

Man, T. E., David, I., Șumălan, I., 60 Years of Hydrotechnical Education at the „Politehnica” University of Timișoara3

Abstract – *Timișoara, important administrative, cultural and industrial centre in the West of the Country acquired the quality of "civitas academica", gathering the legitimate hopes and efforts made by the most representative scientists of Banat and united Romania since the beginning of the XXth century, with the foundation of the Polytechnic School of Timisoara by Royal Decree no. 4822/11.11.1920.*

Keywords: *Timișoara, Banat, Romania, Water Engineering, Hystory*

Lazăr, Gh.I., Ion , M., Nicoară, S.V. , Computer modeling of the high waters transition in the area of a concrete bridge from Caransebes on Timis River13

Abstract – *The numerical modeling of high waters wave transition along a two kilometers sector on Timis River, associated with the concrete bridge at Teiușului and Dâlmei Streets crossroad in Caransebes (Caras Severin County), emphasizes the optimum placing position in the major streambed of an administrative building (Prosecutor’s Office of Caransebes). It also estimates the water flowing changing due to this building erection.*

Keywords: *numerical modeling, high waters transition, arranged watercourse, high waters hydrograph, flow simulation, regular streambed, major streambed, unsteady water flow.*

Lazăr, Gh.I., Ion , M., Nicoară, S.V., Popescu-Busan, I.A., Considerations regarding the under washing phenomenon in case of water flowing through an earthfill dike developed to protect the waste deposit of Drobeta Turnu – Severin19

Abstract – *By numerical simulation of the water flowing through the earthfill dike and its foundation ground, the specific values of local gradients and of flowing velocities in the protection layer, in the clay screen, in the clay for foundation raft, in the embankment body and in the foundation ground can be established for both the steady and transitory flowing regimes.*

Knowing the permeability ratio of the foundation ground and of the embankment material, the washing velocity values can be obtained. By comparing these values with those corresponding to the employed materials, conclusions regarding the scouring or internal washing phenomena can be reached.

Keywords: *numerical modeling, earthfill embankment, clay screen, clay front mat, gravel drain, seepage, steady and transitory flow, hydraulic head, water velocity, scouring velocity.*

Ion, M., Lazăr, Gh., Nicoară, S.V., Dams monitoring in Semenic mountains26

Abstract – *The complex hydrotechnical system from Semenic Massif was developed starting from the first years of the XX-th century, aiming nowadays both to supply with water the industry and population of Resita town and to produce electric power, but in the same time to regulate the discharges in order to protect the region against the seasonal high waters. By considering its long use and special importance in the region, the problem of proper behavior monitoring of all structures comprising the Semenic hydrotechnical system needs to be covered in order to run it under the required safety conditions.*

Keywords: *hydrotechnical system, dam, hydropower station, headrace, water quality, surveillance, monitoring and control device, data recording and processing*

Belea.Gh., *Hydrotehnics and the judicial system*33

Abstract – *In the last few years, there are more and more situations when issues regarding hydrotechnical constructions are brought to justice all over the country. This fact is a result of the transfer of real estate property, from the state or from different trading companies, to individual property. The paper presents some hydrotechnical problems, which were brought before different law courts to be solved. The objectives set by the courts of law and the responses of the judicial technical expert are presented.*

Ke words: *water drainage canal, flood, drilled well, accumulation lake, water level of the lake.*

Tudor, C., Riiosu, J., Popa, Gh., Computer-assisted modelling by the method of the finite elements of a used water storage tank37

Abstract – The work presents the structural calculation of a used water storage tank, more precisely one of the biological treatment basins of Coșea Mică, Sibiu County. The numerical calculations were made by computer program AxisVM8+, using the methods of finite elements.

Key words: method of finite elements, tank, structural calculation.

Grămescu, A.M., Barbu, D., Considerations regarding the specialized properties valuation. Case study : constructions in marine environment45

Abstract- The paper analyzes the criteria and methods used in the valuation of an important category of specialized properties. As we know very well, the specialized properties are sold once or never over their service life. The authors analyzed in this article the coastal constructions (wharfs, piers, marine platforms). Based on their own researches, the authors detailed these constructions characteristics, the parameters that contribute to their values and the influence of the performance parameters, service life and operational conditions over the value (Example: the aggressive action of the water in the Black Sea determined the use of high performance concrete). The analysis of the components represents the most important parameters that can influence the value as it is considered by the authors within this paper This article shows the authors' researches results over the behavior of these buildings in marine environment, issuing a synthesis of their service lives, quantifying these properties values. The marine platforms are analyzed based on the constitutive materials, executive technologies, operational parameters and their capacities. The article is focused on almost worldwide marine oil platforms, especially those located in the North Sea (study case).

Key words: valuation, marine environment, real estate properties

Muj S., Popa Gh., Teau M., Gîrbaciu C., Infrastructure performs from a general raft foundation and drill pile. Technical economical analysis53

Abstract: The foundation soils from Timisoara are known like soils which are sensitive at the steeping or swampy soils. Because of this, foundation of some buildings will be a problem when is wish to execute a building with high elevation. In this paper will be analyze the foundation of an apartment block which have: basement, ground-floor and eight floors, locate on such kind of soils.

Keywords: foundation, raft foundation, soil foundation, piles, soil compression

Țepeș, O.,F., The effect of the wind's action on a metallic circular tower of 40 meters57

Abstract – The present paper consists in the study of the structural response of a metallic circular tower placed in the free area of Constanta. Speaking of such a structure the prevalent effect is that of the wind's action, the seismic loading being reduced in front of the wind's action. The calculation will be comparatively by using STAS 10101/20-78 and also the new standard NP-082-04.

Keywords: metallic circular tower, wind loading, old and new Romanian norms

Stătescu, F., Cotiușcă-Zaucă, D., The influence of compaction on soil hydraulic characteristics.....60

Abstract - Soil porosity is an index of the relative volume of soil pores, particularly important in studies on the detention and the movement of water in the soil. Its value is influenced by texture, structure and degree of soil compaction. Starting from these considerations, some researches were carried out on the evolution of hydraulic parameters (minimum residual water content - WCR, saturated water content - WCS and pore size distribution parameter - n), under the influence of silting and soil compaction. The research consisted in drawing the suction curve and in the computation of the above parameters using the "Soil Parameter Estimation" software; the paper is presenting results for the 3 types of textures (N = Sandy, L = Silty, A = Clay) and 3 compaction degrees (FA = Very loose, ST = Slightly compacted, PT = Strongly compacted). They have shown that irrigation and anthropogenic compaction are causing significant changes in soil and therefore in the porosity and hydraulic characteristics of it. At the same time, the direction and range of the above mentioned parameters were determined.

Keywords: soil, compaction, suction curve, hydraulic characteristics

Man, T.,E., Lauer, I., Lauer, C., The impact on the environment of the agricultural works and land improvements65

Abstract: The policy in the environment field has in view the following objectives: the environment protection and the improvement of its quality, protection of public health, prudent and rational usage of natural resources, promotion of measures relating to the disposal of environmental regional and world issues at international level. Therefore, the instruments used are as follows: legislative regulations, especially instructions stipulating quality environmental norms (levels of pollution), norms applicable to industrial procedures (emissions, general notion, and working rules), norms applicable to products (concentration or emission limits for a specific product), action programs referring to the environment protection, financial support programs.

Keywords: policy in the environment, public health, financial support programs

Buran, C., Man, E.T., Wehry, A., Coput-Hora, F., Software developed for an efficient technical-economical design of horizontal drainage arrangements69

Abstract- *This paper presents our own software Drainage. Applications. V. 3.0, developed in order to be used when designing drainage arrangements, thus reducing the time needed to make the technical-economical calculations and enhancing the precisions of these calculations*

Keywords: *design, programming, distance between drainpipes, specific investment*

Coput-Hora, F. Man, E.T., Orlescu, M., Buran, C., Calculation programs for establishing the cultures irrigation regime when projecting the irrigation planning.....72

Abstract: *This paper presents two calculation programs for establishing the crop irrigation regime when projecting the irrigation planning.*

Keywords: *software, crop irrigation regime, design*

Siminea, I., Bostenaru, M., Biodegradable geocomposite a material for the future, to be applied in slope protection and recovery of waste dumps75

Abstract – *This paper presents the utilizations of on geocomposite, with have been produced in Romanian, used in construction works and environmental arrangements especially for ash dump heaps covering for preventing environmental pollution. The biodegradable geocomposite have been produced from offal's organically materials wich are decaying in time. For sowing have been used graminaceae and vegetables seeds. The ash dump from CTE Doicesti and CTE Mintia have been studies as support layer for geocomposite. In-lab research beigning cared out, trough the use of biodegradable geocomposite for slope and flank reinforcement, where research extended to trial fields in situ.*

Keywords: *geocomposite, ash dump, biodegradable, slope*

Man, T. E., Coifan, V., Vertan, G., Dimitriu, M., Nita, C., Olariu-Casauteanu, R., Receanu, R., A sustainable economical development79

Abstract - *Nowadays the countries prosper only by fructification (if they have) large natural wealth and/or they are economically performing, based on technical knowledge and innovation protected by USA patents , European patents, etc. Romania has therefore the smallest gross domestic product (GDP) per inhabitant from EU. So Romania can prosper only through economical performance through original competitive technical solutions, patented and traded worldwide.*

Keywords: *large natural wealth, knowledge and innovation, patents*

Sabău, N.C., Șandor M., Domuța C., Brejea R., Domuța Cr., The optimum of the climate conditions from Oradea, implicated on the biodegradation of oil on a polluted soil.....87

Abstract *The paper presents the results of the researches carried out at the Agricultural Research Station Oradea, Bihor county, between 1993 and 2002, regarding agricultural yield from a luvosoil polluted under control with oil brought from the exploitation site at Suplacu de Barcău. The experimental device was made out of micro parcels of 1 m², set up in a randomized manner, in a Latin square, polluted with a concentration of: 0, 1, 3, 5 and 10 % (0, 3, 9, 15, and 30 l/m³), oil in the ploughed layer, in 4 repetitions. The experience was than cultivated with in the first three years with millet, a plant which is considered to be resistant to pollution, and than until 2002 with spring wheat. The analysis of the yield losses from the parcels polluted with oil in various concentrations, have shown that the concentration decreases in time, becoming insignificant after 7 years in the concentration of 1 %, 8 years in the concentration of 3 % - 5 %, and 9 years for 10 %. This shows the biodegradation of the oil without any sort of soil improvement measures. By analyzing the correlations between the millet medium yields in the first 3 years of research and the value of de Martone climatic index, registered in the vegetation period, and oil concentration, very significant square polynomial correlations with two factors were established. The 3D representation of this presents for each concentration a technical maximum of yields at value of de Martone climatic index (IdM_{opd}) of 30,35 mm/°C. Analyzing the values of technical maximum yields of millet we can estimated the percentage of biodegraded oil.*

Keywords: *luvosoil, oil pollution, climate conditions, oil biodegradation*

Sabău, N.C., Bodog M., Teușdea A.C., Some aspects regarding the usage of the program DrenVSubIR to the projection of the drainage on the heavy soils with a high content of clay.....93

Abstract: *The objective of this paper/work is checking the results obtained at the dimension of horizontal drains on the heavy soils with a high content of clay, using different methods of determining the distance between the drains, by comparing the results of the research done in Diosig drainage field, Bihor. In this experimental field, on a faeoziom gleic hiponatric have been noticed in the period 1987-1994, three types of drainage of rifled PVC, 6,5 cm, with filtrated prism of ballast with the height of 20 cm, having distance between the drains of 20, 35 and 50 m. For the confirmation of the results of the research in the field, the distance between the drain wires have been calculated for the conditions given by the type of the soil with the*

method of the angle α , the nomogram (abacus) for crossed drainage, methods Donnan, Hooghoudt, Ernst and using the program DrenVSubIR. The closest results to the ones obtained in the field are obtained using the calculating module of the distance between the drains, with the relation Ernst-David of the program DrenVSubIR.

Keywords: heavy soil, drain tube, filtrate prism, DrenVSubIR program

Eleş, G., Soil mapping on digital orthophotoplan using GPS devices97

Abstract – Soil mapping, represent an important activity of the economic branch of cadastre, in order to evaluate its economical potential. Also an important step in soil mapping consist in determine the soil units on the field. The paper, present how GPS technologies can be helpful in soil mapping activities.

Keywords: TEO units, UTM, GPS, ETRS89, Krasovsky ellipsoid

Doandes, V., Eleş, G., A method for following the horizontal displacement of circular shape construction101

Abstract – An important step after the construction execution consists in following its behavior. For construction having a significant importance, it is necessary to make sets of topographical measurements in order to establish the construction behavior. At present the field measurements are made with total stations, that provides better angle and distance measurement.

Keywords: total station, traverse, topographical measurements, network

Wehry, A., Mihoc, L., Minimum conditions for design of rivers embankment.....105

Abstract - This work present the minimum necessary condition to project a dyke cross section, on infiltration curve trough dyke reported to entire periode of overflow time.

Keywords: July 2008, 2006 floods on Danube river, dykeplanning

Brejea R., Wehry A., Domuța C., Borza I., Physical and chemical properties of the land from a former bauxite quarry in the ecological reconstruction process109

Abstract- The paper is based on the researches carried out in a former bauxite quarry from Zece Hotare, Bihor county. The exploitation of bauxite ended in 1998 and in 2004 complex works took place in order to set up experiments. In 2005, 2007 and 2008 determinations were made as to what concerns the settling of herbs vegetation and the 3 soil profiles located in the levelled area and the slope area were compared to the soil profile from the limitrophe beech tree forest. The results prove that there is an ecological reconstruction underway.

Keywords: bauxite quarry, physical, chemical and enzymatic properties, vegetation, ecological reconstruction.

Brejea R., Domuta C., Sandor M., Sabau N., Samuel A., Borza I., Domuta C., Vuscan A., Researches regarding the erosion on the hillside of the former bauxite quarry from Zece Hotare, Bihor113

Abstract- The paper based on the researches carried out during 2005-2008 in Padurea Craiului Mountain. The annual rainfall was of 815,8mm in 2005, 872,0mm in 2006 and 585,2 mm in 2007. The land losses were in direct correlation with hillside slope (5,2t/ha at 20%; 8,6t/ha at 31 % and 15,4t/h at 44%) and degree of vegetation covering. Absence of the mattresses on the hillside with 10% slope determined a loss of 100,6 t/ha in comparison with the loss of 3,9 t/ha registered on the hillside with mattresses.

Keywords: former bauxite quarry, hillside, slope, mattress

Domuța, C., Șandor, M., Borza, I., Samuel, A., Sabău N.C., Brejea R., Domuța Cr., Vușcan, A., Irrigation, a component of the sustainable technologies in field crop from Crișurilor plain during 1976-2007117

Abstract - The paper is based on the research carried out during 1976 – 2007 in Oradea, in a long term trial with ten different crops. The optimum water regime is based by ten to ten determinations of the soil moisture and maintaining the soil water reserve on watering depth between easily available water content and field capacity. Soil water reserve on irrigation depth decreased below easily available water content every year and even below wilting point in some years. The irrigation improved the microclimate conditions and optimum water consumption could only be assured using the irrigation. Irrigation determined the increase of the yield level in average with 39% (wheat) to 127% (maize for silo); yield stability (standard deviation) improved with 8.7% (sunflower) to 50.4% (maize for silo). Yield quality and water use efficiency were improved, too, under irrigation.

Keywords: irrigation, soil structure, yield quantity stability and quality, water use efficiency, correlations

Bedreag, V., Man, T.E., Bălan, G., Vertan, G., Performant pumping in improving services.....123

Abstract- In the entire world, new types of equipments can remove the present shorts from pumping stations SP from improving services. So, the newest electropump for flooded SP can pump flexible in dry SP and flooded SP too. Other new types of aggregations contain each an engine with a high revolution, a pump with

another revolution and a reducing with drive gears that makes an ansamble either with the engine, either with the pump or with both, in this last case results a monobloc aggregation. This work paper presents succinct the advantages of this new type of equipments

Keywords: *pumping equipments, engines, irrigation*

Bodog, M., Man, T. E. *The establishment of the correlation between the deepness of the phreatic level and the humidity at the soil surface, in the experimental field from the Waterworks in Oradea, Bihor County*131

Abstract: *The objective of this paper is the establishment of the correlation between the deepness of the phreatic level and the humidity at the soil surface because the rational usage of the water in the drainage, irrigation or the ones with reversible functioning drainage-irrigation systems is wanted.*

Keywords: *correlation, deepness, phreatic, humidity, soil.*

Nicolescu, C., Cruceanu, L. Marin, C., Darie, C., Sovăială, Gh., Popescu, T.C. *Monitoring Quality of the Irrigation Water*135

Abstract -*The technical solution consists of an equipment which monitors the following parametres: turbidity, pH, CE at 250C, Na+, Cl-. The lapse of time for monitoring is of 10 – 60 min. The main components are the following: the prelevation pump (submersible), the monitoring board, the repression pipe of the analysed water. There are made warnings about tue exceeding of the programmed level for each monitored parameter, about tue fact that the pump and agitator don't work or about any other source of damage. The testing of the equipment in the ground was made at the base pumping station Manta, from the Danube Meadow, Giurgiu county.*

Keywords: *irrigation, pumping station, monitoring, quality, equipment*

Beutură, D., Rogobete, Gh, Bertici, R., *Pedological Report - An Essential Work for Land Improvement*139

Abstract- *The task of the engineer was to provide a system for conveying water from a source and distributing it equitably over an agricultural area. Quite recently, the appearance of saline and waterlogged ground demonstrated the fact that the removal and unwanted water is as important as the irrigation or drainage water itself. He is an engineer, designing irrigation and drainage system, but his works are never far from the field crop, and he must have knowledge as farm management, soil science and crop husbandry. Agricultural potential is a function of soil type and drainage characteristics with further limitations imposed by salinity, soil depth, ground-water level, structure, texture and fertility of the topsoil. The purpose of a soil survey is to define soil types, drainage characteristics and agricultural potential of land and to offer the best solution for land reclamation.*

Key words: *soil, irrigation, drainage, land, improvement*

Ene, C., Rogobete, Gh., *Forest fire prevention and fighting measures*143

Abstract - *Last years a lot of forest areas was affected from fires. In summer of 2003, 2004, 2005 and 2007 hundreds of thousands hectares of forests from Morocco, Algeria, Portugal, Spain, Italy, France and Greece have disappeared. The real causes of these fires are well-known but in many cases than nature is accused to be at the orrigin of the forest fires. The European Union monitors permanently the forest fires in EU countries. Last year, the forest fires in Greece have determined the European Commission to reanalyses the possibilities to create II intervention modules against different natural catastrophes. In function of the risk categories where are good prepared, the EU countries could to associate and use in commune their equipments and human resources. The main subject discussed this year at the reunion of the forest fire experts was the organization of the forest fire prevention and fighting in EU countries.*

Keywords: *forest fires, fire prevention, firefighting, EFFIS*

Rogobete, Gh., Constantinescu, L., *“Problem” soils in Timiș –Bega*149

Abstract - *The low area of the Timiș – Bega Plain, situated in the south-western part of Timișoara, and home of localities such as Peciu Nou, Giulvăz, Ionel, Ivanda, Uivar and Foeni, with holocene sedimentary deposits and the groundwater level of 1-3 meters depth, has an extremely varied soil cover, of which the “good” soils such as the Chernozem and the Faeozeom, are dominated by the “problem” soils as the Gleysol, Vertosol and Pelosol, and intense salinity- sodicity phenomena, meaning that the sodic soils or the saline-sodic ones account for only 30-50% of the area. The paper deals with the characteristics of these soils, with their forming mechanisms and with the possibilities of their exploitation.*

Keywords: *oxidation, reduction, salinization, alkalization, improvement*

Constantinescu, L., *Soil pollution and ecological consequences in Romania*153

Abstract - The paper presents the soil pollution and ecological consequences in Romania. The soil is subjected to a series of degradations: acidification, salinisation, alkalization, compaction, chemical and biological pollution. Soil pollution is due to air and water pollution as well as to the vegetation and fauna pollution.

Keywords: pollution, impact, consequences, soil, ecological

Maracineanu, F., Constantin, E., Semcu, A., Zaharia, V., Considerations Regarding the Climate Variability in South of Romania and its Implications in Land Reclamation Activity.....157

Abstract - The climate variability in the south of Romania is pointed out by studying the humidity deficit (rainfalls- potential damping-sweating) in two characteristic periods: the driest period in XXth century and the first years of the XXIth century. The period between 1896-1955 years is used as reference. The necessity of the more effective use of the irrigation and drainage is pointed out, as improvement techniques for hydro-salt regime of the soil.

Keywords: climate, climate changes, humidity deficit, irrigation regime, hydro-salt regime

Constantin, E., Maracineanu, F., Cazanescu, S., Bozianu, C., Studies Regarding the Ecological Reconstruction of the Degraded Lands161

Abstract - The natural environment degradation, more and more obvious, affects the economic and ecologic functions of the lands and soils, fact that needs valuation actions, antropic forecast and intervention for ecological reconstruction. The paper defines characteristic technical terms, the degradation phenomena proportion and recommends the principles that must be take into consideration for the assurance of a sustainable evolution.

Keywords: ecological reconstruction, land degradation, climate changes

Nemeş, N., Costescu, I., Popovici, G., Major pollution sources in Bistra couloir, Caraş-Severin County165

Abstract: Pollution is a major problem of the contemporaneous society being the consequence of disequilibrium between humans and nature, so an effect of human activity. The pollution phenomena have different connotation, function of meteorological condition specific for the polluted area. The major sources of air, waters and soils pollution are: the auto vehicles traffic, the residues of industry (by S.C. Gavazzi Steel S.A. Oţelu Roşu), Ruschiţa excavations and the heavy metals contents.

Keywords: pollution, disequilibrium, residues, heavy metal.

Măiţă, T.V., Flood protection works in correlation to current and future utilization of the Danube floodplain area168

Abstract - Floods occurred between April-May 2006 have emerged a lot of discussions and disputations concerning the future of the Danube Meadow along the Romanian sector. In this sense, the ecological and economical re-dimensioning program for the developed precincts was conceived and launched as a tool of the Romanian Government, both in the implementation process of the measures concerning the prevention, protection and diminishing of the flood effects, according to the National Strategy of Management for the Floods Risk, and within the Water Frame Instruction.

Keywords: flood, Danube resizing, floodplain.

Dănuţ, M., Mateiu, C., Reconstruction and consolidation of Danube internal dykes, following the floods occurring during the spring of 2006 (I)171

Abstract - This paper was induced by heavy floods that took place within the Danube floodplain area during the spring of 2006. For this was establishing with technical accuracy, all the parameters of necessary works (studies and design) required for the reconstruction and consolidation of the embankment, on all its damaged or destroyed sectors, as well as the minimum mandatory terms for their execution. Also was establishing the correct technical solutions needed to reconstruct and consolidate the embankment, with the purpose of avoiding the risk of flooding the neighbouring agricultural land areas and implicitly to ensure its safe operation within the agricultural sector of the scheme.

Keywords: Danube control floods, embankments, hydro technical structures.

Mateiu, C., Dănuţ, M., Reconstruction and consolidation of Danube internal dykes, following the floods occurring during the spring of 2006 (II)175

Abstract - This paper was induced by heavy floods that took place within the Danube floodplain area during the spring of 2006. For this was establishing with technical accuracy, all the parameters of necessary works (studies and design) required for the reconstruction and consolidation of the embankment, on all its damaged or destroyed sectors, as well as the minimum mandatory terms for their execution. In the some time, finding the correct technical solutions needed to reconstruct the embankment, with the purpose of avoiding the risk of flooding the neighboring agricultural land areas and implicitly to ensure its fishery utilization.

Keywords : Danube control floods, embankments, hydro technical structures

Graur, V., Mitran, I., V., Fire Models for Particular Application in Forest Management178

Abstract- Fire modeling is used to understand and to predict possible fire behavior. Fire models are used in different aspects of fire management. Existing models used for fire modeling are usually classified into: empirical models which are based primary on statistics collected by observation of experimental or historical fires, physical models based on physical principles of fluid dynamic and laws of conservation of energy and mass and semi empirical models based on physical laws, but enhanced with some empirical factors. The paper will present and explain different forest fires models, giving a short technique for deciding which model is best for particular application, too.

Keywords: forest fire, fire modeling, fire behavior, fire spread

Mitran, I., V., Graur, V., M., Fire protection in high rise building183

Abstract - Fire risk in every High Rise Building (HRB) has been of special concern to the fire community for as long as there have been high rise buildings: these tall edifices have inspired a mixture of awe and fear since they started to emerge at the beginning of 20th century. Most of them are known as 'skyscrapers'.

Keywords: fire risk, high rise building, fire fighting, fire protection

Biolan, I., Cazanescu, S., Niculae, N., Necula, C., Fertigation installation189

Abstract - Fertigation (fertilization + irrigation) represents the application process of the fertilizers directly with the irrigation water. The fertigation installation used to make such an operation contents a simple (PD 1) or double (PD 2) diaphragm pump, which injects the fertilizer solution to a higher pressure than that of the irrigation installation. The main advantages of the fertigation process are: savings of labour and of the energy and a more effective use of the fertilizers, which are expensive. The technical solution of the fertigation installation represents the subject of the Patents –RO no.102887/1993 and 121612/2007.

Key words: irrigation, fertilizers, fertigation installation

Gabor, A., Man, T. E., Meriu, D., The purpose and the importance of the rehabilitation of the irrigations Fantanele Şagu Arad197

Abstract - This work presents the purpose and the importance of the rehabilitation of the irrigations accomplished 35 years ago and the situation referring to the fact that the SP Plutitoare, SP Repompare and the Adduction canals are belonging to ANIF RA Inferior Timis Mures Branch, Management Unit Arad, and the pressure stations and the underground pipe network plus the wetting equipments are belonging to the OUAI Fantanele Arad and OUAI Sagu II which are able to work for the rehabilitation of some elements of the fitting out assuring an efficient functioning.

Key words: Fantanele Şagu Arad irrigation system, pumping regime, rehabilitation

Adam, I., Forest Fires Preventions for High Risk Areas Integrated Plans Elaboration.....201

Abstract- The total surface swept by fire in the 1990-2003 periods was 8563.5 ha, in the 6 administrative counties these was 6875.7 ha (80% from the entire surface). In these conditions of a forest fires preventions for high risk area integrated plans elaboration is necessary.

Keywords: forest fire, fire risk, combustibility index, area swept by fire, administrative counties, under-integrate plans

Blenesi, A., Man, T. E., Mărăcineanu, F., Mărăcine, N., Suciu, G., Iosub, A., Dinita, D., Present aspects of ANIF R.A. activity and land reclamation strategy in Romania207

Abstract - This document shows present condition of the National Land Reclamation Administration (ANIF) activity concerning legal issues, works for rehabilitation, modernization and technological upgrading of land reclamation facilities, patrimony status, diagnose analysis of activities performed in Romanian land reclamation schemes considering the context of EU regulations, applicable in Romania as a European Community member. ANIF strategy for land reclamation is shown below.

Keywords: National Land Reclamation Administration, works for rehabilitation

Doandea, V., Popescu, D., The intersection of distances applied to establish the position of a point213

Abstract - In this paper work it is presented a method used to establish the planimetric position of a point by using the method of the intersection of distances and the electro-optical tachymeters.

Keywords: planimetric position, lineal intersection, electro-optical tachymeter, measuring accuracy

Man T. E., Suiugan., Delineation of surface water bodies – rivers in the Crisuri River Bazin216

Abstract- The methodological guidelines for the delineation of surface water bodies, Rivers and lakes", represents an adaptation of guideline elaborated on EU level for Romanian specific conditions. The

methodologies present the criteria and the steps, necessary for the delineation of surface water bodies in the following types: a) non-heavily modified water bodies: natural or near-natural SWB; WB modified from qualitative point of view; b) heavily modified water bodies (HMWB): non- modified qualitative and modified qualitative; c) artificial water bodies(AWB): non- modified qualitative; modified qualitative; The categories of elements taken into account for surface water bodies delineation are: morphological, hydrological, physico-chemical and biological. For these elements, there were defined limits that permit the preliminary delineation of surface water bodies in different types. "The methodological guidelines for the preliminary identification and designation of artificial and heavily modified water bodies" represents an adaptation of guidelines elaborated on EU level at Romanian specifics conditions.

Key words: water bodies delineation, rivers and lakes, EU conditions

Moca,I., STANDPOINT - As Regards Ecologic and Economic Redesigning of the Romanian Danube Low Plain Sector220

Abstract - After 1990, following some malfunctions that were found out in precincts protected by dykes and reclaimed for drainage (some of such precincts being reclaimed also for irrigation) located in the Danube low plain, several studies and projects were elaborated and debates were conducted by specialists regarding the future of this region.

Key words: