

UDC 632.51:93

Ivashchenko O., Ivaschenko O. Perspective directions of farming agriculture and herbology // News of agrarian sciences. — 2014. — № 10. — P. 5–11.

Modern technogenic approaches to agrarian production, ignoring biological laws, frame undesirable by-effects which cannot be overcome with the help of existing intensive agriculture. Such undesirable effects are as follows: excessive anthropogenic pressure and pollution of environment, induction of the processes which form aggressive xenocoenosis, etc. Study of principles of adjustment of natural agrophytocoenosis allows using creatively them for purposeful formation of perspective hetero-agrophytocoenosis, to fully master existing environmental niches in sowings during the warm season of year, to increase biological efficiency of plowlands. Bibliogr.: 18 titles.

Key words: intensive agriculture, herbology, environmental pollution, aggressive xenocoenosis, plowlands.

UDC 631.4

Baliuk S., Hapeyev L. Legislative regulation of legal protection of soils: foreign and domestic experience // News of agrarian sciences. — 2014. — № 10. — P. 12–16.

The purpose. To determine pressing questions of development of legislation in Ukraine, and to analyze international and domestic experience. **Results.** Aspects of legislative adjustment of legal protection of soils in Ukraine and other states are surveyed. Positive foreign experience of different countries as well as questions of international cooperation of Kharkov scientists is described. **Conclusions.** For legislative regulation of legal protection of soils in Ukraine it is necessary to adopt by the Parliament the Law «On preservation of soils and protection of their fertility» and some other acts in that sphere. Bibliogr.: 15 titles.

Key words: legislative regulation, legal protection of soils, foreign experience, domestic experience.

UDC 631.95:634:632.95:577.212:006.063

Grynyk I., Kondratenko P. Scientific aspects of growing products of organic gardening // News of agrarian sciences. — 2014. — № 10. — P. 17–21.

The history and development of organic agriculture in the world is shown. Main reasons are analyzed of transferring producers of products of gardening to economic bases of growing fruit crops. Risks are discussed of implementation of genetically inoculated plants in production. Basic component techniques of growing organic products and gardening are presented. It is proved that transferring to organic basis of growing will allow gaining safety and useful products. Bibliogr.: 10 titles.

Key words: agriculture, organic gardening, pesticides, genetically inoculated plants, certification.

UDC 631.582.5:631.416.4

Kvasnitska L. Power assessment of five-field crop rotations for different fertilizer systems // News of agrarian sciences. — 2014. — № 10. — P. 22–25.

The purpose. To determine energetically favorable crops and crop rotations for farms of different specialization in conditions of sufficient humidifications of Right-bank Forest-steppe. **Methods.** Field, comparative-

calculated. **Results.** The least indexes of power inputs for 1 ton of grain (7,28–8,29 giga-joule), feed units (2,48–2,79 giga-joule) and the greatest Kee (5,43–6,06) ensured crop rotations which consisted of 40–60% of grain cultures and 40–60% of lucerne at organic fertilizer system. **Conclusions.** Saturation of crop rotations with energetically profitable crops (clover, lucerne, corn for grain and silage, sugar) at organic fertilizer system will ensure decrease of power consumption and product cost. Bibliogr.: 9 titles.

Key words: crop rotation, power consumption, power inputs, quotient of power efficiency.

UDC 636.2.082

Bashchenko M. Study of experience of selection-breeding work in Germany and its implementation in Ukraine // News of agrarian sciences. — 2014. — № 10. — P. 26–33.

The purpose. To study experience of selection-breeding work in Germany and to implement it in Ukraine. **Conclusions.** Solution of some problems will enable to generate and ensure operation of uniform system of selection in animal husbandry, to lead system of pedigree account to the level of international demands, to build effective system of control of pedigree process for rising economic efficiency and competitive strength of branch and, that is the most important, to create an opportunity to start qualitative assessment of bulls. Bibliogr.: 11 titles.

Key words: animal husbandry, selection, bulls, pedigree process, economic efficiency.

UDC 619:576.853:616.98:636.4

Ksionz I. Epizootic state on clamidiosis contamination in pedigree swine breeding // News of agrarian sciences. — 2014. — № 10. — P. 34–36.

The purpose. To determine real state on clamidiosis contamination in pedigree pig-breeding factories of different regions of Ukraine and to determine perspectives of its maximal extermination. **Methods.** 45 pedigree factories of 11 regions of Ukraine were inspected. Epizootic, clinical, pathoanatomical and laboratory-diagnostic methods of probes (mainly PCR) were used. **Results.** It was fixed that the level of becoming infected among the inspected pedigree animals of swine breeding made 71%. Owing to satisfactory conditions of growing and feeding, the demonstrative form of clamidiosis contamination did not exceed 19% of number of unsuccessful factories. In the most cases etiological factors of infection contamination were *Chlamydia suis* (43,6%), *C. pecorum* (34,4%) and *C. abortus* (31,3%), and also in sporadic events — *C. psittaci* (6,3%) and *C. pneumonia* (3,1%). **Conclusions.** For the maximal extermination of clamidiosis in pig-breeding branch it is necessary to conduct regular monitoring on pedigree plants of swine breeding by means of methods of laboratory diagnostics which have high specificity and sensitivity (PCR, IFA, REF). Bibliogr.: 9 titles.

Key words: pedigree swine breeding, epizootic monitoring, clamidiosis contamination, improvement.

UDC 633.853.483:631.527

Zhuravel V., Komarova I., Budilka H. Use of genetic diversity of grey, white and black mustard for creation

of initial selection material with high quality of oil // *News of agrarian sciences.* — 2014. — № 10. — P. 37–42.

The purpose. To determine dependence between fat content and alil-mustard oil of different sorts of mustard. **Methods.** Field — for phenological observations, biometric measurements; laboratory — for assessment of productivity of probed material, determination of biochemical indexes. **Results.** Collection samples of grey, white and black mustard of different geographical parentage as to attributes of the content and quality of oil are studied. Perspective samples for selection operation on these indexes are determined. **Conclusions.** Negative correlation dependence between oil percentage and content of alil-mustard oil at grey and black mustard is fixed. The determined appreciable range of variation of basic fatty acids allows framing grades of different directions of usage. Bibliogr.: 10 titles.

Key words: mustard, oil, essential oil, fat-acid content, correlation.

UDC 636.4.082

Tsereniuk O. Reproductive ability of boars of new lines of breeds Landras and Wales // *News of agrarian sciences.* — 2014. — № 10. — P. 43–46.

The purpose. To study quality of sperm of boars of different lines of breeds Landras and Wales. **Methods.** They got semen using manual method with phantom. Quotients of phenotypical consolidation on the studied lines both in relation to breeds Landras and Wales, and to all studied livestock were calculated. **Results.** Differences between separate lines within the limits of breeds and between the studied breeds on separate quality indexes of sperm production are determined. **Conclusions.** Boars of breed Landras have advantages as compared to breed Wales on volume of ejaculate at simultaneous absence of essential differences in density and activity of spermatozoon. Bibliogr.: 10 titles.

Key words: pigs, factory lines, sperm production, quotient of phenotypical consolidation, Landras, Wales.

UDC 631.527.521.52

Slisarchuk M., Dinnik V., Drozd O., Lisovyi O. Usage of genetic potential of *Linum usitatissimum* in selection work // *News of agrarian sciences.* — 2014. — № 10. — P. 47–50.

The purpose. Usage of genetic potential of flux in selection for the purpose of creating new high-yielding varieties. **Methods.** Methodical references of carrying out probes with flux are applied. **Results.** Collections of grades and samples of flux of domestic and foreign parentages as an initial stock for selection are studied. **Conclusions.** Genetic sources of height of plants, content of fiber in caulises, lodging resistance, duration of vegetative period and complex of other properties are determined. Bibliogr.: 10 titles.

Key words: productivity of straw, productivity of fiber, content of fiber in caulises, duration of vegetation, lodging resistance, flux.

UDC 631.312.44

Nadykto V. On expediency of use of swivel plough // *News of agrarian sciences.* — 2014. — № 10. — P. 51–54.

The purpose. To survey expediency of application of

swivel plough instead of ordinary one. **Methods.** Application of the theory of industrial exploitation of agricultural machine-tractor assembly units. **Results.** At ploughing a plot (width of 68,2 m and the area of 8,2 hectares) the total path of turning lane of MTA with swivel plough makes 1980 m, and with ordinary one — 2035 m, that is we have increase of evaluated index of 55 m (2,7%). At average speed of maneuver of 1,75 km/s (6,3 km/h) total expenditures of time for turning movements of the assembly unit with ordinary tillage implements will be greater only for 0,5 minutes. At increase of cultivated area almost in 1,5 times (12 hectares instead of 8,2) the width of field will make 100 m. In this case tillable MTA with ordinary plow on turning lanes will cover a path greater for 850 m. At specified above average speed of maneuver on turning lane (1,75 km/s) increase of time at turning movements by this tillable assembly unit will make only 8 minutes. **Conclusions.** The only advantage of swivel plough is the opportunity of execution of ploughing without crown ridges and live furrows. At the same time under condition of conforming readiness of driver the indicated advantage of tillage implements can be run a level. At practically equal over-all performance of compared tillable assembly units, unessential variance between non-productive expenditures, and also in view of ploughing once in some years and considerably greater (in times) cost of swivel plough, purchase of the last is economically inexpedient. Bibliogr.: 10 titles.

Key words: ploughing, swivel plough, tillable assembly unit, furrow, turning movement.

UDC 631.43

Medvedev V., Bigun O. On anthropogenic overconsolidated interlayers in root layer of chernozem soils // *News of agrarian sciences.* — 2014. — № 10. — P. 55–60.

The purpose. To test the hypothesis about availability of consolidated interlayers in under-seed layer and plowing shoe of ploughed up soils. **Methods.** Field — determination of soil compactness. **Results.** In under-seed interlayer the density does not exceed acceptable value (1,30 g/sm³), but can exceed it after 4 passages of caterpillar and 3 passages of wheel tractors of 3 tons class. Wheel tractor at such amount of passages increases density in plowing shoe. **Conclusions.** Necessity of limitation of application of serious machine-tractor assembly units during spring field work and numbers of their passages is proved. Bibliogr.: 12 titles.

Key words: density of soil, over- and under-seed interlayers, seal loosening.

UDC 633.522:631.354.2

Lukianenko P., Koropchenko S., Hiliyazetdinov R. Quantitative characteristics of stock of hemp gained on new technique // *News of agrarian sciences.* — 2014. — № 10. — P. 61–64.

The purpose. Determination of quantitative characteristics of components of stock of hemp gained on new technique, as material for manufacturing one-type fiber. **Methods.** Field experiment and laboratory analyses. **Results.** Quantitative indexes of components of stock of hemp gained after harvesting of seeds by grain combines with different width of cut of a reaper are determined at wide-row and solid methods of sowing. **Conclusions.** The greatest mass before harvesting

made plants with caulises on roots which more than in 2 times on mass exceed total index of plants with caulises rolled to land by wheels of harvester and thrashed in its thrasher. Bibliogr.: 11 titles.

Key words: hemp, grain combine, components of stock, spring harvesting, processing, one-type fiber.

UDC 633.791:338.432: 338.439.52

Prymachuk T., Sitnikova T., Protsenko A. Beer and hop markets of today // News of agrarian sciences. — 2014. — № 10. — P. 65–71.

The purpose. To study problems of beer and hop markets of Ukraine, to analyze economic activities of domestic hop-factories, to solve problems of the branches.

Methods. The following methods were used: economic-statistical — for determination of state of the art of beer and hop branches, efficiency of activity of hop-factories; monographic — for study of positive experience in the observed problems; analysis and a synthesis — for determination of problems of hop-factories in the market of hop plant and determination of ways of their overcoming. By means of methods of induction and deduction scientifically justified results were gained and conclusions were formulated. **Results.** Since 2010 in brewing branch because of economic crisis, rising of excises and other additional market adjusters there was a rise in price, fall of buying power of population and accordingly productions. Brewing branch is one of the most developed branches in food-processing industry. Export of its products considerably predominates above import. Export is carried out mainly to the CIS countries — 97% of total volume. Low demand for domestic hop plant as the basic raw material for brewage is caused by world overproduction of hop plant because of appreciable deficiency in the last years, decrease of norms of its use (for 40–50%) in a formula of a beverage and some other factors. It became the cause of reduction of prices on domestic hop plant and decrease of profitability of its production in 2010–2012. Deficiency of raw hop is covered with import, however it is also exported about 25% of cultivated products (mainly aromatic grades).

Conclusions. The beer and hop markets are interconnected and react on general economic (prices, buying power) and technological (change of technique, over-production) factors. Economic circumstances of the last years showed that the hop growing without state support remained unprofitable and remunerative branch

and required further development on innovative basis. Bibliogr.: 10 titles.

Key words: branch of hop growing, beer market, demand, offer, balance of a-acids.

UDC 631.622.86.874

Kryzaska M. Agro-ecological role of green manuring as agricultural method of complex operation // News of agrarian sciences. — 2014. — № 10. — P. 72–75.

The purpose. To display that green manuring is an efficient fertilizer and an agent of multiplane action which allows achieving the best results at growing potato in zone of Ukrainian Polisia in conditions of biological farming agriculture. **Methods.** Statistic analysis of data was realized by B.A. Dospehov variance method with the use of computer programs (Microsoft Office Excel). Filtrate was analyzed according to E.V. Arinushkina practical procedure. **Results.** Growing of green plants in intermediate sowings on fields with potato essentially influences infiltration processes, preventing losses of nutrient elements and moisture from soil. **Conclusions.** Green manure crops can be used as a source of organic substance and efficient method preventing excessive infiltration (in intermediate sowing). Bibliogr.: 11 titles.

Key words: lysimetric probes, green manure crops, biological farming agriculture.

UDC 631:15.622.461.5

Chmel O. Lysimetric probe in agro-ecological assessment of crop production technologies of Polisia // News of agrarian sciences. — 2014. — № 10. — P. 76–79.

The purpose. On the basis of results of lysimetric probes to make an agro-ecological assessment of the basic fertilizer systems of crops. **Methods.** Use of the lysimetric equipment. **Results.** It is fixed that for sod-podzolic soils of Polisia the flushing type of water regime is formed. Losses of biogenic elements for the limits of root containing layer of soil are determined by amount of filtered water and density of elements in solution. **Conclusions.** On the average for the 8-years period (2006–2013) different amount of moisture had been lost at growing crops. That was caused by type of greenery and system of its fertilizing. Losses of biogenic elements were determined not only by amount of the filtered moisture, but also by their density in soil solution. Bibliogr.: 8 titles.

Key words: lysimetric probes, sod-podzolic sandy loam soil, migration of biogenic elements, fertilizer system.