

Contents

Vol. 39, No. 1, 2013

A simultaneous English language translation of this journal is available from Allerton Press, Inc.
Distributed worldwide by Springer. *Russian Agricultural Sciences* ISSN 1068-3674.

The 125th Anniversary of the Birth of N.I. Vavilov

N. S. Markova

1

The 125th Anniversary of the Birth of N.I. Vavilov

The Heritage of N.I. Vavilov in Modern Science and Practical Selection

I. M. Kulikov, S. K. Temirbekova, and N. E. Ionova

5

Domestication and N.I. Vavilov's Law of Homologous Series in Hereditary Variability

V. I. Glazko and T. T. Glazko

8

Diallel Analysis of Grain Quality Traits in Inbred Winter Rye Lines

A. A. Goncharenko, S. V. Krakhmalev, S. A. Ermakov, A. V. Makarov,
T. V. Semenova, V. N. Tochilin, and A. V. Osipova

13

Contribution of the Genotype and Vegetation Period to Formation
of Productiveness and Quality of Grain of Spring Soft Wheat

V. M. Bebyakin, T. A. Rozanova, and L. N. Zlobina

20

Medium Optimization for Efficient Somatic Embryogenesis and in Vitro Plant
Regeneration of Spring Common Wheat Varieties

D. N. Miroshnichenko, M. V. Filippov, and S. V. Dolgov

24

Genetic Control of Effective Juvenile Resistance to Foliar Diseases
in *Aegilops tauschii* Coss. Samples

M. A. Kolesova and L. G. Tyryshkin

29

Features of the Growth of Cereals from the *Triticeae* Tribe under Nonoptimal
Conditions by the Example of Spring Wheat

A. S. Timoshchenko, L. O. Nurminskaya, V. F. Semikhov, and P. N. Kharchenko

33

Influence of the Nitrogen Nutrition Level and Environmental Conditions
on the Productivity, Photosynthetic Activity, and Donor–Acceptor Relations
in Wheat Plants

T. L. Kurnosova

36

Technological Properties of Buckwheat Varieties Grains

L. N. Varlakhova, S. V. Bobkov, and I. M. Mikhailova

42

Plant Protection

Distribution of Highly Virulent Races of Sunflower Broomrape
(*Orobanche cumana* Wallr.) in the Southern Regions of the Russian Federation

T. S. Antonova, N. M. Araslanova, E. A. Strelnikov, S. A. Ramazanova,
S. Z. Guchetl, and T. A. Chelyustnikova

46

Fodder Production

Efficiency of Single-Species and Two-Component Mixtures of Legume
and Cereal Crops for Fodder in the South Urals Steppe Zone

N. N. Dubenok, A. A. Mushinskii, A. P. Nesvat, and A. P. Glinushkin

51

Agroforestry Amelioration

Protective Woodland Plantings and Reproduction of Agroforest Landscapes

A. Sh. Timer'yanov

55

Pedology

Using Discriminative Analysis in the Evaluation of Changes in Amounts
of Water-Soluble Soil Organic Substances

O. A. Gutorova, A. Kh. Sheudzhen, and A. G. Ladatko[†]

59

Balance Analysis of Heavy Metal Pollution of Podzolized Chernozem
in a Lysimetric Experiment

O. V. Chernikova, Yu. A. Mazhaiskii, K. B. Dovgaya, and S. M. Kurchevskii

62

Agriculture

Dynamics of Agrophysical Properties and Humus Content in Chernozem
under the Moldboard, Chisel and Surface Systems of Basic Soil Tillage

A. V. Maltsev, V. P. Kalinichenko, S. A. Shatokhin, and A. V. Udalov

66

Information Provision

Creation of the Database of Field Experiments with Fertilizing of Fruit Crops

N. N. Sergeeva, Yu. V. Trunov, and E. N. Tkachev

70

Animal Husbandry

Hemostatic System Activity in Milk- and Plant-Fed Calves

I. N. Medvedev and S. Yu. Zavalishina

74

Ultrasonic Assessment of Meat Quality Traits in Pigs

N. V. Sokolov and D. A. Karmanov

78

Xanthine Oxidase Activity in Pig's Blood and Oxidative Stress Assay

A. V. Dement'ev

82

Storage and Processing of Agricultural Goods

Developing the Technology and Assessing the Consumer Characteristics
of an Edible Protein Product

V. V. Lisovoi and R. I. Shazzo

86

Mechanization

The Effect of the Parameters of a Grain Drying Plant on the Quality of Drying

V. I. Kurdyumov, A. A. Pavlushin, G. V. Karpenko, and S. A. Sutyagin

91