

ABSTRACTS

AGRONOMY

УДК 631.4:631.8(571.17):333

**L.M. Burlakova,
T.V. Streltsova,
O.V. Albul**

INFLUENCE OF SOIL FERTILITY CHANGE ON QUALITATIVE AND ECONOMIC EVALUATION OF AGRICULTURAL CHERNOZEMS OF THE AFFORESTATED STEPPE

It is revealed that agricultural chernozems of the afforested steppe of the Altai Region during the period of 44 years have partially lost their fertility under the influence of dehumification and water erosion; that resulted in the change of qualitative evaluation score, which, in turn, influenced economic evaluation of those soils.

УДК 634.1/7:631.544

**V.F. Severin,
O.V. Vakulenko**

SMALL FRUIT CROPS' PLANTING STOCK QUALITY AS A FACTOR OF HIGH-YIELDING PLANTATION FORMATION

Planting stock quality is the most important factor of high-yielding plantation formation. When establishing small fruit garden on the Forestry Farm Znamenskiy, the Slavgorodskiy District, the Altai Region, seedlings of the first and the second grades of black-currant, white-currant, honey-suckle, and sea-buckthorn of various varieties were used. It is shown that in the conditions of the Kulunda Steppe the use of seedlings of the second grade results in their low establishment rate, garden establishing in spring is not expedient. All seedlings should be planted in autumn only, including those of sea-buckthorn, which is recommended to be planted in spring only.

AGRICULTURAL ECOLOGY

УДК 631.4:628.543

**S.V. Makarychev,
N.I. Alyoshina,
A.V. Tingayev**

TRANSFORMATION OF AGROCHEMICAL PROPERTIES OF CHERNOZEMS IRRIGATED BY SEWAGE WATER (BY THE EXAMPLE OF THE CITY OF ALEYSK)

Nutrients and organic compounds intake by the soil is accompanied by significant increase of microbiologic processes. Humus content of the arable horizon in the irrigated plot varied from 4.10 up to 5.90% during the years of the investigation. Total nitrogen content increased from 0.21 up to 0.35%. By irrigation perennial grasses form powerful root system, which results in significant organic matter accumulation compared to non-irrigated plot. The greatest growth of total nitrogen and humus content occurs in the arable horizon.

УДК 631.95:631.6(571.15)

**Y.D. Kosheleva,
V.V. Skripko,
A.A. Tskhai****SOME ASPECTS OF GEOECOLOGIC STUDIES OF THE BURLINSKIY MAIN CANAL
(THE KRUTIKHINSKIY DISTRICT OF THE ALTAI REGION)**

The results of field studies of erosion processes on side slopes of the Burlinskiy Main Canal carried out in May-June of 2007 are summarized. The outcome of the field data processing is the map of erosion hazard along the Burlinskiy Main Canal route. Up-to-date drawing means and space photographs are used when constructing maps. The study is of interest for the operational services of the region.

УДК 630.632.31

**Y.G. Paramonov,
A.N. Shevchenko****INCREASE OF FOREST RESERVES PRODUCTIVITY IN THE CONDITIONS OF LOW MOUNTAINS
BY MEANS OF FORMATION SEED-YIELDING PLANTATIONS OF SIBERIAN CEDAR**

Based on 4 years long studies recommendations were developed on inadequate approach to formation of seed-yielding plantations of Siberian cedar (*Pinus sibirica*) of the age under 10 years, between 11 and 30 years, and over 30 years.

УДК 631.459: 556.164:(571.15)

**S.S. Ryakhovskiy,
V.Y. Musokhranov****THE STUDIES OF SOIL AND SURFACE WATER CONDITION ON THE SLOPES
OF THE BIYE-CHUMYSHSKAYA HEIGHT AND THE PRIOBSKOYE PLATEAU**

The natural and anthropogenic factors affecting emergence and development of water erosion processes are dealt with. The relation of erosion processes to the agricultural lands' cadastral values is pointed out.

ANIMAL PRODUCTION

УДК 636.22/.28.034:591.147:591.133.2

**A.I. Afanasyeva,
V.G. Ogy,
S.A. Galdak****EFFECT OF FEEDING STRUCTURE ON BLOOD MORPHOBIOCHEMICAL INDICES
AND MILK PRODUCTIVITY LEVEL OF THE RED STEPPE BREED COWS**

Introduction of hey into the diet of dry cows in the amount up to 52% allows increasing their milk productivity by 558.6 kg (13.3%) due to high metabolic level related to optimum activity of endocrine glands.

УДК 636.294:591.4

**L.Y. Maydorova,
Y.M. Malofeyev,
N.I. Ryadinskaya,
S.N. Chebakov****ARTERIES OF SYSTEMIC CIRCULATION IN MARAL DEER**

Features of large arteries in maral deer are listed, namely of aorta, brachiocephalic trunk, visceral and parietal branches of those vessels. The features of the arteries' length and diameter in the animals of various age groups are given.

УДК 636.32/.38.082./3:363.061

**N.V. Ploshchadnykh,
N.I. Vladimirov****SOME RESULTS OF CROSSING THE KULUNDA BREED AND MIXED BRED EWES WITH RAMS OF THE TEXEL BREED**

It is revealed that mixed bred ewe-lambs with s Texel blood trend to meat type constitution, i.e. they are more round and compact compared to the Kulunda and half-blood contemporaries, and possess the most genetic predisposition to fattening features characteristic for meat breeds sheep.

TECHNOLOGIES AND MEANS OF AGRICULTURE MECHANIZATION

УДК 631.31

**V.I. Belyayev,
D.V. Belyayev****THEORETICAL SUBSTANTIATION OF OPERATIONAL PARAMETERS AND MODES OF TILLAGE-SEEDING IMPLEMENTS' PERFORMANCE**

Mathematical model of tillage-seeding implements is proposed, which allows carrying out substantiation of their operational parameters and modes of performance, and evaluating the degree of perfection of implements' and tractors' design, developing practical recommendations on rational use during operation.

УДК 631.363

**S.N. Vasilyev,
A.I. Sechevoy****SUBSTANTIATION OF ENERGY-EFFICIENT PREMIXES PRODUCTION SYSTEM IN THE CONDITIONS OF COLLECTIVE AND PRIVATE FARMS**

The analysis of known methods and equipment for mixing protein-mineral-vitamin supplements has revealed necessity of development small-size mixers of vibrating action. The advantage of such equipment type is determined by its low energy intensity and lack of rotating operating elements. The proposed design and preliminary operational tests revealed that the mixer sufficiently met the premixes production demands.

УДК 631.3.01.004.67

**V.N. Chizhov,
O.G. Belchikova,
M.V. Seliverstov,
K.V. Seliverstov****ELECTROMECHANIC DEFORMATION OF METALS AS THE BASIS
OF RESOURCE SAVING BY PARTS' REPAIRS**

New field of electromechanic processing, the basis of which were developed by B.M. Askinasi, is described. The processes received the name of electromechanic deformation of metals, and are aimed at sharpening cutting edge of agricultural implements elements by means of the shift of metal to the cutting edge.

Efficiency substantiation of those technologies is presented in comparison with conventional ones (abrasion, turning, erosion machining), which are based on removal of metal at cutting edge sharpening.

ECONOMICS OF AGRICULTURAL INDUSTRY COMPLEX

УДК 368:336.76

**N.F. Vernigor,
O.A. Pirova****CURRENT TRENDS OF THE REGIONAL INSURANCE MARKET DEVELOPMENT**

Regional insurance market is a system of economic relations, the main participants of which are the consumers of insurance services, insurance companies (as suppliers of those services), the regional administration and the state. The studies of the state and prospects of the regional insurance market on the current stage of its development require a deeper approach.

УДК 338.24

M.A. Vinogradov**INFLUENCE OF MOTIVATION SYSTEM ON THE EFFICIENCY OF THE AGRICULTURAL-INDUSTRIAL
GROUP ALTAISKIYE ZAKROMA BY VARIOUS FEATURES OF EXTERNAL ENVIRONMENT**

With the use of numerical model the pattern of influence of motivation system on the corporation's activity level is examined. Positive relation between motivation system development and efficiency increase within three possible organizational archetypes of the Agricultural-Industrial Group Altaiskiy Zakroma is revealed.

УДК 334.75:629.4.084.17:631.145

Y.V. Gerauf**FORMATION THE MARKET OF MATERIAL AND TECHNICAL RESOURCES FOR AGRICULTURAL
ENTERPRISES IN THE CURRENT CONDITIONS**

The most important component of the market of material and technical resources for agricultural industry complex is the market of agricultural machinery, because the level of its operation determines the formation of the main part of agricultural production assets – its technical basis. The studies allow identifying and systemizing the main forms of provision agricultural enterprises with technical resources; those forms with adequate government support enable farms to properly carry out updating the fleet of machinery and tractors and ensure timely completion of all agricultural operations.

УДК 334.75(571.15)

**G.M. Gritsenko,
N.V. Meshkov****IMPROVEMENT OF ORGANIZATIONAL-ECONOMIC MECHANISM
OF THE REGIONAL GRAIN MARKET'S OPERATION: THEORETICAL AND PRACTICAL ASPECTS**

Theoretical and practical aspects of improvement of organizational structure and economic mechanism of the regional grain market's operation are revealed, the problems of the Altai Region's grain market's operation and the role of specific organizational structures in that process are presented; the main directions of the regional grain market's economic mechanism improvement are identified.

УДК 338.431(571.15)

**Y.I. Zhidkikh,
A.I. Zhidkikh****OPERATION AND DEVELOPMENT OF THE RURAL SOCIAL INFRASTRUCTURE
OF THE REGIONAL AGRICULTURAL INDUSTRY COMPLEX**

Theoretical-methodological and practical issues of the operation of the rural social infrastructure of the agricultural industry region are studied. Recommendations on the further development of the rural social infrastructure are proposed.

УДК 8.431(571.15)

**V.A. Kundius,
Y.G. Stupichyova,
M.A. Kushnaryov****DETERMINATION OF LAND VALUE WITH CONSIDERATION
OF AGRICULTURAL CROPS' YIELD AS AN ELEMENT
OF AGRICULTURAL ENTERPRISES' BUSINESS EVALUATION**

The model of agricultural lands value determination is presented, the main component is the yield of cultivated agricultural crops. It is proposed to determine the yield with the use of information-logic model with yield rating according soil types and soil fertility. The effectiveness and necessity of the proposed approach use when determining land resources value are proved.

УДК 368:334.75

**M.A. Papsulina,
T.S. Belikova****CURRENT PROBLEMS AND PROSPECTS OF DEVELOPMENT OF INSURANCE BUSINESS**

The analysis of insurance market of Russia and the Altai Region is carried out, the main problems and trends are revealed. The technology of problem solution on the level of one insurance company within its development strategy is proposed and approved.
