

BIOGEOGRAPHY CHARACTERISTICS OF TERTIARY ORGANISMS OF TALYSH PART (SOUTH CAUCASUS) OF HYRCANIAN REFUGE

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Present paper is dedicated to interdisciplinary investigation of one of the most important refuge of South Caucasus, Talysh. We analyzed patterns of floristic and fauna richness, endemism, relict forms, their relations to another close relict species in other countries and regions of Northern Hemisphere, specificity of formation of Talysh as a harbour area of Tertiary organisms (tropical-subtropical, Arctic-Tertiary species), comparative analyses of the specificity of ancient organisms from another shelter in Transcaucasia-Colchis, different reasons of surviving Tertiary elements in mentioned two refuges. Below, we have attempted to give appropriate description of some vegetation communities, including the climax communities, which is based on investigations carried out by some scholars and by us (1970-1975). For the first time a wide spectrum of literature has been used dedicated to investigation of Iranian part of Caspian coastal region (Hyrcania).

ECOLOGY AND PLANT LECTINS

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The work is a survey of achievements which deal with distribution of lectins in the plant world, their biochemical properties, their role in plant protection, fertilization and symbiotic relationships.

THE INFLUENCE OF RED SOILS AGROCHEMICAL INDICATORS ON BIO-CHEMICAL COMPOSITION OF ORANGE WASHINGTON-NAVEL CROPS

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One of the factors influencing the chemical features of citrus crops is agrochemical condition of soil. In this work we have presented the influence of soil agrochemical indicators on the bio-chemical composition of orange "Washington-navel" crops. It has been estimated that biochemical indicators of the orange crops grown on the soils which are fertilized with nutrients is high and their crops are characterized with comparatively better quality indicators.

SEA WATER - A RELIABLE RESERVE OF IRRIGATION IN FUTURE

G.Sh. Mammadov, A.D. Gashimov, S.A. Eminov

Brief survey of long-term researches of the authors on the irrigation of fodder, grain and vegetable cultures with sea water in conditions of Apsheron is given in the paper. It states that sea water is irreplaceable for ecological improvement of coastal waterless territories.

ECOLOGICAL DIVISION OF THE TERRITORIES AND COMPILATION OF MAJOR BONITET SCALES OF SITE CLASS OF THE RIVERS GARACHAY AND VELVELICHAY BASINS

R. B. Zalova

The paper reviews the current state of soil area of the rivers Garachay and Velvelichay basin, given their characteristics in some indicators of fertility. For each ecological region of the basin (watershed, transit and accumulation) site classification was performed and as a result three major scales of site class of soils.

EVALUATION OF YIELD AND YIELD CONTRIBUTING TRAITS IN BREAD WHEAT (*Triticum aestivum* L.) UNDER RAINFED CONDITION

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Twelve bread wheat genotypes were grown under rainfed condition for yield and yield contributing traits. Analysis of variance indicated that genotypes showed highly significant ($P < 0.01$) differences for all the traits. Maximum data were recorded by genotypes KT-4 for days to heading (124 days to heading) and days to maturity (168 days to heading); PR-98 for plant height (110.49 cm), grain yield (2.55kg plot⁻¹) and harvest index (42.57%); NR-358 for number of spikes m⁻² (1272 spikes m⁻²), number of grains spike⁻¹ (87 grains spike⁻¹), grain weight spike⁻¹ (4.68g) and 100-grain weight (5.64g); 5C011 for biological yield (6.93kg plot⁻¹); PR-98 for grain yield (2.55kg plot⁻¹) and harvest index (42.57%). Correlations of days to heading with plant height; plant height with days to heading; number of spikes m⁻² with number of grains spike⁻¹, grain weight spike⁻¹, grain yield and harvest index; number of grains spike⁻¹ with number of spikes m⁻², grain weight spike⁻¹ and grain yield; grain weight spike⁻¹ with number of spikes m⁻², number of grains spike⁻¹ and 100-grain weight; 100-grain weight with grain weight spike⁻¹; biological yield with grain yield; grain yield with harvest index, number of spikes m⁻², number of grains spike⁻¹ and biological yield; harvest index with number of spikes m⁻² and grain yield were significantly positive. It was concluded from the present research that genotypes NR-358, PR-98 and KT-4 achieved significant results for the studied traits.

ECOLOGICAL ANALYSIS OF HEAVY METALS CONTENT IN SOIL OF TALDOM AREA OF MOSCOW DISTRICT

T.N. Nizamzade

Environmental contamination with man-made industrial products, agricultural waste, pesticides, fertilizers, etc. is now an urgent issue and requires comprehensive research. Some of these substances, which accumulate in the soil are harmful to living organisms. Among them are heavy metals. On the example of the agricultural region (Taldom area, Moscow district) we studied the accumulation and migration of heavy metals in the soil. As a result, the regularities of heavy metals in the studied area, depend on the pH of the medium, size, mineralogical and chemical composition of soils. We also identified areas with different degrees of contamination of soils.

COMBINED APPLICATION OF PYRETHROID GROUP OF INSECTICIDES WITH COPPER-CONTAINING FUNGICIDES ON VEGETABLE CROPS

E. K.Orjonikidze

The paper deals with the rational usefulness of combined mixture application consisting of pyrethroids (decis, karate, fastak) and copper-containing fungicides (copper chloroxid, kurzat), during the process of complex struggle against Colorado beetle, acarids, aphids and phytophorus. The physical properties of both the mixtures and the single pesticides have been studied. It has become possible to demonstrate, that, thanks to the compatibility of compounds, the combined mixtures are highly effective against the above-mentioned harmful organisms, diffused on vegetable crops.

INFLUENCE OF LEACHING AND CHEMICAL AMENDMENTS ON CHEMICAL PROPERTIES OF A HEAVY TEXTURED SALINE-SODIC SOIL

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Considering that the sulfuric acid as one of the byproducts of the industries and gypsum are found in abundance, and up to 10 % of arable lands of Iran are saline-sodic; as a consequence the present study was undertaken with seven treatments including sulfuric acid (A) and gypsum (G) each in three levels (viz., equal to gypsum requirement (GR), 1.5*GR, and 2*GR) and a control with three replicates per treatment in 4×2 m plots in suburb of Mahabad city, Islamic Republic of Iran. The total amount of 100 cm water applied in two 50 cm intermittently. The results revealed that the EC_e decreased almost to half and one fourth by adding sulfuric acid at the rate of gypsum requirement with 50 and 100 cm of water in the first 0.25 m of soil respectively ($P \leq 0.05$). Applying gypsum to the soil did not decline the soil salinity and the value of soil EC in gypsum treated plots were higher than that of the control. There were no significant differences for soil pH and ESP between sulphuric acid and gypsum treatments. Infiltration rate was enhanced markedly by sulphuric acid treatment (A1) as well as total bacteria population. On the basis of these results it can be concluded that using sulphuric acid at gypsum requirement rate along with 50 cm of water is enough to ameliorate the saline-sodic soil following with cropping sodicity tolerant plants.

IMPACT OF HUMIDITY ON OPTICAL CHARACTERISTICS OF ATMOSPHERE AEROSOL

K.A. Tavartkiladze, N.A. Begalishvili, A.A. Kikava

The dependence of the spectral optical density of atmosphere aerosol at the wavelength of 0.25 μm on the relative humidity and water vapor pressure in the atmosphere has been studied. Experimental data of their synchronic observations (more than 2300 cases) have been applied. The tests were conducted in two stages – in coastal (densely populated) and highland zones (at the height of 2000 above sea level). Empirical-statistical models have been made, defining the dependence of the indicated characteristics for the coastal (anthropogenic aerosols) and highland (natural aerosols) conditions.

ASSESSMENT OF NITRATE CONTENT IN FRUITS AND VEGETABLES OF THE CURRENT SEASON

M.K. Mammadova

Recently food safety experts have begun showing major interest in the content of nitrates in food products. First of all, this is due to those threats to human health that may be caused by nitrate pollution. The objects of our research are herbal products that we use daily in food. This article reports the results of express analysis of nitrate levels in horticultural products offered at the local market. Tests established that among the various fruit and vegetable products only carrots exceed the maximum allowable concentration of nitrates.

ON THEORY OF DESTRUCTION OF ROCKS UNDER THE INFLUENCE OF THE OPERATING DEVICE OF HOLE-BORER

A.P. Tarverdyan, M.A. Alaverdyan

The paper considers the results of experimental-theoretical research in developing a technology and the operating device of the vibro-hole-borer for digging holes for young plants in soils given the availability of solid, natural, cemented layers. As a result of studies it has been established that for digging holes in solid soils with high technological quality and with low energy inputs, it is necessary to ensure:

- vibration of shearing head with amplitude of $a=2.5$ mm and frequency of 150 s⁻¹.
- coincidence of the absolute trajectory of the movement of the cutting edge of the knife with a curve of fracture growth in the solid cemented layer, in case of the absolute running speed of the knife blade with lower speed of wave propagation of plastic deformation of 15 m/s.

PULSING STRIP IRRIGATION OF WINTER WHEAT IN SHIRVAN STEPPE

A.M. Quliyev

The paper deals with the results of research of pulsing strip watering of winter wheat in the conditions of Shirvan steppe of the Azerbaijan Republic. The researches revealed high pulsing watering of winter wheats concerning usual strip watering during which the depths of humidifying of soil are completely leveled along irrigation strips, i.e. the coefficient of uniformity of depths of humidifying concerning a control variant rises from 0,48 to 0,95. Thus, the quality of watering rises approximately twice. This enables to increase grain yield to 3-5 centner per ha.

INFLUENCE OF ESTROGEN RECEPTOR GENE POLYMORPHISM OF ON GENES AND FATTENING QUALITIES OF PIGS

S.A. Kostenko, H.V. Sydorenko

Exposing the genotypes of estrogen receptor gene (*ESR*) for sows and boars Large White breed, synthetic cross *alba* and Landras breed, we set for certain high-frequency of heterozygotes in all of investigational pedigree groups of animals. The estimation of genotype influence on the productivity testifies that allele B (*ESR*, *Pvu II* - polymorphism) gives advantage his carrier the genetical qualities (an amount of sperm cell in ejaculate, mass of a body nests at birth, percent of stillborn piglings), and allele A improves fattenings indexes. Both alleles have economic valuable.

DISSEMINATION OF SALMONELLA IN ANIMAL'S ORGANISM

S.L.Grigoryan, M.A.Sargisyan, A.R.Mkrtchyan

Salmonellosis is a wide spread disease of young farm animals. It is known that bad treatment and feeding provoke outburst of animal's salmonellosis. It is possible to isolate the pure colony of salmonella from excrements of infected animals or from internal organs of corps by bacteriological method and identification of serotypes by serological method in agglutination reaction.

ACCELERATED AGGLUTINATION REACTION AMONG SMALL RUMINANTS EXPRESS-DIAGNOSTIC METHOD FOR BRUCELLOSIS

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Serological research based on Rose Bengal, agglutination, complement fixation tests and immunofluorescent analysis represents specific, rapid and available method for diagnosing brucellosis in alive animals. The research objective is to determine sensitivity and specificity of the accelerated agglutination reaction among sheep and goats for rapid detection of brucellosis. Basing on the obtained results, the researches carried out proved specificity and high sensitivity of the above-mentioned reaction. Positive results were obtained in all cases where the blood of 26,32% (25/95) sheep and 27,78% (5/18) goats with brucellosis (revealed using Rose Bengal test) were tested by accelerated agglutination reaction. It takes 5-6 minutes to reveal affected animals by the given reaction. Obtained results were confirmed by Competitive Enzyme-linked Immunosorbent Assay (C-ELISA) as well. Accelerated Agglutination Reaction allows to determine titre of anti-brucellosis agglutinins in the animal blood serum. The given results demonstrate 100% specificity and sensitivity of the reaction.

ZOOPLANKTON COMMUNITY OF ARPILICH RESERVOIR (ARMENIA)

S.H. Hakobyan

The number of recorded plankton animal species in natural conditions of Lake Apri (1936 and 1947) was 27 (Rotatoria 14, Cladocera 10 and Copepoda 3). After building the dam (1946-1950), Lake Apri became a reservoir used for irrigation and had significant fluctuations in water level. After regulation of the water-level in 1952-1953, the number of zooplankton species decreased to 10. Recent studies (2008-2010) showed that species composition has been changed: α - mesosaprobic species *D. pulex* is not detected any more and main part of biomass consists of β - mesosaprobic species *Diaphanosoma brachycum* and new for Armenia species *D. cucullata*, which indicates the eutrophication of the lake.

JACKAL'S MUSCLES GATE FEATURES

A.G. Patieshvili, G. T. Ramishvili

Chewing apparatus group muscle supplying with motor nerves, and muscle gate anatomical features were studied by Acad. F. Vorobiov's known method of macro - micro preparation on the material of 10 jackal heads. Facial and trigeminal final branch muscular entrance and distribution characteristics of the chewing mimic and tongue motor muscles was defined. The nerves enter the forehead, orbicularis oculi, cheek and subcutaneous facial muscles under the outer edge and divides into secondary branches within inner surface. There are no anastomoses between the secondary branches. Mimic muscles, located in front part of the facial skull have marked muscular gate, located at the level of the middle third part of the medial surface. There are no anastomoses between the secondary branches. Muscle groups of eye orbit and around the outer ear canal hole take nerves from ear- eyelid, superficial temporal, upper and lower orbital nerves. The number of nerves, located in the upper half of the muscle orbicularis oculi is significantly higher than that in the lower half area. Tongue branch of the Sublingual nerve takes part in innervation of tongue motor muscles. The gate of nerve entering the muscles is defined and located in the upper or middle third at the level of the medial surface.

BACTERIAL MELANIN AS A STIMULATOR OF THE GRAPE PLANT MERISTEM ACTIVITY

A.G. Azaryan

Bacterial melanin as a stimulator of the grape plant meristem activity. The paper deals with the influence of bacterial melanin on the formation of roots and growth of some kinds of grape cuttings. The bases of shortened two-oculus cuttings were soaked into melanin solution and then planted into the field and greenhouse soils. The preparation caused an intensive formation of roots, growth, branching and maturing of the stems. The treated cuttings overpassed control ones according to all their parameters; they also differ by their higher striking in the field. It is also recommended to use the preparation to treat green cuttings and the plantings with the underdeveloped root system.

STORAGE AND PROTECTION OF CEREAL CROPS

L.O. Samkharadze, D.K. Ioseliani, N.G. Kalabegashvili, G.I. Balarjishvili

Acid amides – DAAACPPH and EAAACPPH acids have been synthesized in order to store and protect cereal crops, that can be used for sexual chemical sterilization of insects-pests of agricultural crops – meal moths and crop moths. After 30 minutes exposition 0,5% concentration of received compositions causes complete sterility of pests.

JUNIPER LIGHT FORESTS OF EAST GEORGIA

P.T. Togonidze

We have studied juniper light forests of East Georgia their areal, peculiarities of their structure and natural reforestation. Description of climatic and soil conditions, forest types and associations, crown layer, underwood and grass canopy are also given.

PECULIARITIES OF METABOLISM OF PLANTS UNDER CONDITIONS OF THE CITY OF YEREVAN

G.S.Nersisyan, H.A.Hovhannisyan

The article considers some aspects of metabolism of plants under conditions of environmental pollution with heavy metals and chlorine. Leaves of plants growing in severely polluted zones of Yerevan displayed increasing contents of total nitrogen, and in tolerant species this occurred at the expense of a protein form. On polluted sites, in the mid of vegetation period a drastic decrease of nitrogen/metal and nitrogen/chlorine correlation was detectable. Studying quantitative changes in forms of nitrogen and especially of protein nitrogen and values of nitrogen/toxicant relations may serve as criteria when indicating the species tolerance and assessing pollution levels of sites.

FINANCIAL PROVISION OF SOLUTION OF PRIORITY ISSUES IN THE RA

A.G. Safaryan

Taking into account the existing competitive advantages of the country and the potential of their realization, the currently implemented fiscal policy becomes decisive for the development of the economy priority directions. On one hand, the policy aims at promoting the development of the priority directions, and providing their financial bases, on the other hand. The judgments about financial provision issues, indeed, may be based on the efficiency of revenue collection, its amount and justified expenses. From this point of view, the role of the general financial document (state budget) in financial provision for the solution of the priority issues is important.

TAX ACCOUNTING US-RA COMPARATIVE INTERPRETATION

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Income tax requirements differ considerably from jurisdiction to jurisdiction. The application of the existing requirements to these different circumstances can be difficult, resulting in complex and potentially diverse interpretations. The Accounting Standards of the Republic of Armenia which have been adopted by the Ministry of Finance and Economy and are based on IAS (International Accounting Standards). The common approach for accounting for income tax shared by IAS 12 and SFAS 109 (USA GAAP) is the temporary difference approach.

However, the standards provides for exceptions to the temporary difference approach relating to the recognition and measurement of deferred tax assets and liabilities and the allocation of tax. The international accounting standards board constantly working on to remove any exceptions to the temporary differences resulting in simpler requirements based more on principle.

NATURAL-GEOGRAPHICAL PRE-CONDITIONS OF RURAL SETTLEMENTS DEVELOPMENT IN MOUNTAINOUS COUNTRIES (ON THE EXAMPLE OF RA)

A.A. Potosyan

In the article the influence of components of natural complex of RA (particular elements of relief, hydrographic net, territorial and land resources, architectural-engineering conditions, etc.) on rural settlements distribution have been analyzed. As a result it is shown, that limited territory of RA, horizontal and vertical fragmentation of surface, significant differences of absolute heights, slopes, severe climatic conditions, uneven distribution of water resources, necessity of supporting ecological balance are significantly limiting the areal of settlements distribution in RA, having direct and indirect impact on formation and further development of settlements.