

ABSTRACTS

AGRONOMY

УДК 631.434.52 (517.15)

**A.Y. Kudryavtsev,
Y.V. Reichert,
O.N. Storm**

INTENSITY OF LAND RESOURCES USE IN ARABLE LANDS

Materials describing intensity of land resources use in arable lands and degradation processes of arable lands all over the world, in Russia and in the Altai region are selected. The issues of arable lands availability to the population of the world, of the Russian Federation and of the Altai Region are considered.

УДК 631.53.04:635.652/654

**P.V. Tikhonchuk,
A.A. Muratov**

INFLUENCE OF TERMS OF PLANTING ON GROWTH AND DEVELOPMENT OF KIDNEY BEAN

Trends of growth, development and yield of kidney bean depending on the terms of its planting were studied. The results of study of the influence of terms of planting on duration of the inter-phase periods, height of plants, leaf area, and yield of kidney bean are presented.

УДК 631.452:631.51:631.8

**B.A. Smirnov,
P.A. Kotyak,
Y.V. Chebykina**

INFLUENCE OF DIFFERENT BY INTENSITY SYSTEMS OF TILLAGE AND FERTILIZING ON THE CHANGE OF BIOLOGICAL INDICES OF SOIL FERTILITY

Results of three-year research of influence of different by intensity systems of tillage and straw used as organic fertilizer, on change of intensity of processes of humus formation, activity of catalase, cellulose decomposing capacity, species composition of soil microflora, soil toxicity, and crop capacity are presented.

FORESTRY

УДК 630*232.323

A.A. Malenko

EVALUATION OF PINE AND POPLAR ESTABLISHED BY SEEDING

Experiment of pine and poplar plantations established by seeding with irrigation on soddy-podzolic soils in dry steppe conditions is described. Data on growth and formation of mixed plantation is presented.

УДК 630*0.434

T.A. Matveyeva,
A.M. Matveyev

ROLE OF FOREST DENSITY DURING THE POST-FIRE REFORESTATION

Features of post-fire reforestation of larch and pine in the lower high-zone complex of mountains of South Siberia are investigated. It is determined, that on shallow upland soils the process of appearance and subsequent growth of new generation of forest forming species depends on density of parent stand. The number of undergrowth increases as soon as the density of wood cenosis comes down.

УДК 630.221:630.18

V.A. Grachyov,
A.S. Zalesov,
V.A. Pomaznyuk

**SILVICULTURAL EFFECTIVENESS OF OVERLAPPING PROGRESSIVE CUTTINGS
IN THE SECONDARY BIRCH FOREST GROWTH OF THE URALS**

Data confirming high silvicultural effectiveness of overlapping progressive cutting in secondary birch forest growth of the Urals are given. On the base of the experimental research data the possibility is proved to re-form the secondary birch forest growth into dark coniferous forests without any measures for artificial reforestation.

AGRICULTURAL ECOLOGY

УДК 631.43

V.L. Tatarintsev,
L.M. Tatarintsev

**PHYSICAL CONDITION OF THE AGRICULTURAL SOILS
IN THE STEPPE WITH FOREST OUTLIERS DEPENDING ON TEXTURE OF SOIL GRADING**

The texture of black soils grading in the steppe with forest outliers in the Altai Region is analyzed, and their physical state depending on the texture of soil grading is evaluated.

УДК 631.4:631.445.52 (571.15)

N.Y. Boronina

**GENERAL REGULARITIES OF TOXIC IONS CONTENT
IN THE SOILS OF THE KULUNDINSKAYA STEPPE**

Regularities of salts accumulation in the soils of the Kulundinskaya Steppe have been studied during long time. Those studies are necessary to establish variation of salts amount in soil and their effect on soil fertility and accordingly on crop yields. Toxic ions negatively influence on soil fertility, thus thorough study of their content is necessary. It is revealed, that in structure of salts sodium sulfate and sodium chloride prevail, which role in various parts of soil profile is different. Thus the following types of salinization are formed: sulfate, chloride-sulfate (or sulfate-chloride) types.

УДК 631.4.004.12(571.122)

Z.G. Khludentsov

FEATURES OF VARIABILITY OF PROPERTIES OF PODZOL SOILS OF AN MIDDLE TAIGA

The factors of soil formation process on the observable territory are presented. The results of research are systematized, modern concept of the development of soil formation process in forest resources of middle taiga formed. Spatial variability of physic-chemical soil properties was determined and this made it possible to determine the degree of manifestation of podzolic and soddy processes.

УДК 631.4

M.P. Sartakov,
A.A. Mironov

**CHEMICAL COMPOSITION AND ABSORPTION SPECTRUM OF HUMIC ACIDS
OF ALLUVIAL SODDY AND SWAMP INUNDATED SOILS IN THE OB-IRTYSH INTERFLUVE**

New data characterizing the composition and molecular structure of humic acids of inundated soils in the Ob-Irtysh floodplain are obtained. Characteristic features of humic acids are revealed, they are determined by the specific character of humification defined by uneven water cut. Elemental composition and spectrographic analysis show that humic acids of alluvial swamp soils are characterized by a greater number of aliphatic chains in comparison with humic acids of alluvial soddy soils.

УДК 581.6(571.17)

N.S. Zvyagina,
D.N. Shaulo

ECONOMICALLY VALUABLE PLANT SPECIES OF THE KUZNETSK FOREST-STEPPE AREA

Data on current plant diversity of the Kuznetsk forest-steppe area which is one of the most urbanized and agriculturally advanced regions of West Siberia is presented. The role of economically valuable plants: medicinal, forage, food, industrial, etc., the flora is pointed out.

ANIMAL PRODUCTION

УДК 636.2:631.2:628.8/9

L.N. Goncharova

**SANITARY SUBSTANTIATION OF APPLICATION OF AEROIONIZATION IN CATTLE BREEDING
AND COMPARISON CHARACTERISTICS OF BULLS' SPERM PRODUCTION
ON BARNAULSKOYE BREEDING FARM**

By means of research it was established that it is necessary to comply with the standards of microclimate in bull confinement as it is favorable for their sperm production. Artificial ionization of air in the housings for livestock improves sanitary condition of air as well as promotes better sexual reaction and obtaining high quality sperm.

УДК 636.2.0851.087:637.1

V.N. Getmanets

**APPLICATION EFFICIENCY OF PELLETS MADE OF GREEN MASS OF SORREL
OF RUMEX K-1 VARIETY FOR DAIRY COWS NUTRITION**

Scientific and economic experiment revealed that when cows are fed with pellets made of green mass sorrel of Rumex K-1 variety and wheat bran, milk yield increased by 10.6%. It was also favourable for increasing concentration of basic milk components; dry matter content increased by 0.73%, butter fat – by 0.33%, and protein content increased by 0.23%. Thus application of feed pellets made of green mass of sorrel Rumex K-1 improved milk yield and qualitative composition of milk.

TECHNOLOGIES AND MEANS OF AGRICULTURE MECHANIZATION

УДК 621.431.7.03/.04

P.G. Smirnov,
A.F. Naidysh

**INFLUENCE OF SETTING IGNITION ADVANCE ANGLE ON THE EFFICIENT POWER
AND TOXICITY OF GASOLINE ENGINE WHEN SHIFTED TO FUELLING BY LIQUEFIED GAS**

Comparative trials of VAZ 2106 engine operation with petrol and fueled by liquefied oil gas for the purpose of determining optimal setting ignition advance angle were carried out. Dependences of efficient power and toxicity on the ignition advance angle were revealed. Working on liquefied gas, optimal ignition advance angle is by 10-12° more than working on petrol.

УДК 667.026.22:621.3.029.6

N.M. Agafonova,
N.S. Danysheva

APPLICATION OF SHF-TECHNOLOGIES IN THE PROCESS OF FLAX WOOL PRODUCTION

For incrusting matter removal from flax fiber in the process of flax wool production alkaline digestion is applied at 150-180°C temperature and 3...4 atm pressure for 180 and more minutes. However such modes are not favorable for the wool quality. Use of SHF-energy along with alkaline digestion in order to reduce the duration of processing and create load-sparing modes is proposed.

УДК 635.10

A.A. Koval,
N.V. Soboleva,
V.A. Trufanov

SUBSTANTIATION OF SEEDBED DIMENSIONS BASED ON ANTHROPOLOGIC PARAMETERS

Overall dimensions of seedbed and its height arrangement should correspond with size attributes of a man that decreases fatigue and contributes to work convenience when performing cultivation operations.

For initial size attributes the typical female figure with appropriate anthropologic parameters was accepted which were used for calculations. By results of the calculations the optimum seedbed dimensions were determined.

ECONOMICS OF AGRICULTURAL INDUSTRY COMPLEX

УДК 911.3:338.24

M.P. Shchetinin

MECHANISM OF REGIONAL ECONOMICAL REGULATION ON MESO-LEVEL: DETERMINATION AND APPROACH TO STUDY

The mechanism of territorial (regional) economical development is considered as interaction of local authorities within the bounds of their reference with other economic units (federal authority, local government, subjects of economic activity), oriented to social and economic development of the region and satisfaction on the regional level of social, corporate, and individual needs for material values and services that influence greatly on the economic development of municipal formations.

УДК 351/354:338.439.001.25(571.15)

T.G. Skurikhina,
M.A. Kiselyova

SYSTEM OF STATE REGULATION OF FOOD SAFETY OF THE ALTAI REGION

The system of state regulation of food safety of the Altai Region is considered, the object, subject and mechanism of such regulation are determined. The current methods of state regulation, applied in the Altai Region within the boundaries of providing physical and economic availability of food products are considered.

УДК 631.15/16:334.75:633.1 (571.15)

Y.I. Rogovskiy,
Y.A. Bugay

STATE RESOURCE SUPPORT FOR GRAIN PRODUCERS

The issues of grain market functioning in the developed countries are considered. The main forms of state support for agricultural producers are summarized. The policy of determining state resources support for grain producers is substantiated.

УДК 631.115.1

A.P. Musatova,
A.V. Shatova

ECONOMIC EFFICIENCY DIAGNOSTICS OF SMALL AGRICULTURAL ENTERPRISES

Diagnostics of economic efficiency of small agricultural enterprises is carried out.

УДК 336.64:64.01

I.Y. Vyatkin

FINANCING OF URBAN UTILITIES INDUSTRIES DURING THE HOUSING AND COMMUNAL SERVICES REFORMING

For complete understanding the mechanisms of revenue forming in the businesses of housing and communal services some peculiarities of financial supply from different sources subject to different groups of public services consumers are considered.

УДК 338.43 (571.150)

**M.P. Gritsenko,
D.V. Borisov**

**AQUACULTURE DEVELOPMENT AS A PERSPECTIVE DIRECTION
OF AGRIBUSINESS DEVELOPMENT**

Foreign experience of aquaculture development is considered, natural potential of Southern Siberia is studied. Directions of development of aquaculture in the region as a perspective type of business activity in agricultural industry complex are proposed.

УДК 339.1

E.A. Krug

**FACTORS, INFLUENCING UPON COMPETITIVENESS OF ENTERPRISES:
DIFFERENT AUTHORS' POINTS OF VIEW**

Functioning of any economic entity occurs in the conditions of competitive activity. Different authors' points of view, considering the factors, influencing upon competitiveness of enterprises are presented.
