

SUMMARY

Vozhegova R.A., Goloborodko S.P., Granovskaya L.M., Sahnо G.V. Irrigation in Ukraine: Nowadays Realities and Prospective of the New Start

The article deals with the problem of current state and prospects of development of irrigated agriculture in Ukraine. The results of studying the effects of global climate change on the growth of the potential evaporation and water balance deficit in the Southern Steppes of Ukraine are given in the research.

Keywords: irrigation, watering, fallouts, evapotranspiration, meteorological indexes, agrometeorological conditions, productivity.

Malyarchuk N.P., Pisarenko P.V., Kotelnikov D.I. Formation productivity of grain maize based on soil tillages and stems and fertilizer in irrigated conditions of southern Ukraine

The article presents the basic principles of technology growing corn. Problems of soil tillage minimization and optimization of fertilization. The sowing density changes depending on the method and depth of soil and influence on the productivity of irrigated corn in the south of Ukraine.

Keywords: maize, soil density, permeability of soil, productivity.

Vozhegova R.A., Kokovichin S.V., Belyaeva I.N., Pilyarskaya E.A., Chekamova O.L. Innovative directions of development of the irrigated farming in the conditions of South Ukraine

The results of researches on organization and production process control on the irrigated lands of South Ukraine are resulted in the article. Measures on the increase of efficiency of the use of the irrigated lands by association of the local landed interests of shallow farmer economies in association of water-users are offered, that will provide possibility to use the hardware of irrigation with maximal productivity.

Keywords: irrigation, innovation, farmers, productivity of the irrigated lands.

Ushkarenko V.A., Tishchenko, O.P., Lyashevsky V.I. Investigation of the parameters upward speed and height of macrocapillary border to optimize irrigation regimes

In the article results over of researches of participation of waters are brought in the feed of area of airing at a changeable water-table, conducted on the irrigated earths of Crimea.

Keywords: waters, macrocapillary border, level of bedding of waters, water balance.

Vozhegova R.A., Melnik M.A. Efficiency of irrigation and inoculants seeds at growing variety of soy in the conditions of irrigation of South Ukraine

The results of researches with the sorts of soy, which reared at different terms moistening and inoculants seeds, are resulted in the article. It is set on results researches, that efficiency of the vegetation watering of soy in different phases of development substantially changes depending on of high quality composition and hydro-thermal indexes in the years of researches, experience of application of inoculants seeds at growing of variety of all groups of ripeness is proved, maximal force of influence on productivity of culture of high quality composition is set.

Keywords: soy, sorts, irrigation, watering, inoculants, productivity, yield.

Adamen F.F., Naydenov V.G., Fedorchuk M.I., Filipov E.G. Productivity of the *Carthamnus tinctorius* L. depending on agrotechnical and weather factors at his growing in the conditions of South Ukraine

In the article the results of researches are represented with *Carthamnus tinctorius* L. Efficiency of the use of early term of sowing and density of standing of plants is proved 150-180 t/ha in years difference on the hydrothermal mode. The morphological and biometrics indexes of the explored culture also were the best at application of such agrotechnical measures.

Keywords: *Carthamnus tinctorius* L., term of sowing, method of sowing, height of plants, morphological indexes, productivity of seeds

Vozhegova R.A., Oliynik O.I. Productivity of rice depending on of high quality composition, basic treatment of soil and background of mineral feed at growing in the conditions of the Odessa Region

The results of the field researches with the sorts of rice at their growing in the conditions of the Odessa Region are resulted in the article. It is set, that has the greatest productivity the sort Viscount at application of ploughing and additional fertilizing by carbamide and Cristalon on a background the basic bringing of nitric, phosphoric and potassium fertilizers.

Keywords: rice, of high quality composition, basic treatment of soil, background of mineral feed, productivity, force of influencing of factors.

Kovalenko A.M. The scientific providing of forming of еколого-безопасных агроландшафтов is in a south region

Приведены исторические аспекты формирования агроландшафтов в южной Степе и их современное состояние. Оно очевидно, что в последние годы происходят динамические изменения в структуре агроландшафтов. В большинстве случаев для них характерны различные процессы деградации.

Keywords: Steppe, landscape, агроландшафты, forest belts, crop rotation.

Lavrinenko J.A., Glushko T.V., Vlaschuk A.N., Voytashenko D.P. The energy efficiency of cultivation of grain maize under irrigation

The article discussed the issue of energy efficiency of cultivation of maize hybrids of different maturity groups, depending on the dose of fertilizer, as in natural moisture and under irrigation. The basic elements of the technology that will help reduce the cost of energy on yield formation.

Keywords: corn, grain, irrigation, agro technology, fertilizers, energy ratio.

Kokovichin S.V., Pisarenko P.V., Nikolaychuk M.G., Nikishov A.A., Drobitko A.V. Optimization structure of sowing areas on the irrigated lands taking into account the indexes of the hydromodule system and biological necessities of the crops

The results of researches on creation of the special software which is intended for optimization of structure of sowing areas on the irrigated lands are resulted in the article. Development allows optimizing work of the pump stations, to avoid spades indexes in their work

and warn the decline of harvest of agricultural crops as a result of insufficient water supply plants.

Keywords: irrigation, crop rotation, hydromodule, graph of watering, agricultural crops

Bidnina I.A. In the article the results of research on the effectiveness of nitrogen, phosphate and potash fertilizer on crops of flax when grown in non-irrigated conditions of the South of Ukraine

In the article the results of research on the effectiveness of nitrogen, phosphate and potash fertilizer on crops of flax when grown in non-irrigated conditions of the South of Ukraine. Presents high effectiveness of the estimated doses of fertilizers, which is calculated by the method of optimal parameters. When this was received the highest gains the products with the lowest cost.

Keywords: flax oil, mineral fertilizers, crop, economic efficiency, power factor.

Mrinskiy I.N., Garmashov V.V., Shepel A.V., Fedorchuk V.G., Gontaruk V.T. Photosynthetic activity of sowing of sunflower in the conditions of irrigation of South Ukraine

The analysis of indexes of the photosynthetic potential of sowing and net productivity of photosynthesis of maternal lines of sunflower at its growing on the irrigated areas of hybridization of South Steppe of Ukraine is conducted in the article. On results researches the advantage of the use of the Cx-2011A line is led to second term of sowing and densities placed of plants 60 thousands per ha.

Keywords: sunflower, term of sowing, density of placed plants, photosynthesis potential, net productivity of photosynthesis

Adamen F.F., Naidenov V.G., Proshina I.O. The yield of safflower depending on the system of mineral nutrition in Southern Ukraine

Article presents the results of field studies of the influence of macro-and microfertilizers on safflower productivity. Me can observed growth of yield (0,22 t/ha) to use nitroamofiska by 50 kg/ha and extraroot feeding Acelerator by 0,4 kg/ha in phase formation of the stem.

Keywords: safflower dyeing, nitroamofoska, microfertilizer of Acelerator, system of mineral feed, productivity.

Zayets' S.A., Sergeev L.A. Technological measures of increase of the productivity and improvement of quality of grain of winter wheat in the conditions of irrigation

The three-year results of the field researches are presented in the article, where in the conditions of irrigations after soy influence of fertilizers was studied, oligo-elementss and defence of plants on the productivity and quality of grain of winter wheat. It is set that high quality food grain with the productivity about 7 t/ha a winter wheat can provide at top-dressing in the dose of N₁₂₀ and application of computer-integrated defence of plants from weeds, illnesses and wreckers.

Keywords: irrigation, winter wheat, fertilizer, defence of plants, productivity, quality of grain

Kovalenko A.M., Timoshenko G.Z., Novohigniy N.V., Kovalenko A.A. Productivity of wheat winter-annual depending on her place in a crop rotation after different predecessors and method of basic treatment of soil in him

The brought results over of researches in relation to the productivity of wheat winter-annual at placing of her in korotkorotazionnyx crop rotations for different

predschestwennikax, at the different methods of basic treatment of soil in them.

Keywords: wheat winter-annual, black steam, crop rotation, treatment of soil, productivity, economy.

Malyarchuk N.P., Kovalenko A.M., Malyarchuk A.S. Productivity of crop rotation at different methods to basic treatment of soil

On the basis of the use in experience of instruments with the different type of construction of working organs the less energy expense methods of basic treatment of soil are educed under agricultural cultures in the irrigated crop rotation.

Keywords: crop rotation, method and systems of basic treatment of soil, power-hungryness, recouplement of technologies.

Morozov V.V., Bulygin A.I. Formation of optimal water-salt regime of irrigated land – a necessary component of safe operation of irrigation systems (for example Krasnozngamyanskoi irrigation system)

The article presents the results of research into the formation of salt and water regime in the area of the Krasnoznamenskaya irrigation system at the background of vertical drainage. The study determines optimal soil humidity, the soil humidification layer and ameliorative regime for winter wheat. It also identifies the regularities of changes in the water regime and physical and chemical properties of dark chestnut soils caused by changes in the performance of the «irrigation-vertical drainage» system from the design conditions (1989-1992) to the present state of scarce resources under unstable economic conditions (2003-2005), and makes a prediction of their further development. The article specifies principles of optimization of salt and water regime in the area of the Krasnoznamenskaya irrigation system the ameliorative

Keywords: the Krasnoznamenskaya irrigation system, salt and water regime, dark chestnut soils, winter wheat, vertical drainage, the soil humidification layer, the management of the ameliorative regime.

Adamen' F.F., Saplev A.V., Kudinov S. V. Productivity of new non-traditional for Crimea perennial fodder crops

Cultivation in Crimea under irrigation of the new non-traditional perennial grasses of sorrel and Columbus grass is recommended; further study of feasibility for the region is advisable for a silfiya pronzyonolistny and a kozlyatnik east is necessary.

Keywords: Crimea, irrigation, hybrid sorrel herb Columbus, silfiya pronzyonolistny and a kozlyatnik east is necessary.

Ostapenko S.N., Ostapenko N.A., Kostyrya I.V., Bochevar O.V., Semyashkina A.A., Bondarenko N.S. The influence of mineral fertilizers on productivity and content of sugar at different sugar sorghum's variety samples

Features of change the productivity and sugar's concentration in juice of a sugar sorghum's stalks depending on mineral fertilizer's composition are studied. It is established that in soil-climatic conditions of Prysivashshya for growth green mass productivity of a sugar sorghum the major role is played nitric fertilizers, and for increase in concentration of sugar in juice of stalks – phosphoric. Potash fertilizers had insignificant influence on both indicators. According to the sugars content in juice of stalks and productivity the variety Tsukrove 1 gives all grounds to consider among investigated varie-

ty's samples the most perspective as raw material for production of liquid sugar.

Keywords: sugar sorghum, variety, hybrid, productivity, content of sugar, mineral fertilizers.

Bidnyna I.A., Vlaschuk O.S., Kozyrev V.V., Tomnyskiy A.V. Efficiency of joint use of fertilizers and microbial preparations for growing agricultural crops in the south of Ukraine

Bacterization shows the influence of crop seeds against the use of mineral fertilizers on their performance under irrigation south of Ukraine. It was determined that the most effective pre-sowing seed microbial agents in making $N_{90}P_{60}$ against plowing corn stalks once per rotation of the rotation.

Keywords: mineral fertilizer, microbial agents, corn MIA, barley, winter wheat, yield, collection of fodder units, indicators of quality.

Berdnikova A.G. Influence of mineral fertilizers and irrigation on the dynamics of growing processes of plants of the sorts of wheat winter

In the article the features of influencing of mineral fertilizers and irrigation on the dynamics of growing processes of plants of wheat of winter are resulted sorts Kherson bezostaya and Odessa 267 due to the modes of irrigation (water-charging, vegetation watering) and background of feed in the conditions of South Ukraine.

Keywords: dry biomass, above-ground biomass, water well-being, water-charging, vegetative mass, biometrics indexes, products processes.

Vozhegova R.A., Shpak D.V., Muntyan L.V. Influence of norms of fertilizers and norms of sowing on the productivity of plants of winter wheat in the conditions of rice crop rotations

The optimum doses of fertilizers and norms of sowing of sorts of winter wheat are certain in the conditions of rice crop rotations.

Keywords: winter wheat, doses of fertilizers, norms of sowing, productivity.

Morozov O.V., Dudchenko K.V., Kornberger V.G. Using prospects of drainage-discharge water of rice irrigation systems in the array Krasnoznamensky

The technology of using drained-discharge water of rice irrigation system for rice irrigation has been worked out on the basis of the investigation results. The dual regulation of drainage-discharge outflow reduces the rice irrigation norm by 1000-1300 m^3 per hectare. The outflow volumes beyond the system – by 750-1000 m^3 per hectare it increases the efficiency of using irrigation water and improves ecological conditions of the rise rotations and nearby territories.

Keywords: rice, rice irrigation system, drained-discharge water, yield.

Vlaschuk A.N., Pryschepo N.N., Voytashenko D.P., Demchenko, N.V. Effect of soil tillage, duration and method of sowing on the yield of winter rapeseed

The results of studies on the effects of soil tillage, sowing method and time of planting on seed production of winter rape in the south of Ukraine.

Keywords: rape, plowing, disking, sowing, row spacing, productivity, seed.

Sheludko O.D., Klubuk V.V., Borovik V.O., Repelevckii E.V., Markovckaya O.E. The efficiency of pesticide company "BASF" on irrigated soybean crops in the southern steppes of Ukraine

Rezultuaty are evaluating the effectiveness of the integrated protection of irrigated soybean pests, pesticides uotorye include BASF and optimizes the phytosanitary status of the requested posevovo culture until the end of the growing season.

Keywords: soy, irrigation, insecticides, fungicides, herbicides, efficiency.

Vasilenko R.M. Photosynthetic activity of annual forage agrocenosis under different moisture conditions in the south of Ukraine

The results of studies on the photosynthetic activity of annual agrocenosis millet in one and compatible crops and use of amaranth in Southern Ukraine. Definitely the biggest indicators of photosynthetic activity grass mixtures under different moisture conditions.

Keywords: photosynthetic activity, agrocenoses, grass mixtures, millet.

Boyarkina L.V. Scientifically practical aspects of use of the «Electronic by an informative certificate base "Alfalfa on a feed"» in the irrigated agriculture of south Ukraine

In the article description over of structure, directions of application and principle of work of the «Electronic by an informative certificate base, is brought "Alfalfa on a feed"». Data of scientific researches of research workers of Institute of farming agriculture of NAAS are fixed in basis of this development.

Keywords: database, informative block, farming agriculture, fertility of soil, alfalfa, production of forage.

Muzyka V.E., Kolchenko A.V., Taranenko E.Y. Study of the effectiveness of new pesticides in the integrated system of protection of winter wheat in conditions of irrigation of South of Ukraine

The article deals with the contemporary problems of phytosanitary condition of irrigated winter wheat in Southern Ukraine and the results of studies on the effectiveness of new pesticides.

Keywords: winter wheat, insecticides, fungicides, and efficiency.

Kizub P.S. Reaction of different sorts and hybrids sorghum on the droughty terms to the few last years

The article present results of researches of reaction modern sorts and hybrids on the droughty terms of south Steppe.

Keywords: sorghum grain-growing, sort, hybrid, drought, productivity.

Skydan M.S., Skydan V.A., Kostromitin V.M. Effects of fertilization and sowing times on sunflower hybrids' photosynthetic activity under the conditions of eastern Ukrainian forest-steppe

The information is given about the effects of fertilization and sowing times on sunflower hybrids' yield capacity and photosynthetic activity. It is discovered that the highest yield, leaf area and sowing photosynthetic potential were demonstrated by the early-season hybrids when sown early. Middle-early season hybrids fertilized mainly with $N_{30}P_{30}K_{30}$ formula did not vary greatly in yield capacity and photosynthetic activity depending on the sowing times as did the early-season hybrids.

Keywords: sunflower, hybrid, yield, time of sowing, leaf area, photosynthetic potential crop.

Polenok A., Vogegov S. Organization, and build and design the rice crop rotation, their importance and necessity. (Review)

Bringing the analysis of literary sources for the organization, planning and implementation of the rice crop rotation, as well as determined by their role in rice cultivation.

Keywords: crop rotation, rice, green manure crops, soil fertility, agroforestry field.

Vozhegova R.A., Lyuta Yu.A., Kobylina N.A. Evaluation of the collection of a tomato on drop the expression of the essential agronomic characters on irrigation

Shows the results of studying the collection of a tomato under irrigation. Selected the best examples that can be used in the future selection process as donors of agronomic traits.

Keywords: tomato, collection, selection, sort, hybrid.

Derkach K.V., Abraimova O. E., Satarova T. M. Influence of physiologically active substances on the preservation of the morphogenic maize calli under long-term cultivation in vitro

The effect of physiologically active substances on the formation and the maintenance of the morphogenic callus tissue of maize derived from immature embryos in long-term culture in vitro is investigated. The genotypic peculiarity of the response of maize explants in the culture in vitro on the components of medium is shown. The positive effect of mannitol on the formation of secondary morphogenic structures on the nonmorphogenic amorphous calli is noted. The optimal concentrations of cefotaxime for callusogenesis induction and subcultivation of calli are determined.

Keywords: *Zea mays* L., callus tissue, morphogenic, mannitol, cefotaxime.

Kirpa M.Y., Pashchenko N.O., Skotar S.O., Styurko M.A. Scientific principals and methods of keeping seeds qualities of cereal crops

It is determined structure of seed mass and influence main factors – moisture, temperature, and access of oxygen in process of seed keeping. It is established optimal keeping terms subject to state and predestination of seeds, in detail researched methods of keeping quality seed mass in sealing conditions. For the purpose of rising germination ability and crop yield it's recommended to work up corn seeds with new composition consisted of protectant and growth regulator before sowing.

Keywords: seed mass, factors of seed keeping, keeping conditions, sowing qualities, yield properties.

Fedko M.M. Plant density as background for selection and its effect on the yield structure elements in inbred lines of maize (*Zea mays* L.)

A study of the structural elements of the harvest maize inbred lines of different germplasm revealed that the most volatile at different plant density are signs of "mass cob", "cob length" and "weight of 1000 seeds". Noted signs of stability, "the number of rows of grains", "number of grains in a row" and "of the grain." Maximum values of attribute "weight cob" inbred line germplasm lodent, and at lines germplasm Lancaster C103 values "weight of 1000 seeds."

Keywords: corn, inbred line, germplasm, plant density

Kozachenko M. R., Vazhenina O. E., Vasko N. I., Naumov A. G. Efficiency of the selection of valuable lines of hybrids in the system topkrossov of spring barley in dependence on combining ability of varieties

Effectiveness of the selection of lines of hybrids in the full topkrosses system at the stages of the breeding process in dependence on the combining ability of spring barley varieties was defined.

Keywords: spring barley, variety, topkross, general combining ability, selection, line, productivity.

Marchenko T.Y., Hozh O.A., Hlushko T.V., Nuzhna M.V., Lavrinenko Y.O. The resistant corn hybrids of different maturity groups to diseases under irrigation

In the article presents the results of research to identify the stability of corn hybrids of different maturity groups of domestic breeding to major diseases in the irrigated conditions and under the influence of different research for years, weather conditions, on the natural infectious background.

Keywords: corn hybrids, evaluation, sustainability, diseases, irrigation, yield, correlation.

Shpak D. Study of correlation of quantitative traits in rice plants

The paper presents the results of correlation relationships for quantitative traits in rice plants. Marked and shown appreciable fluctuations in the values of correlation coefficients as the strength and direction. This is due to different genetic characteristics of parental forms and the fact of genotype-environmental interactions.

Keywords: rice, selection, varieties, yield, length of the growing period.

Britik O.A. The analysis of collection samples watermelon and melon on a complex of signs

Results cluster the analysis of 52 collection samples of a watermelon and a melon to four signs are resulted. It is divided them on clusters and it is defined a grade-etalon for everyone cluster.

Keywords: collection samples, watermelon, melon, cluster analysis, signs.

Shpak T.N. The efficiency of individual selection for earliness and yield of hybrid rice populations

The article highlights the issues concerning the establishment of rice breeding material, combining a high level of productivity and a short growing season. It is proved that between these traits there is a negative correlation, which, however, is relative and can be destroyed by breeding selections.

Keywords: rice, early maturity, productivity, population, selection, hybrid.

Lehkun I.B. Winter barley cultivars of the origin of PBGI-NCSCI

The results of testing agronomical traits of newand perspective winter barley varieties and their immunity to the nigra loose and covered species of smuts (*Ustilago nigra* and *U. hordei*) are shown in this article. The new cultivars inherited the resistance to the pathogens but they need improvement during seed production. The characters of the type of growth of the cultivars (the length of vernaization and levels of photosensitivity) are presented

Keywords: barley, variety testing, seed-trials, vernaization, photosensitivity, smut.

Lavrinenko Yu.O., Ruban V.B., Mihalenko I.V., IvanivN.A. Productivity and economic efficiency of growing of hybrids of corn at the drop method of watering

The results of researches with the hybrids of corn at growing in the systems of tiny irrigation are resulted in the article. Possibility of forming economic of advantageous harvests of corn is proved at the level of 18-20 t/ha at density of standing of plants 80-90 thousand/ha. The best recouplement of nitric fertilizers is fixed at bringing N₁₂₀P₉₀.

Keywords: tiny irrigation, hybrids of corn, density of standing of plants, nitric fertilizers, density of standing of plants, economic efficiency.

Hranovskaya L.N., Bulayenko L.M., Verdish M.V. Justification of measures to reduce the cost of water supply for irrigation in Southern Ukraine

Article presents data about the cost of water supply for irrigation in Southern Ukraine. The analysis of the cost structure of water has been done. The ways of reducing the cost of supplying water through irrigation during periods with discounted rates for electricity.

Keywords: irrigation, the price of water, water management, electric power, electric power meter, discounted rate, pumping unit.