

ABSTRACTS

AGRONOMY

УДК 631.4

L.M. Burlakova,
G.G. Morkovkin

V.I. VERNADSKIY ON GLOBAL FUNCTIONS OF SOILS

Review of theses worked out by V.I. Vernadskiy and further development of his ideas on global functions of soils in the functioning of lithosphere, hydrosphere, atmosphere and biosphere are presented. It is stated that for steady development the mankind needs transition from biosphere to its new era of development – the era of noosphere. The opinion of V.I. Vernadskiy "that will be painful and slow process of working out new principles of coordination of our activity with new behavior of people, new morality" is shared.

УДК 633.0.31:631.1

A.M. Pugachyova,
V.N. Molchanov,
M.M. Demchenko

COMPARATIVE DESCRIPTION OF YIELDS AND QUALITY FEATURES OF GRAIN OF NEW WINTER WHEAT VARIETIES IN ARID ZONE OF THE LOWER VOLGA REGION

As the result of carried out research in competitive varieties testing new winter wheat varieties were identified, which meet modern demands of yield level, have high quality features of grain and are ecologically adapted to arid zone of the Lower Volga Region (Nizhneye Povolzhye).

УДК 581.143.6

A.A. Erst,
N.A. Vechernina

PROPAGATION OF GOLDEN CURRANT *IN VITRO*

Method of introduction and *in vitro* propagation of the *Ribes aureum* cv. Valentina is described. It is revealed that MS is the best medium for cultivation of lateral buds. It is demonstrated that necessary to supplement MS with $5 \cdot 10^{-6}$ M BAP and $5 \cdot 10^{-6}$ M GA₃ at proper propagation stage. The best carbon source was 3% glucose.

УДК 634.11/.12:631.526.32 (571.15)

G.Y. Nikhaichik,
I.P. Kalinina

CULTURE OF EUROPEAN APPLE VARIETIES IN STRETCHING FORM IN THE CONDITIONS OF THE ALTAI REGION

Suitable to given soil-climatic zone varieties of large-fruit apple trees need to be cultivated not only because of size of fruits and high gustatory qualities, but first of all in view of length of their storage (for some varieties up to April).

However, recently large number of valuable varieties were created, possessing such undoubted values as resistance to mange, long shelf time, high gustatory qualities, etc., which were tested in various natural-climatic horticultural zones of Russia. Introduction of such varieties in horticulture will considerably improve assortment of large-fruit apple trees.

AGRICULTURAL ECOLOGY

УДК 553.3

**N.N. Malkova,
G.N. Bityutskaya**

ECOLOGIC PROBLEMS OF NATURAL RESOURCES MANAGEMENT IN THE ALTAI REGION. VITAMIN C DEFICIENCY

Vitamin C deficiency is an ecologic problem of natural resources management of the Altai Region. Two socially protected risk groups of population were explored – students at the age of 19-24 and children of 6-7. It was found, that vitamin C deficiency reveals not only in winter and autumn, but also in summer, and it is a permanent unfavourable factor.

УДК 581.6

A.S. Erst

USEFUL SPECIES OF *RANUNCULUS* L. (BUTTERCUP) OF THE ALTAI MOUNTAINOUS COUNTRY

The list of economically valuable species of Buttercup in the Altai mountainous country is presented, data on useful properties of those plants, the content of biologically valuable substances and prospects of their possible application are presented.

ANIMAL PRODUCTION

УДК 639.2(571.15)

A.R. Gorokhov

IMPROVEMENT OF AMATEUR FISHING RULES IN PONDS OF THE ALTAI REGION

Ways of improvement of Amateur Fishing Rules in the Altai Region are proposed, proposals on cancellation of the restrictions, concerning fishing in the crucian lakes are put forward, as well as concerning length of spring fishing prohibition and optimization of fishing tools.

УДК 576.895.14

T.K. Makatov

ECOLOGIC-FAUNAL REVIEW OF BLOODSUCKING MIDGES (DIPTERA, SIMULIIDAE) OF WATERCOURSES OF THE RIVERS IRTYSH AND SHIDERTY OF THE PAVLODAR REGION OF KAZAKHSTAN

11 species of blood-sucking midges of SIMULIINAE subfamily are widespread in the Irtysh and Shyderty rivers basins. The dominant species are *Byssodon maculatus*, *Boopthora erythrocephala*, *Simulium longipalpe*, *Wilhelmia equina*, *Odagmia ornata*.

УДК 636.5.087:630*16

N.V. Vasilyeva**ECONOMIC EFFECT OF THE USE OF BAST OF AMUR CORK-TREE AS A FEED SUPPLEMENT FOR LAYING HENS**

Research on the use of bast of Amur cork-tree (*Phellodendron amurense*) in feeding laying hens was carried out. Feed supplement of Amur cork-tree's bast promotes productivity increase and getting profit with lesser feed costs per 1 laying hen.

УДК 636.237.21:636.082.22:636.234

I.G. Zhukova**GROWTH AND DEVELOPMENT OF BLACK-AND-WHITE HEIFERS WITH OF DEGREE OF THE HOLSTEIN BREED BLOOD**

The results of research of growth and development of black-and-white heifers of various degree of the Holstein breed blood from birth up to 6 months are presented. It is revealed that heifers with greater Holstein blood demonstrate more intensive growth during the mentioned period. As far as basic measurements of the frame, there are no reliable differences.

VETERINARY MEDICINE

УДК 619:636.2.082.4

S.V. Fedotov**VETERINARY ASPECTS OF CATTLE REPRODUCTION AT REALIZATION OF THE NATIONAL PROJECT OF AGRICULTURAL INDUSTRY COMPLEX DEVELOPMENT**

For high-quality realization of the national project of agricultural industry complex development in the sphere of animal production it is necessary to improve reproduction of productive animals. Reproduction program of cows should be integrated, and should include obstetric-gynecological clinical examination, modern diagnostics of hormonal disorders of cows' organism and effective schemes of hormonal correction.

УДК 619:598.2/.9:578

**P.I. Baryshnikov,
A.Y. Bondarev,
B.V. Novikov****CONTAMINATION OF WILD BIRDS BY PATHOGEN OF VIRUS DISEASES IN FOREST-STEPPE AREA OF THE ALTAI REGION**

Examination of 21 species of birds of settled, migrant and visitant groups from 11 districts of forest-steppe area of the Altai Region revealed specific antibodies to flu virus in 34.2% of samples, to Newcastle disease – 60%, to infectious laryngotracheitis and infectious bursal disease in 62% and 38.7% correspondingly.

УДК 636.5/.6.084.52:579.252.55

**A.M. Bulgakov,
L.V. Rastopshina,
D.V. Kuznetsov,
K.S. Krotov,
L.M. Gavrikova****EFFICIENCY OF IODINE FOR LAYING HENS, BROILER CHICKEN AND ROOSTERS DEPENDING ON APPLICATION PLACE, DOSAGE AND ITS CONCENTRATION**

To increase efficiency of iodine preparation for poultry it is recommended to use the water solution of iodized starchy slime. For this purpose it is proposed to calculate a doze of iodine lacking in organism. It is proposed to apply it subcutaneously into neck area with the concentration of 0.2 up to 0.6% of iodine. It is necessary to balance ration according detailed standards.

УДК 619:636.2:616-089.84

L.V. Medvedeva**THE ISSUE OF CESAREAN SECTION IN COWS**

Cesarean section was undertaken in pedigree cows of Hereford breed with appropriate pregnancy terms directly in cow barn; in upright position and side lying position of an animal. The experience proves that when the rules of asepsis-antisepsis, of safe anesthesia and prevention of surgical infection are followed, operation may be undertaken in production environment by ordinary veterinarians. The proposed methodology used by cesarean section in cows allows preventing postoperative complications, to promote recovery of the animals and considerably lighten the work of surgeons.

TECHNOLOGIES AND MEANS OF AGRICULTURE MECHANIZATION

УДК 621.9Т

**A.A. Bagayev,
V.G. Lukyanov,
R.S. Chernus****APPLICATION OF CORIOLIS FORCES'S MOMENT FOR MEASURING MASS FLOW OF GRAIN AND PRODUCTS OF ITS GRINDING**

The design and principle of action of the gauge of centrifugal flowmeter of grain and products of its grinding are considered. Analysis of forces acting on impeller of the gauge is carried out. Mathematical model of dependence of the common rotational moment on the flow of a material, flowmeter's parameters and physical characteristics of the material is deduced.

УДК 629.114.2.032

**S.A. Korostelyov,
D.P. Bokin****DEFINITION OF RUBBER-METAL SWIVEL FEATURES BY DYNAMIC LOADING**

Method of calculation of elastic elements of rubber-metal swivel by dynamic loading is proposed. The proposed method is based on correlations of linear theory of viscoelasticity; numerical realization is carried out by means of finite-element method. The method allows defining integral features of elements and pictures of distribution of stress tensor components in the section of an element. Calculation of trapezoid rubber element is presented as an example.

УДК 633.34.664.0:636.084

G.M. Kharchenko**PHYSICAL AND MECHANIC PROPERTIES OF VEGETABLE OILS**

Physical and mechanic properties of the following vegetable oils are described: apricot oil, peanut oil, beech-nut oil, mustard oil, cocoa oil, castor oil, cedar oil, coconut oil, hempseed oil, coriander oil, corn oil, gingili oil, linseed-oil, poppy-seed oil, almond oil, sea-buckthorn oil, olive oil, nut oil, palm-oil, sunflower oil, rapeseed oil, cameline oil, soybean oil, colesed oil, cottonseed oil; features of the most common oils are presented.

Detailed features of soybean soil are presented as well as experimental data about temperature's effect on density.

ECONOMICS OF AGRICULTURAL INDUSTRY COMPLEX

УДК 336.14:352

S.V. Pakshenkova**OPTIMAL MODEL OF LOCAL GOVERNMENT STRUCTURE OF A LARGE URBAN DISTRICT
(BY THE EXAMPLE OF THE CITY OF BARNAUL)**

Modified model of "launching" of the reform of local government requires substantiation, preparation, finding alternatives to some of its provisions, and development optimal model of local government structure for a large urban district.

One of the most important aspects of the reform's correction related to appropriateness and expediency of municipal and budgetary status of large cities of the Russian Federation is considered.

УДК 336.14:352

I.V. Strizhkina**ANALYSIS OF INTER-BUDGETARY RELATIONS AT SUB-REGIONAL LEVEL
(BY THE EXAMPLE OF THE ALTAI REGION)**

The Altai Region is one of the first regions of the Russian Federation to start the reform of local government. Experience of inter-budgetary relations in the field of incomes and expenses is summarized.

It is revealed that at the initial stage of the reform the mechanism of budgets management in the Region got more complicated, that can result in new enlargement of municipal formations of the Region.

УДК 631.15.152;631.145

**D.V. Khodos,
A.G. Sidelnikov****MECHANISM OF STEADY DEVELOPMENT OF REGIONAL AGRICULTURAL INDUSTRY COMPLEX**

The state of agriculture of the Krasnoyarsk Region is investigated and estimation of its economic development level is given. Priority directions of steady development of regional agricultural industry complex are determined on the basis of state agrarian policy and market mechanism of management.

УДК 356.58

Y.A. Savitskaya

**SOCIAL-ECONOMIC DIAGNOSTICS OF INTERACTION OF FACTORS UNDERMINING
FOOD SECURITY AND STEADY AGRICULTURAL DEVELOPMENT**

The results of research of social-economic and political factors and tools of agricultural policy affecting agriculture and undermining food security are presented. Definition and content of economic diagnostics, including definition of evaluative indicators, selection of methods of their measurement and description of indicators according specific principles, evaluation of revealed deviations from standard, common values, are presented.

УДК 633.511:33

A.M. Gataulin,
See Bubakar**MAIN TRENDS AND FACTORS OF COTTON-GROWING IN THE REPUBLIC OF MALI**

Main trends of cotton-growing industry in the countries of the Western and Central Africa, in detail in the Republic of Mali, are investigated. Dynamic analysis (the period over 10 years) is presented. Based on statistic data significance of that industry for the rural population and for technical progress in agriculture is revealed. Using mathematic methods of analysis the role of technological, social-economic factors of world market in development of cotton-growing in the Republic of Mali is evaluated.

MANAGEMENT AND MARKETING

УДК 331.1.-005.95

T.Y. Kuznetsova

**ORGANIZATIONS OF THE ALTAI REGION: METHODOLOGY
OF COMPREHENSIVE EVALUATION OF HUMAN RESOURCES**

Labour productivity, economic profits of any enterprise (both trading and agricultural one) depends on quality of human resources, intellectual capital, qualifications and professionalism, initiative, readiness of the employed personnel to continuous learning, competent qualified personnel evaluation for making adequate managerial decisions.

УДК 338.431 (571.15)

Y.G. Stupicheva

**ROLE OF SOCIAL SIGNIFICANCE OF AN AGRICULTURAL ENTERPRISE'S BUSINESS
IN THE PROCESS OF MANAGEMENT OF ITS VALUE**

It is substantiated and proposed to emphasize indicator of social significance of a business in the process of evaluation an agricultural enterprise's business activity with the purpose of improvement mechanism of implementation system of management the enterprise's value. Effectiveness and necessity of the proposed approach in the infrastructure of the system of value management is proved.
