

ABSTRACTS

AGRONOMY

УДК 332.33

L.M. Burlakova

STRATEGIC MANAGEMENT OF LAND RESOURCES IN THE SYSTEM OF SUSTAINABLE DEVELOPMENT MANAGEMENT OF AGRICULTURAL USE OF NATURAL RESOURCES

The main conceptual principles of rational use of agricultural lands are defined (those of reliability, ecologic requirements and economic possibilities). Rise of costs by using various categories of arable lands is revealed. The strategy of rational "non-exhausting" use of land resources is defined as well as the mechanism of their strategic management in the system of sustainable development management of agricultural use of natural resources.

УДК 631.584 (470.342)

A.A. Platunov,
D.L. Starkova

PECULIARITIES OF BIRDSFOOT DEER VETCH CULTIVATION BY UNDERSEEDING IN THE CONDITIONS OF THE KIROV REGION

The results of field experiments to study effects of underseeding and sowing under a cover of spring and winter crops on agrophysical soil properties, growth, development and yields of birds-foot deer vetch are presented.

AGRICULTURAL ECOLOGY

УДК 635.37

S.Y. Bondarenko,
S.V. Makarychev,
I.V. Gefke

ANALYSIS OF THERMALPHYSIC CONDITION OF SOIL PROFILE

Regularities of soil thermal regime formation are discussed, the method of thermal processes modeling is proposed, based on analogies, originating from comparison of generalized dependencies of non-stationary thermal process with corresponding dependencies of transitional electric process combined with the method of mathematic experiment planning and a variant of graphic 3-D presentation of thermal fields in time and space in the soil profile.

УДК 631.6

V.I. Zanosova,
V.B. Prakht

ISSUES OF AGRICULTURAL WATER SUPPLY IN THE ALTAI REGION

Based on considerable amount of factual material analysis of current condition of agricultural water supply systems of the Altai Region is carried out, main factors of their unsatisfactory condition are identified. The necessity of expert support by development first-priority programme measures to improve quality drinking water supply is substantiated.

УДК 632.153:636.086.15

**N.I. Alyoshina,
S.V. Makarychev****UTILIZATION OF URBAN SEWAGE WATER TO IRRIGATE PERENNIAL GRASSES**

The results of research of utilization of urban sewage water to irrigate perennial grass awnless brome are presented. Chemical analysis of sewage water being used is provided. The technology of preparation of sewage water in filtration fields is proposed.

УДК 631.1:631.526:631.520

**Y.N. Titov,
F.M. Strizhova****EFFECT OF SOIL AND CLIMATIC CONDITIONS ON THE RESPONSE
OF SPRING WHEAT VARIETIES BY PROTEIN CONTENT**

Data on evaluation of response of recognized and perspective soft spring wheat varieties to natural climatic factors by protein content in the kernel in the conditions of the Priobskaya forest-steppe and the West-Kulunda area of the Altai Region is presented. Specificity of the response depending on hereditary features of the varieties is revealed, the varieties are differentiated according to the average level of the feature, as well as plasticity and stability parameters.

УДК 914.7

M.I. Skripnikova**ANTHROPOGENIC TERRACED AGROECOSYSTEMS OF THE MOUNTAIN LANDSCAPES
OF EURASIA**

Scantly explored problems of constructional stability of ancient anthropogenic terraces of different mountains areas of Russia and Ukraine are reviewed. Using geographic approach to analysis of manmade terraced complexes of various mountains areas, common and regional constructive peculiarities of ancient terraced agrolandscapes were detected. Terraced landscapes are classified as anthropogenically changed self-regulating systems based on their capacity to function without destruction during some thousand years after removal of anthropogenic load. The construction of terraces of individuals regions of Crimea and Altai are reviewed for the first time. The stability of ancient anthropogenic terraces is considered from the point of view of geology and geomorphology, and also by means of the analysis of biochemical parameters of their structural components, that is a new direction by of studying parameters degradation resistance of landscapes and soils.

ANIMAL PRODUCTION

УДК 636.32/.38:591.8

**N.I. Vladimirov,
N.I. Ryadinskaya,
N.Y. Vladimirova****HISTOLOGICAL FEATURES OF MUSCLE FIBRE STRUCTURE IN SHEEP
OF VARIOUS BLOOD PATTERNS**

Histological examination of muscle fibre structure in ewe-lambs of the groups being compared reveals better (by 7.9; 9.3%) development of muscle fibre diameter in cross-breeds Texel Ч Kulundinskaya, than in Kulundinskaya ewe-lambs and in cross-breeds Edilbayevskaya Ч Kulundinskaya, whose fibre consists of muscle fibre having siplastic structure and cross-striation. Along with that cross-bred ewe-lambs Texel Ч Kulundinskaya have larger diameter of satellite cells by 19.6 and 17% compared to Kulundinskaya and Edilbayevskaya Ч Kulundinskaya ewe-lambs. Since a satellite cell, belonging to muscle fibre and having common capsule, can be involved in fibre development,

there is the reason to state that the animals Texel Ч Kulundinskaya have better potential to increase muscle bulk compared to their contemporaries.

УДК 636.5/.6.084.52:579.252.55

**N.A. Nevinskaya,
A.M. Bulgakov**

THYROID GLAND ACTIVITY IN REPLACEMENT GILTS WHEN USING FORMULA FEED AND IODINE AGENT

In the Altai Region as the result of iodine deficiency in soil, water and feeds there is decrease of thyroid gland activity. When using complete formula feed and iodine agent mainly combined with starch as its stabilizer, thyroid gland activity increases. The most thyroid gland activity is revealed in gilts which were fed complete formula feed; iodine was introduced twice repeated as iodine starch solution injections. The first injection amounted 12.7 mg of iodine per head at live weight of 40 kg, the second injection – 24.2 mg per head at live weight of 70 kg.

УДК 539.26:534

Y.M. Malofeyev

CRANIOLOGICAL FEATURES OF SKULL OF LYNX (FELIX LYNX)

Comparative craniological features of lynx of Altai and Amur regions are presented. For the first time sizes of skull's foramens are given, thus indicating the features of blood supply and innervation of the head's organs.

VETERINARY MEDICINE

УДК 616:619.00

**V.V. Razumovskaya,
V.N. Prudnikova**

LEUCOSIS IN CATTLE OF SIMMENTAL BREED

One of the main commercial breeds of cattle raised in the Altai Region is the Simmental breed. The breed is raised in 30 administrative districts of the Region. The average milk productivity in breed herds is 3944 kg per cow, average percentage infection rate by leucosis virus is 23.9%, the number of ill cows of the total infected cows makes 5.5%.

Scientifically proved measures to eliminate the disease allow establish cattle population free of leucosis.

УДК 576.8:502.74:504.53

**N.M. Ponomaryov,
N.A. Novikov,
N.N. Ponomaryova,
O.V. Tyumentseva**

EVALUATION OF RADIATION AND PARASITIC CONDITION IN POPULATIONS OF WILD WATERFOWL IN THE TERRITORY OF THE ALTAI REGION

The results of ecologic monitoring of wild ducks populations in the Altai Region are presented. The data of radiation and parasitic examinations are presented.

TECHNOLOGIES AND MEANS OF AGRICULTURE MECHANIZATION

УДК 621.1.016.4

A.A. Bagayev,
A.I. Bagayev,
P.P. Zubov

MATHEMATICAL MODEL OF HEAT EXCHANGE IN ELEMENTARY WATER HEATERS FOR RURAL HOUSEHOLDS

Mathematical model of heat exchange with lumped parameters in elementary water heaters for rural households is proposed. The model allows obtaining temperature dependencies of thermoelectric heater, its surface and heated water on the flow speed, and choosing optimal modes of heat carrier's movement, and, finally, minimizing energy and material costs on development and manufacture of magnetohydrodynamic pump for elementary water heaters of agricultural purpose.

ECONOMICS OF AGRICULTURAL INDUSTRY COMPLEX

УДК 338.9

Y.V. Kasatkina,
Y.A. Yakimenko

ISSUES OF ATTRACTING INVESTMENTS IN PROCESSING INDUSTRIES OF THE ALTAI REGION AND CREATING OF INVESTMENT ATTRACTING IMAGE OF ENTERPRISES

Issues of attracting investments in processing industries of the Altai Region and creation of investment attracting image of enterprises are discussed with the purpose of increasing interest of various investors to invest additional funds in the economy of the Altai Region.

УДК 368:93/99

A.V. Pautova

PREREQUISITES OF ORIGINATION AND FORMATION STAGES OF INSURANCE RELATIONS IN SOCIETY

Issues relating to historic stages of origination of insurance relations in society are considered: stage I – formation of insurance foundations beginning with the ancient times up to the 14th Century; stage II – the period from the 14th up to the middle of the 19th Century; stage III – development of insurance activity from the middle of the 19th Century up to the present state of the world's insurance market. Analysis of prerequisites of development of insurance relations in various historic periods is provided.

УДК 631.16:336.7+631.14

O.S. Ruff,
V.S. Lozinskiy,
S.R. Lozinskiy

CREDITING SMALL FORMS OF ECONOMIC ACTIVITY IN THE FRAMEWORK OF THE NATIONAL PROJECT "DEVELOPMENT AGRICULTURAL INDUSTRY COMPLEX"

The first results of granting subsidized loans to the owners of private subsidiary farms of the Tomsk Region in the framework of the National Project "Development agricultural industry complex" are considered. Evaluation of crediting dynamics is provided subject to the climatic features and geographic location of all the districts of the Region.

УДК 330.31

L.A. Kapustyan**PECULIARITIES OF TERRITORIAL ORGANIZATION OF LOCAL GOVERNMENT
AT THE LEVEL OF RURAL COMMUNITIES**

Peculiarities of territorial organization of local government at the level of rural communities and the problems emerging by formation of rural communities are discussed. Discordance between growth of number of rural communities and reduction of rural population is pointed out. The territorial structure of rural communities of the Altai Region is considered, its inefficiency is emphasized, ways of its improvement are proposed.

MANAGEMENT AND MARKETING

УДК 378:331.108.2

A.A. Fannenstil**ON COMBINATION OF UNDIVIDED AUTHORITY AND COLLECTIVE LEADERSHIP
IN UNIVERSITY ADMINISTRATION**

Administration systems in universities should be developed taking into consideration peculiarities of operation in the environment of education services market. That requires professionalization of university administration while following the traditions of collective strategic decision making. The problems and experience of realization of principle of combination of undivided authority and collective leadership in the Altai State Agricultural University are dealt with.

УДК 338.431:334.75:637.1.002.2

**I.V. Kovalyova,
Y.V. Khrenova****MARKETING STUDIES OF THE DAIRY MARKET
OF THE REGIONAL AGRICULTURAL INDUSTRY COMPLEX: PROBLEMS
AND PROSPECTS OF DEVELOPMENT**

The problems of distribution of milk as raw material in the zones of the Altai Region, dairy products consumption and supply in the region based on marketing analysis are studied.
