

ABSTRACTS

AGRONOMY

УДК 635:571.51

**M.G. Ozerova,
A.V. Sharopova**

CURRENT STATE AND MAIN DIRECTIONS OF VEGETABLE PRODUCTION DEVELOPMENT IN THE KRASNOYARSK REGION

Dynamics of vegetable production in the Siberian Federal District and in the Krasnoyarsk Region is presented. The current state of vegetable production in agricultural organizations of the Region is analyzed, grouping of farms is made. Main directions of further functioning of vegetable production are proposed, foundation of consumers' cooperative in that sector is substantiated.

УДК 633/635(571.15)

**V.Y. Musokhranov,
A.T. Golovnyov**

CROP PRODUCTION OF THE ALTAI DISTRICT IN THE ECONOMIC- TOURIST-RECREATIONAL ZONE OF THE ALTAI REGION

Issues of crop production in the piedmont low hill zone of the Altai District in view of the use of a part of its territory for tourist and recreational purposes are considered. The opportunities to increase productivity of grain, leguminous, groats and fodder crops for food supply of the district population and recreation facilities' visitors are analyzed. The opportunities of crop production adaptation to the demands of the recreational market are particularly considered. The prospects of wood-shrubby and herbaceous fruit-berry plants cultivation are considered. The issues of restoration of crop rotations, pasture rotations and seed growing are considered.

УДК 582.572

**A.Y. Nabyeva,
O.V. Dorogina**

INTRODUCTION OF LILIUM MARTAGON L. SUBSP. PILOSIUSCULUM (FREYN) ILJIN EX B. FEDTSCH. INTO IN VITRO CULTURE BY MEANS OF MATURE AND IMMATURE SEEDS

Lilium martagon subsp. *pilosiusculum* immature and mature seeds germination was studied in vitro culture. The effect of plant growth regulators and medium composition on bulblet regeneration, type of seedlings morphogenetic reaction and their accelerated growth was revealed.

УДК 633.11:631.461:631:559

**V.S. Kursakova,
D.V. Drachyov****ROLE OF MICROBE NITROGEN FIXERS AND NITROGEN FERTILIZERS IN FORMATION OF CROP CAPACITY OF SOFT SPRING WHEAT**

Effect of microbe preparations of nitrogen fixing associative bacteria and mineral nitrogen fertilizers on crop capacity formation of the spring wheat varieties Altaiskaya 325 and Altaiskaya 530 was investigated. Comparatively high efficiency of biological preparations was revealed, increase due to inoculation made up 13-24% for the Altaiskaya 325 variety, and 6-19% for the Altaiskaya 530 variety. Nitrogen fertilizers with application rate of 30 and 60 kg/ha resulted in 10-28% increase. Flavobacterin and Rhizoagrin proved to be the most effective preparations, their effect is equal to mineral nitrogen application with the rate of 30 kg/ha. Microbe preparations contributed to reduction of fungi microflora quantity.

УДК 633.39:631.81(571.1)

**N.M. Sidorova,
Y.I. Ermokhin****OPTIMIZATION OF MINERAL NUTRITION AND FERTILIZERS' APPLICATION RATE CALCULATION BASED ON SILPHIUM PERFOLIATUM FIELD EXPERIMENTS IN THE TERRITORY OF WEST SIBERIA**

The issues of rational use of fertilizers for *Silphium perfoliatum* in West Siberia are considered. Data on the best application rates of fertilizers on the basis of field experiments and revealed duration of fertilizers' after-effect on the crop size formation is presented.

УДК: 631.84:631.445.53(574.2)

**Y.I. Ermokhin,
A.A. Sarsenova****OPTIMIZATION OF NITROGEN FERTILIZER APPLICATION RATES IN AMELIORATED SHALLOW LOW-SODIUM SOLONETZ SOILS OF THE HILL-PLAIN ZONE OF THE NORTHERN KAZAKHSTAN**

Effectiveness of nitrogen fertilizer application on ameliorated with phosphogypsum (5 t/ha) background in the conditions of the hill-plain zone of the Northern Kazakhstan is revealed. Application of phosphogypsum with low rate (5 t/ha) results in increase of fodder crops yields both with and without additional fertilizers application. Mathematic model of nitrogen fertilizer application rate optimization on ameliorated solonetz soils depending on soil factors is made up based on the obtained empirical data.

FORESTRY

УДК 630*0.434

**A.M. Matveyev,
T.A. Matveyeva****SPECIFICITY OF COMBUSTIBILITY OF LARCH CENOSES OF MIDDLE AND SOUTH TAIGA SUBZONES OF THE KRASNOYARSK REGION**

Key words: middle and south taiga subzones, the inferior high zone complex, larch phytocenoses, a fire frequency index

Features of combustibility of larch-forests in low mountain altitudinal belt of middle and south taiga subzones of the Krasnoyarsk Region are investigated. It is revealed that in forests with mossy ground vegetation the fire fighting maximum falls at the middle of a fire risk season. In rich in herbs group of forest types the greatest combustibility is observed in the beginning of the season.

УДК 581.9 (597.15)

I.A. Khrustalyova**VEGETATION COVER OF THE BURLINSKIY BELT PINE FOREST**

Data on vegetation cover of the Burlinskiy belt pine forest, for which combination of wood and herbaceous vegetation communities is typical, is presented. The diversity and distribution of vegetation communities within the pine forest is characterized.

УДК 630.1

**M.V. Klyuchnikov,
M.A. Terekhov,
Y.G. Paramonov****FEATURES OF SIBERIAN PINE AND LARCH GROWING IN THE NORTH-EAST ALTAI**

Natural distribution of Siberian pine and larch plantations under the influence of the height above sea level, exposure and steepness of slopes in the North-East Altai with characteristic of their productivity is considered.

VETERINARY MEDICINE

УДК 619:616-006

**V.F. Degay,
I.I. Zhukova****COMPLEX THERAPY OF MAMMARY NEOPLASMS IN DOGS**

The theoretical significance of the study consists in the definition of laser therapy effect on dogs' organism with the medical purpose. We have developed a technique of laser therapy and magnetic laser therapy. Changes of biochemical indicators of blood and clinical condition allow drawing a conclusion that inclusion of physiotherapy into the scheme of treatment projects positive dynamics.

УДК 616:616.995.1

**A.Y. Bondarev,
I.A. Kravchenko,
A.V. Boranbayev****HELMINTHIASIS OF WOLVES OF THE SOUTH-WEST KULUNDA AREA**

Present-day species composition of wolves' helminthiasis of the forest-steppe of the south-west Kulunda area is identified and is compared with helminthiasis fauna of the 1960s.

ANIMAL PRODUCTION

УДК 636.082.265:637

**N.M. Rudishina,
G.D. Nekrasov****EFFECT OF HOLSTEINIZATION ON MILK PRODUCTIVITY AND REPRODUCTIVE FEATURES
OF COWS OF THE BLACK-AND-WHITE BREED**

Parameters of milk producing ability and reproductive qualities of mix bred cows of the black-and-white breed with various percentage of the Holstein breed's blood (n = 230 heads) were stu-

died. First-calf heifers with blood percentage between 75.1 and 87.5% are noted for higher milk producing ability and optimum parameters of reproductive function.

УДК 636.22/.28.082.2

**S.K. Bostanova,
Y.N. Sheyko**

**PARAMETERS OF NATURAL RESISTANCE OF HEIFERS
OF THE BLACK-AND-WHITE BREED DEPENDING ON THE ORIGIN OF FATHERS**

Studying of natural resistance of Holsteinized black-and-white heifers allows ascertaining, that cellular factors of protection during the sucking period of growth of an organism are the main factors; later on humeral factors of protection are of greater significance for an organism. The content of the proteins affecting immunologic status of the organism increased with the process of growth of the animals.

PROCESSING OF AGRICULTURAL PRODUCTS

УДК 637.147:664.48

**S.S. Lee,
V.A. Kintsel,
Y.S. Stepanenko**

SUITABILITY OF MILK OF THE ALTAI REGION'S DAIRY COWS BREEDS FOR CHEESE-MAKING

The research was aimed at study of production efficiency of a hard cheese Vityaz made of milk received from cows of various breeds and intra-breed types.

It is revealed that milk of the Simmental breed cows is the most suitable for cheese making by the content of the main components and their proportion. The milk is higher by protein content than other breeds' and intra-breed types' milk; it is more economical for cheese making.

УДК 637.147:664.48

L.A. Popova

EFFECT OF SALTS- STABILIZERS ON DRY MATTER CONTENT IN WHEY BY CHEESE MAKING

The balance of salt system of milk during its storage, transportation and processing can be disturbed due to changes of temperature and salts concentration. Power dependence of ionic calcium dynamics in milk on temperature and duration of its influence is revealed. Addition of salts affected casein coagulation process. A perspective direction of milk correction in cheese making is addition of calcium phosphate.

TECHNOLOGIES AND MEANS OF AGRICULTURE MECHANIZATION

УДК 534.111:63

D.N. Pirozhkov

**TRANSFORMATION OF HYDRODYNAMICAL MODEL OF VIBRO-BOILING LOOSE MATERIAL
INTO LORENTZ SYSTEM**

Procedure of transformation of Navier-Stokes equations, derived for vibro-boiling loose material, into Lorentz system is presented. Also analysis of values obtained at the transformation is carried out.

УДК 629.332

**A.S. Pavlyuk,
V.A. Poddubniy,
A.I. Valekzhanin****MODELING OF HINGED WHEELED MACHINE MOVEMENT IN THE MATLAB-SIMULINK**

Description of mathematical model of a hinged wheeled machine for research of stability and controllability of movement is presented. The system of the differential equations of movement of the machine is made with application of Lagrange equations of the 2nd kind. The algorithm of the model is realized in the Matlab-Simulink. The model allows defining target kinematic parameters of the machine parts for subsequent analysis of stability and controllability of movement. The results of the modeling are presented.

ECONOMICS OF AGRICULTURAL INDUSTRY COMPLEX

УДК 338.24

O.V. Sitnikova**IMPROVEMENT OF EFFECTIVENESS OF STATE TARIFF REGULATION IN A REGION**

The essence of effective state tariff regulation through definition of various effectiveness criteria of state regulation of economics is revealed. Suggested methods of improvement of tariff regulation allow increase the effectiveness of tariff politics based on socially-oriented approaches.

УДК 33:339.9

**V.I. Belyaev,
D.V. Ganzhenko****APPLICATION OF SOCIAL AND ECONOMIC PREDICTION METHODS IN DEVELOPMENT OF FOREIGN TRADE ACTIVITIES IN THE RUSSIAN FEDERATION**

Analysis of possibilities of application of methods of social and economic prediction "Development Scenarios" and "Road map" at formation of the basic directions of foreign trade activities is dealt with. With reference to various scenarios of economic development the basic tools and measures of state regulation of foreign trade activities are presented. Principles of construction of "Road map" of development of foreign trade activities, as the fullest and capacious tool of social and economic prediction are proposed.

УДК 332.146.2:631.15

I.V. Georgitsa**SUSTAINABLE DEVELOPMENT CONCEPTS' ADAPTATION TO SYSTEM OF AGRICULTURAL NATURE MANAGEMENT**

Issues of adaptation evolutionary economics concepts for development process of agricultural land management on reclaimed lands are examined. Results of the research of sustainable functioning and development of agrarian systems problems are presented. A model of agricultural production system taking into account sustainable development technologies is proposed.

УДК 631.158:658.3

V.V. Ukhobotov,
D.A. Vartsev

ISSUES OF LABOUR FORCE FORMATION IN AGRICULTURE

Issues of population decrease and decrease of education basis of labour force reproduction in agriculture are described. Potential directions of the professional system development in present-day conditions are considered.

УДК 338.431(571.15)

T.P. Yemelyanova

PROBLEMS OF FINANCING NATIONAL PROJECTS IN AN AGRICULTURAL REGION

Results and some problems of realization of the national projects are discussed. As the main problem insufficient fund allocation for the national projects is pointed out. Another problem is the actual financing plan of the national projects. The plan implies some increasing differentiation in social development between individual rural districts of a region.

УДК 338.431:631:62:31(571.15)

Y.V. Lukina

**CLUSTER ANALYSIS AS METHOD OF AGRICULTURAL MACHINERY MARKET SEGMENTATION
(BY THE EXAMPLE OF THE PRIOBYE AREA OF THE ALTAI REGION)**

Development of methodology approaches to market segmentation is determined by increase of efficiency of activity of state and municipal authorities.

Key words: market segmentation, micro-segmentation, macro-segmentation, cluster analysis, grouping attribute.

УДК 631.16

L.V. Popova,
L.A. Melikhova

FEATURES OF FINANCIAL IMPROVEMENT OF AGRICULTURAL ORGANIZATIONS

Necessity of considering features of functioning of agricultural sector of economy is proved at realization of their financial improvement. The priority direction of financial improvement of insolvent farms is their connection to solvent commercial organizations.

Key words: financial improvement, re-structuring of debts, agricultural commodities' producers, crisis condition of farms, potential investors.
