.L., Pivovarov V.F.* Assessment of genetic diversity among headed cabbage (*Brassica oleracea* L.) accessions by using SSR markers . 890
- Engalycheva I.A., Kozar E.G., Domblides A.S. et al.* Development peculiarities of Bean common mosaic virus (*Potyvirus, Potyviridae*) in Moscow region and initial material for resistance breeding . 901
- Gins M.S., Gins V.K., Motyleva S.M. et al.* The metabolites of autotrophic and heterotrophic leaves of *Amaranthus tricolor* L. Early Splendor variety . 920
- Soldatenko A.V., Buharov A.F., Baleev D.N. et al.* Impact of high temperature on growth of embryo and germination of heteromorphic seeds of *Anethum graveolens* L. (*Apiaceae*) . 932

PHYSIOLOGY, BIOCHEMISTRY

- Nazarov A.M., Garankov I.N., Tuktarova I.O. et al.* Hormone balance and shoot growth in wheat (*Triticum durum* Desf.) plants as influenced by sodium humates of the granulated organic fertilizer . 945
- Rudakova A.S., Rudakov S.V., Artemyeva A.M. et al.* Polymorphism of esterase isoenzymes of ripe seeds of samples of radish (*Raphanus sativus* L.) . 956
- Malyukova L.S., Nechaeva T.L., Zubova M.Yu. et al.* Physiological and biochemical characterization of tea (*Camellia sinensis* L.) microshoots in vitro: the norm, osmotic stress, and effects of calcium . 970

POTATO FARMING: SCIENCE AND TECHNOLOGIES

- Gadjiyev N.M., Lebedeva V.A., Rybakov D.A. et al.* On using data from marker-assisted selection of source material and intervarietal hybrids in practical potato breeding . 981
- Kim I.V., Volkov D.I., Zakharenko V.M. et al.* Composition and quantification of antioxidants in healthy-diet potato (*Solanum tuberosum* L.) varieties for growing and selection in the Russian Far East . 995

PLANT VIRUSES AS TOOLS FOR BIOTECHNOLOGIES

- Ryabchevskaya E.M., Evtushenko E.A., Arkhipenko M.V. et al.* Novel approach for designing rotavirus vaccine candidate based on two plant viruses . 1004

SOIL MICROORGANISMS

- Abakumov E.V., Loyko S.V., Istigechev G.I. et al.* Soils of Chernyaya taiga of Western Siberia — morphology, agrochemical features, microbiota . 1018

RESEARCH METHODS

- Ilina E.L., Kiryushkin A.S., Demchenko K.N.* Features of fluorescent protein application to study the root system development of cucurbits (*Cucurbitaceae*) . 1040