

Contents

Vol. 37, No. 4, 2011

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

Plant Industry

- Divergent Selection for Water-Extract Viscosity in Winter Rye
*A. A. Goncharenko, A. S. Timoshchenko, N. S. Berkutova, S. A. Ermakov, A. V. Makarov,
T. V. Semenova, V. N. Tochilin, E. N. Lazareva, N. V. Tsygankova, and S. V. Krakhnaley* 273
- Intravarietal Variability of the Structure of Correlations of Yield Components
in Oat and Barley Plants
E. M. Lisitsyn, G. A. Batalova, and L. N. Tiunova 280
- Assessment of Salt Tolerance of *Aegilops* L. from the VIR Collection
T. G. Leonova and N. N. Chikida 283
- Promising Directions in Apple Breeding
*E. N. Sedov, G. A. Sedysheva, M. A. Makarkina,
E. V. Ul'yanovskaya, and Z. M. Serova* 286
- Use of the Genus *Prunus* Gene Pool in Breeding Peach Varieties and Rootstock for Adaptability
G. V. Eremin and V. G. Eremin 290
- Quality and Yield of Green Pods of Green Beans
N. G. Kazydub, N. S. Tsyganok, V. M. Kazydub, and A. P. Kling 294
- Expression of Genes Encoding Chitin-Binding Proteins (PR-4) and Hevein-like Antimicrobial
Peptides in Transgenic Tomato Plants Enhanced Resistance to *Phytophthora infestans*
M. R. Khaliluev, A. G. Mamonov, A. N. Smirnov, P. N. Kharchenko, and S. V. Dolgov 297
- Callus Induction and Embryogenesis of Alfalfa (*Medicago sativa* L.) Using Hypocotyl
Thin Cell Layer Culture
*Ammer Mohammadi-Nasab, Alireza Motallebi-Azar,
Ali Movafeghi, and Mohammadreza Dadpour* 303
-

Plant Protection

- Resistance of Soft Spring and Winter Wheat to Leaf Spot Pathogens *Pyrenophora
tritici-repentis* and *P. teres*
N. M. Kovalenko, L. A. Mikhailova, and K. V. Novozhilov 307
- Virulence Characteristics of a Wheat Leaf Rust Pathogen Population in Five Agroclimatic
Zones of the North Caucasus
G. V. Volkova, L. K. Anpilogova, P. A. Polushin, O. F. Vaganova, and Yu. V. Avdeeva 310
- Biological Activity of Peptide Extracts of Medicinal Plants against Phytopathogenic Fungi
and Oomycetes
E. A. Rogozhin, I. I. Tepkeeva, D. V. Zaitsev, V. P. Demushkin, and A. N. Smirnov 314
-

Radiobiology

- Chickpea Response to Low Doses of Gamma Radiation
M. Melki, M. Mhamdi, and A. Achouri 318
-

Pedology

Information Flows between Organic Matter of the Root Environment and Elemental Chemical Composition of Plants under Primary Pedogenic Conditions

V. K. Mukhomorov and L. M. Anikina

322

Agriculture

Soil Protective Moisture- and Resource-Saving Tillage Methods when Growing Spring Wheat in the Forest Steppe of the Ulyanovsk Region

S. N. Nemtsev and E. V. Kuzina

327

Animal Husbandry

Productive Qualities of Simmental and Holstein × Simmental Crossbred Steers

G. I. Bel'kov and V. A. Panin

330

Effect of Differentiation Inhibiting Activity, Leukemia Inhibitory (DIA/LEF), and Glial Cell-Line Neurotrophic (GDNF) Factors on Boar Spermatogenic Cells in Culture

I. P. Savchenkova, E. V. Viktorova, and L. K. Ernst

333

Average Population Level of α -Tocopherol in Blood Plasma of the Early-Maturing Meat Pig Breed

L. A. Bykova and E. V. Kamaldinov

337

Use of Calcium Ions for Reducing Cadmium Accumulation in Quail Organs and Tissues

V. S. Lisunova, V. S. Tokarev, and Yu. V. Kormilitsina

340

Feeding Rates and Prospective Feeding Agents for Carnivorous Furbearers

T. M. Demina, O. V. Rastimeshina, and N. N. Loenko

342

Electrification

High-Efficiency Third-Generation Silicon Solar Cells

D. S. Strebkov and V. I. Polyakov

345
