



**BIOTEHNIŠKI
CENTER NAKLO**
VIŠJA STROKOVNA ŠOLA

4. konferenca z mednarodno udeležbo –
konferenca VIVUS s področja kmetijstva, naravovarstva,
hortikulture in floristike ter živilstva in prehrane

4th Conference with international Participation
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hortikultura in floristika ter živilstvo in prehrana

Agriculture, Environmentalism, Horticulture,
Floristics, Food Production and Processing and Nutrition

*"Z znanjem in izkušnjami
v nove podjetniške priložnosti"*

*"With Knowledge and Experience
to New Entrepreneurial Opportunities"*

Zbornik izvlečkov

20.–21. april 2016
Biotehniški center Naklo,
Višja strokovna šola,
Raziskovalna enota,
Strahinj 99, Naklo, Slovenija

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Biotechnical Centre Naklo,
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Pozdravni nagovor

Spoštovani udeleženci,

dobrodošli v Biotehniškem centru Naklo. Z velikim zadovoljstvom odpiram plenarni del četrtne konference VIVUS 2016.

Biotehniški center Naklo gradi sodobno platformo znanja – center odličnosti, ki sloni na slovenskih in mednarodnih mrežah. Raziskovanje spodbujamo že v srednji šoli, kjer na Gorenjskem vodimo program »Gibanje znanost mladini«, kamor se s svojimi prispevki vključujejo tudi osnovnošolci. Nadaljujemo v Raziskovalni enoti Višje strokovne šole, ki povezuje raziskovalce, študente in različne institucije. Dobre raziskovalne izsledke praktično izpeljemo v Medpodjetniškem izobraževalnem centru, ki je gospodarska enota Biotehniškega centra Naklo.

Na letošnji konferenci bo predstavljenih več kot 70 referatov s področja kmetijstva, hortikulture, naravovarstva in okoljevarstva, živilstva in prehrane ter spremljajočih dejavnosti. Pri tem sodeluje štirinajst držav: Bolgarija, Ciper, Črna gora, Egipt, Francija, Hrvaška, Italija, Madžarska, Nemčija, Norveška, Slovenija, Srbija, Španija, Velika Britanija. V mednarodnem tednu VIVUS gostimo tudi dijake na izmenjavi iz Estonije, Norveške in Belgije.

Prepričan sem, da bo četrtja konferenca še boljša in bolj odmevna v našem prostoru. Vesel bom, če bodo naši deležniki (predvsem tudi dijaki in študenti) prepoznali nove priložnosti.

Zahvaljujem se vsem avtorjem, udeležencem in organizatorjem, ki so prispevali k uspešni izpeljavi konference. Predvsem pa želim prijetno počutje in dobro sodelovanje tudi vnaprej.

dr. Marijan Pogačnik,
direktor Biotehniškega centra Naklo

Welcome speech

Dear participants!

Welcome to Biotechnical Centre Naklo. It is a great pleasure to open the plenary session of the fourth Conference VIVUS 2016.

Biotechnical Centre Naklo has been building a modern platform of knowledge – a centre of excellence, based on Slovenian and international networks. Research is being encouraged already in the secondary school. In Gorenjska area we are running a programme "Youth Movement Science", in which even the primary school pupils' contributions are being included. In our centre the work is being continued in the Research Unit within Higher Vocational College, which connects researchers, students and various institutions. Good research findings are transferred into practice in our Inter-company Training Centre, which is an economic unit in Biotechnical Centre Naklo.

At this year's conference there will be more than 70 papers covering the areas of agriculture, horticulture, nature conservation and environmentalism, food and food processing. As usual, lots of accompanying activities will take place. Participants are coming from fourteen countries: Bulgaria, Cyprus, Montenegro, Egypt, France, Croatia, Italy, Hungary, Germany, Norway, Slovenia, Serbia, Spain, Great Britain. Within the International Week VIVUS we also host pupils on exchange from Estonia, Norway and Belgium.

Contributions presented at the Fourth Conference VIVUS will be addressing current issues in the field of agriculture, nature conservation, horticulture and food technology and nutrition. Active participants working in these fields of knowledge and industries will be given an opportunity to reflect on their future development and orientations.

I'm sure that the third conference will be even better as the preceding ones, meeting with a wide response in our environment. I will be pleased if our participants (especially the pupils and students) will see and recognise new opportunities.

I thank to authors, participants and organisers who have contributed to a successful realisation of the conference. Above all, I would like you to feel welcome and comfortable, with sincere hopes for our future cooperation.

Marijan Pogačnik, PhD,
Director of Biotechnical Centre Naklo

Plenarni del: Vabljeno predavanje
Plenary session: Invited lecture

Načrtovanje in oblike podeželskega turizma v zaščitnih območjih

Rural Tourism Design & Planning in Nature Protection Areas

*Gülcan Kulle Yalinca,
Association for Sustainable Development, ASD, Cyprus*

Gülcan Kulle Yalinca prihaja s Severnega Cipra, je predsednica Združenja za trajnostni razvoj, strokovnjakinja in pedagoginja na področju pridobivanja veščin in kompetenc, razumevanja narave, turizma z vključevanjem lokalnih skupnosti in trajnostnega razvoja.

Gülcan Kulle Yalinca is from North Cyprus, Chair of the Association for Sustainable Development, a capacity building expert and trainer on nature interpretation, community based tourism and sustainable development.

Potassium fertilizer rate and source influence content, uptake and allocation of nitrogen, phosphorus and potassium in potato plants

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Abstract

The influence of potassium fertilizer source and rates on the content and the uptake of nutrient elements by potato plant parts from soil were studied. The field experiment included two fertilizer rates - 100 and 200 kg K₂O ha⁻¹ supplied as K₂SO₄ or KCl. Increased content of nitrogen in roots at variants fertilized with KCl was observed - 3.01 % for KCl₍₁₀₀₎ and 3.13 % for KCl₍₂₀₀₎. Potassium fertilization increased K content in roots compared to control. The N content in aboveground biomass was the lowest for KCl₍₁₀₀₎ (4.13 %) and for KCl₍₂₀₀₎ (3.84 %). The applied potassium fertilizers increased K content in aboveground biomass compared to control. The high KCl rate at variant KCl₍₂₀₀₎ increased K content in aboveground biomass up to 5.16 %. The fertilization with K₂SO₄ led to slight decrease of N content in the tubers compared to control (2.32 %), but the KCl increased tuber N content from 2.60 % at variant KCl₍₁₀₀₎ to 2.89 % at KCl₍₂₀₀₎. The K content in tubers was not considerably influenced by the fertilization but an exception was observed for variant KCl₍₂₀₀₎ where it (2.70 %) exceeded the one at the other variants. Potassium fertilization did not influence P content in plant parts. The highest levels of uptaken nutrients were found in aboveground biomass - 50 % of N, 55 % of P and 57 % of K. The tubers contained around 39 % N, 16 % P and 38 % K. Lower levels of absorbed nutrients (11 % N, 29 % P and 5 % K) in roots were established.

Key words: Potatoes, potassium fertilization, content and uptake of NPK

The Development of a Sustainable Agritourism Study Program through the Croatian Qualifications Framework

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Abstract

Agriculture and tourism are strategic sectors of the Croatian economy. Synergic interaction of these sectors might contribute to the uniform and sustainable development of Croatian regions.

The goal of this project is to design possible directions for the development of both sectors. The aims of the project are: i) to investigate key stakeholders in agritourism and to analyze the market, ii) to create an occupation standard for the engineer of sustainable agritourism, iii) to create a qualification standard for the bachelor of sustainable agritourism, and iv) to design a professional sustainable agritourism study program through the Croatian Qualifications Framework.

The methodology includes scientific research methods for analyzing the market, and the attitudes and perceptions of all parties involved. A cycle of generic and professional knowledge and skills training for teachers has been carried out to empower and enable them to participate in the development of the new study program.

Through the implementation of the professional study, the project will influence the development of economic activities in rural areas, increase employment and self-employment of graduates and expand and diversify activities of the existing family farms and agritourisms.

Key words: sustainability, agritourism, study program, occupation, qualification, rural tourism

The Interest of the Target Groups in the New Study Program Sustainable Agritourism

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Abstract

The Croatian Qualifications Framework (CROQF) is a reform instrument for regulating the system of qualifications through qualifications standards based on learning outcomes and following the needs of the labour market, individuals and the society. The project: The Development of a New Study Program Sustainable Agritourism Through CROQF, besides implementing CROQF, examine also the interest of target groups in the new study program. Thus, the aim of this research was to: i) determine the relative number of students interested in studying sustainable agritourism, ii) identify the marketing methods for the new study program, and iii) to identify key elements for the study program organization.

The instrument for collecting primary data was on-site and on-line self administered questionnaire. Data were collected in two types of educational institutions, high schools and college education institutions. Data were analysed using descriptive statistics and independent samples t-test.

The results showed that relatively high proportion of high school and college students are interested in studying the new study program, which could offer also courses in English, Italian or German. The marketing strategy for the new study program includes Internet marketing, direct marketing and promotion. Overall, the results showed the direction in which the new study program, Sustainable Agritourism, and the Polytechnic of Rijeka would need to develop and what should be improved.

Key words: new study program, sustainable agritourism, study interest, marketing strategy

Investicijske priložnosti za kmete na področju učinkovite rabe energije in malih obnovljivih elektrarn

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Izvleček

Cilj tega prispevka je poiskati čim več priložnosti za investicije kmetov na področju učinkovite rabe energije (URE) in obnovljivih virov energije (OVE), ki jih kmet lahko priključi na nizkonapetostno omrežje. Pregledal bom vse električne stroje na kmetiji, inštalacije, krmiljenje motorjev, razsvetljavo, ogrevanje, izolacijo, okna, toplotni ovoj. Na koncu bom z vrednotami in kriteriji izbral boljše in slabše investicije. Podobno bom naredil pregled po sodobnih malih elektrarnah, ki kot razpršljivi viri vedno bolj prodirajo in vplivajo na omrežje, ki se že korenito spreminja. Opisal bom delovanje, zgradbo, zahteve in na koncu tudi osnovne značilnosti: prednosti in slabosti teh elektrarn na kmetiji, ki so priložnost za rast kmeta. S pomočjo informacij in literature bom kmete usmeril na nadaljnje iskanje komercialnih informacij pri proizvajalcih tehnologije. Slovenija ima največ potenciala na področju malih hidroelektrarn. Predvsem izpostavljam Arhimedov vijak ali hidrodinamični vijak, ki omogoča z majhnimi gradbenimi posegi tudi postavitev elektrarn na potokih z majhnim padcem. Dober potencial nudijo sončne elektrarne v povezavi z novo spodbudo države »net-metering« in v pričakovanju večjih izkoristkov zaradi odkrivanja novih materialov, ter stalnega padanja investicijskih cen. Ni pa zanemarljiva raba lesne in odpadne biomase (gnojevka) in urbanih vetrnih elektrarn. V rezultatu bom ovrednotil vse kriterije in naredil lestvico priložnosti za pomoč kmetu.

Ključne besede: URE, OVE, male HE, SFE, VE, bioplin, SPTE, hidrodinamični vijak

Investment opportunities for farmers in terms of Energy Efficiency and Renewable Energy Sources

Abstract

The aim of this paper is to find as many opportunities for investment by farmers in the field of energy efficiency (EE) and renewable energy sources (RES) by the farmer can be connected to the low voltage network. I reviewed all the electricity used on the farm installations, motor control, lighting, heating, insulation, windows, and thermal envelope. In the end, I'll value with chosen criteria better and worse investment. Similarly, I will do a review for modern small power plants, such as dispersing resources increasingly penetrate and affect the network, which is already dramatically changing. I will describe the operation, structure, requirements and at the end of the main features: the pros and cons of these plants on the farm which are an opportunity for the growth of the farmer. With the help of information and literature farmers will focus on continuing to seek commercial information at producers of technology. Slovenia has the most potential of small hydro power plants. In particular, highlight the Archimedes (hydrodynamic) screw which allows small building interventions also set up power plants for a small fall of stream. Offer good potential of solar power in conjunction with a new impetus state "net-metering" and in anticipation of greater efficiency due to the discovery of new materials and the continuous drop in investment prices. I'll add usage of wood and waste biomass (manure) and urban wind farms. The outcome will evaluate all the criteria and scale do opportunities to help the farmer.

Key words: EE, RES, small hydro, PV, WPP, biogas, CHP, hydrodynamic screw

Les v srednji šoli

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Izveček

Matematika je kot šolski predmet izredno dinamična, zanimiva. Učitelji moramo vključiti tudi druge prvine, da se dijaki in študentje ne dolgočasijo med urami. Kako to storiti, pa nam včasih predstavlja pravi podvig. Večkrat razmišljam, kaj odgovoriti na vprašanja dijakov, kot so: »Kje pa bomo to potrebovali v praksi?« Sedaj verjetno ne, bo pa znanje matematike prišlo še kako prav v nadaljnjem življenju oz. pri delu, ki ga bodo opravljali.

Pri raziskavi sem uporabila lepljen les, ki so ga nato dijaki s pomočjo stružnice obdelali v razne geometrijske oblike. Poskušala sem uporabiti vsa srednješolska znanja. Računali smo odpadek struženja in uporabili procentni in sklepni račun. Pri vseh izračunih smo vključevali pretvarjanje merskih enot. Dijaki so pri praktičnem pouku iz kocke in kvadra izdelali različne oblike kozarcev, vrčev. Ko so bili izdelki končani, smo skupaj v kozarce nalili tudi domač šolski jabolčni sok. Tudi tega smo vključili v naše matematične naloge.

Na koncu so dijaki ugotovili, da bodo pridobljena znanja lahko koristno uporabili na domačih kmetijah, kjer se že zdaj ukvarjajo z dopolnilno dejavnostjo. Predmeti, izdelani pri pouku, jim bodo prišli še kako prav. Po medpredmetnem povezovanju so tudi mene kot učiteljico matematike začeli gledati z druge plati.

Ključne besede: matematika, geometrijska telesa, procentni račun, sklepni račun, povezovanje znanj, medpredmetno povezovanje, les, merske enote, valj, stožec

Wood in secondary schools

Abstract

Mathematics as a school subject is very dynamic and interesting. Teachers have to be able to include various elements into the course of teaching, in order to keep students from getting bored during classes, which can sometimes be quite a challenge. I frequently think about how to answer students' questions like: "When are we ever going to use this practically?" Probably not right away, but math knowledge will absolutely come in useful later in life, at work.

For this research, I used glued laminated wood. Students used lathe to shape the wood into different geometrical objects. I tried to incorporate knowledge from all of the subjects in the secondary school. We calculated the amount of waste wood from turning and used the percent equation as well as the direct variation equation. We integrated converting units in all of the calculations. In practical classes, students made glasses and jugs of different shapes out of wooden cubes and cuboids. After our final products were finished, we even filled them with fresh school-made apple juice. We also included the juice in some of our mathematical calculations.

By the end of our experiment, students came to the conclusion that they will use the newly acquired knowledge on their home farms, where they have already been engaged in complementary activities. Moreover, they will be using the products from practical classes to good effect. Now, after this cross-curricular learning experience, students also perceive me as their mathematics teacher differently.

Key words: mathematics, geometrical objects, percent equation, direct variation equation, connecting knowledge, cross-curricular learning, wood, units of measurement, cylinder, cone

Prve izkušnje s trajnostnim pristopom obvladovanja plodove vinske mušice (*Drosophila suzukii*) s pripravkom Cora Agrohhomeopathie™

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Izvleček

Od leta 2008 smo priča hitremu širjenju plodove vinske mušice (*Drosophila suzukii* Matsumura), ki sodi med najbolj invazivne škodljivce koščičastega sadja. V Evropi se je tako razmnožila, da predstavlja resno ekonomsko grožnjo za tržno pridelavo koščičarjev in jagodičevja. Za zaščito pred plodovo vinsko mušico obstaja le malo pripravkov, katerih uporaba je lahko vprašljiva s stališča varovanja okolja. Alternativne metode imajo omejen uspeh in so pogosto časovno in finančno precej zahtevne. Izkušnje v drugih panogah so pokazale, da je v takih primerih uspešen pristop agrohhomeopatije. Zato je bil razvit pripravek Cora Agrohhomeopathie™ X104 NaturSTOP – CONTRA *Drosophila suzukii*. Uporabnost pripravka je bila preizkušena v sezoni 2015 v realnih pogojih pridelovanja v nasadu češenj ob Dragonji (Istra). Odvisno od sorte češenj sta bili izvedeni dve oziroma tri aplikacije agrohhomeopatskega pripravka. Kljub temu, da je bila prisotnost odraslih osebkov plodove vinske mušice potrjena s pomočjo nastavljenih prehranskih vab, ni bilo opaziti poškodb plodov vse do sredine junija, ko je bila večina češenj že obranih. Glede na dobre preliminarnе rezultate bo uporaba tega pripravka preizkušena tudi na drugih vrstah sadja. Ta inovativni pristop ne predstavlja tveganja za okolje. Pri njem ni potrebno upoštevati karence in je uporaben tudi v ekološkem in drugih trajnostnih oblikah kmetijstva.

Ključne besede: agrohhomeopatija, sadjarstvo, *Drosophila suzukii*, zaščita rastlin, preliminarni poskus

First experiences with sustainable control of spotted wing drosophila (*Drosophila suzukii*) with Cora Agrohhomeopathie™

Abstract

From the year 2008 we are witnessing massive spreading of Spotted wing drosophila, *Drosophila suzukii* Matsumura, one of the most invasive pests of small stone fruit and berries. It poses a big economic threat to small fruits growing industry in Europe. There are little possibilities to control the pest and there is growing environmental concern connected to pesticide use. Alternative strategies had limited success and are time and resource consuming. In search of effective alternative strategy the preparation CORA Agrohhomeopathie™ X104 Natur STOP CONTRA *Drosophila suzukii* was designed. Its use was tested in real circumstances on cherry plantation by Dragonja river (Istria) in season 2015. Two or three applications were conducted depending on cherry variety and till the middle of June no damaged fruits could be detected and this despite the fact that occurrence of adult individuals of the pest was proven by traps installed to monitor the population. First good results of tests encouraged us to continue testing and monitoring the effect of agrohhomeopathical approach also on other fruits in the future. Important is also that this approach doesn't pose any risk to the environment and it is suitable for organic and other sustainable practices of farming.

Key words: agrohhomeopathy, fruit growing, *Drosophila suzukii*, plant protection, preliminary experiment

Opredelitev območij z omejenimi možnostmi za kmetijstvo na osnovi klimatskih dejavnikov

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Izvilleček

Namen plačil za območja z omejenimi možnostmi za kmetijsko dejavnost (OMD) je ohranjanje in spodbujanje proizvodnje, kulturne krajine in razvoja trajnostnega kmetijstva. V okviru raziskave »Klimatske podlage kot dodatni kriterij za območja z omejenimi možnostmi za kmetijsko dejavnost (OMD)« smo obravnavali tiste klimatske dejavnike, ki najbolj vplivajo na kmetijsko dejavnost. Po navodilih Evropske komisije smo preverili temperaturni in sušni kriterij. Pri prvem so za določanje OMD pomembne dolžina rastne dobe in efektivne temperaturne vsote, pri drugem pa kazalec sušnosti (AI). Analizirali smo podatke za obdobje 1981–2010. Rezultati kažejo, da se Slovenija po teh kriterijih ne uvršča v OMD, razen po temperaturnem kriteriju območja v visokogorju. Dodatno smo zato analizirali spremenljivke, ki so Ministrstvu za kmetijstvo, gozdarstvo in prehrano lahko v pomoč pri presoji. Pripravili smo primer vsot efektivnih temperatur za zelo hladno leto (1997), analizirali nastop prve slane po desetletjih, število hladnih in ledenih dni. Pri sušnem kriteriju smo dodatno analizirali meteorološko vodno bilanco, število toplih in vročih dni in vročinski stres.

Ključne besede: OMD, dolžina rastne dobe, vsote efektivnih temperatur, slana, meteorološka vodna bilanca, vročinski stres

Determination of less favoured areas in agriculture based on climatic factors

Abstract

The purpose of payments for less favoured areas (LFA) is to preserve and promote the production of the cultural landscape and the development of sustainable agriculture. Within the framework of research project "Climate basis as an additional criterion for the less favoured areas (LFA)" the most important climate variables that affect agricultural production were analysed. Temperature and drought criteria were analysed according to the instructions of the European Commission. The first one is based on the length of vegetation period and effective temperature sums, and the other is determined using the aridity index (AI). Data for the period 1981–2010 were analysed. The results show that these criteria do not rank Slovenia in the LFA (except hilly areas due to temperature criterion). Additionally, the analysis of variables that are important for agriculture was performed to help the Ministry of Agriculture, Forestry and Food with their decisions. An example of effective temperature sums for a very cold year (1997), the occurrence of the first frost by decades, and the number of cool and cold days were examined. Beside the aridity index, meteorological water balance, warm and hot days, and heat stress were analysed in the context of drought.

Key words: LFA, vegetation period length, effective temperature sums, frost, meteorological water balance, heat stress

Vročinski valovi v Sloveniji

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Izvleček

Vročinski valovi so vedno bolj pereč problem za vsa področja delovanja: od kmetijstva, zdravja ljudi, turizma, do industrijskih dejavnosti. V času podnebnih sprememb sta njihova pogostost in intenziteta vedno večja, zato smo analizirali dolžino in intenziteto vročinskih valov v zadnjih desetletjih. Analizirali smo najvišje dnevne temperature zraka za meteorološke postaje Ljubljana, Bilje, Celje, Črnomelj, Rateče in Murska Sobota v obdobju 1961–2010. Primerjali smo obdobji 1961–1985 in 1986–2010. Vročinski val smo definirali kot vsaj 5 zaporednih dni z najvišjo dnevno temperaturo zraka nad 29,5 °C. Ugotovili smo, da se vplivi podnebnih sprememb že odražajo na številu vročinskih valov: v Ratečah so se pojavili šele v drugem obdobju, drugje se je število povečalo. Vročinski valovi se začenjajo zgodneje, za Ljubljano se je izkazalo, da so tudi intenzivnejši. Aplikacija vročinskega indeksa v kmetijstvu bi bila nujna, saj je lahko kljub primerni količini vode ob vročinskem valu pridelek manjši od pričakovanega. Prav tako pa je pomemben vpliv vročinskih valov na zdravje in produktivnost delavcev v kmetijstvu in ostalih panogah, s čimer se ukvarja petletni evropski projekt Heat-Shield v okviru programa Obzorje 2020.

Ključne besede: vročinski val, najvišje dnevne temperature, vročinski indeks, Heat-Shield

Heat waves in Slovenia

Abstract

Heat waves are becoming an important issue in all sectors: from agriculture, public health, tourism to industry. It is assumed that their frequency and intensity have already increased, so their length and intensity were analysed on a yearly base. Maximum daily temperatures for the period 1961–2010 at meteorological stations Ljubljana, Bilje, Celje, Črnomelj, Rateče and Murska Sobota were used. Periods 1961–1985 and 1986–2010 were compared. Heat wave occurs when for 5 consecutive days maximum daily air temperature does not fall under 29.5 °C. Impacts of climate change affect the number of heat waves: in Rateče they appear only in the second period, at other stations the number has increased. Heat waves start earlier and for Ljubljana it was shown that they are gaining intensity. Even at appropriate soil moisture heat wave can cause an important yield decrease, so there should be an application of heat index in agriculture. Furthermore, the impact of heat waves on the health and productivity of workers in agriculture and other sectors has to be assessed, which is planned to be done in the frame of Horizon 2020 five-year European project Heat-Shield.

Key words: heat wave, daily maximum temperatures, heat index, Heat-Shield

Znanje italijanskega jezika kot konkurenčna prednost podeželskega turizma

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Izvelek

Slovenija je lepa dežela z neizmernimi možnostmi razvijanja ekološko osveščenega turizma. V prihodnje bo povpraševanja po avtentičnih turističnih izkušnjah, kot jih lahko nudi tovrstni turizem, vedno več in Slovenija bo tudi zaradi svoje lepe, neokrnjene narave gotovo med bolj zaželenimi destinacijami. Da bi izkoristili te prednosti, je treba znati obvladati tudi strokovne kompetence, ki prispevajo k razcvetu panoge. Ena od pomembnih kompetenc je znanje tujega jezika, ki lahko bistveno poveča konkurenčno prednost slovenskega turizma tudi na podeželju in v notranjosti države. Italijanski gostje večinoma slabo znajo angleško, zato imajo pri sporazumevanju in pridobivanju informacij težave, če gostitelji ne znajo italijanskega jezika. Turističnemu proizvodu je potrebna dodana vrednost v obliki osebne note in tistega doživetja, zaradi katerega se bo razlikoval od proizvoda konkurence. Znanje jezika je pri tem lahko velika in odločilna prednost, je pa jezik vendarle samo eden od dejavnikov, ki poudarjajo osebni odnos gostiteljev do gostov in izražajo njihovo naklonjenost, gostoljubnost in odprtost.

Ključne besede: turizem, turizem na podeželju, italijanski gosti, tuji jezik, poznavanje tujega jezika, konkurenčna prednost

Knowledge of Italian language as competitive advantage of rural tourism

Abstract

Slovenia is a beautiful country with ample opportunities for the development of eco-tourism. In order to take these advantages, it is necessary to manage professional competencies that contribute to the thriving of the industry, and one of the competences is also knowledge of foreign languages, which can substantially contribute to the competitive advantage of Slovenian tourism also in rural areas and inland. In the future, the demand for authentic tourist experiences, which may be provided also by such tourism, will be increasing and Slovenia with its beautiful and unspoiled nature will be one of the most desirable destinations. The product needs added value also in the form of personal touch and the experience which will make it different from a competitive product, when we can offer guests something more, something that others do not have. Knowledge of a foreign language is a big and decisive advantage. However, language is only one of the factors, emphasising hosts' personal attitude to guests and expressing their affection, hospitality and openness.

Key words: tourism, rural tourism, Italian guests, foreign language, knowledge of foreign languages, competitive advantage

Korak bližje k lažjemu odločanju na kmetijah

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Izvleček

Kako upravljati kmetijo na bolj donosen način predstavlja velik izziv, še zlasti, če želimo tudi poenostaviti zajem podatkov in omogočiti njihovo avtomatsko pretvorbo v pravo sledenje materialnim sredstvom (kmetijska mehanizacija, porabljeni material). PANTHEON Farming kot celovit kmetijski-upravljaljsko-informacijski sistem (FMIS) združuje operativne podatke in podatke o gibanju materialov s finančnimi podatki. Tako so na voljo razne kombinacije dejanskih podatkov, ki jih lahko uporabimo za sprejemanje pametnejših odločitev na kmetijskem gospodarstvu. V tem prispevku je predstavljena razvojna strategija združitve vrhunskih znanstvenih in tehničnih inovacij s kmetijskim upravljaljskim informacijskim sistemom. Prinaša nov koncept spremljanja podatkov kot integracijo ekspertnih modelov tehnologije pridelave poljščin s pripadajočimi opravili/materiali/resursi znotraj izbranega obdobja (vključno s kolobarjenjem). Integracije spletnih aplikacij zmanjšujejo napor kmeta in omogočajo ničelne stroške spremljanja spreminjajoče se zakonodaje ali registriranih fitofarmaceutskih sredstev. Moduli, kot so nadzor škodljivcev in bolezni, fenologija in agroklimatologija, podpirajo procese v poljedelstvu. Integracija geografsko informacijskega sistema (GIS) združuje in predstavlja vse vrste informacij na način, ki ga kmetovalec lahko enostavno spremlja in interpretira. Za prikaz vseh teh podatkov na uporaben način, in na krajih, kjer jih kmetovalec potrebuje, je bila razvita še ustrezna mobilna aplikacija.

Key words: PANTHEON Farming, vnos podatkov, sledenje podatkom, integracije, moduli, podporni odločitveni model

A step closer to easier decision-making on farms

Abstract

Simplifying data collection and converting it automatically to proper material tracking & to help farmer manage the farm in a more profitable way is a great challenge. PANTHEON Farming as a complete farm management information system (FMIS) combines operational data with material movement data and financial data. Consequently all kind of interesting data combinations can be used for smarter, fact-based decision making on a farm. In this paper a development strategy of the great unification of cutting edge scientific & technical innovation and the FMIS is presented. A new concept of monitoring data with integration of expert models of field crop technology with corresponding operations/material/resources within selected period (including crop rotation) is carried out. Web service updates minimise farmer's inputs and allow zero-cost updates due to changing legislature or allowed phytopharmaceuticals. Pest and disease monitoring, phenology and agro climatology modules support grower's process. Integration of GIS combines and presents all sort of information in a way that farmer can see and easily understand. To make all this data usable where it's needed, a supporting mobile application was developed.

Key words: PANTHEON Farming, data entering/data tracking, integrations, modules, decision support model

Priložnosti slovenskega podeželja

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Izveček

Slovensko podeželje s svojo raznolikostjo, ki je posledica naravnih danosti ter kulture in načina življenja posameznih pokrajin ponuja številne priložnosti za razvoj kmetijstva in gozdarstva, dopolnilnih dejavnosti na kmetiji, mikropodjetništva, turizma itn.

V prispevku pa so predstavljene zlasti tiste priložnosti slovenskega podeželja, ki so povezane s socialno varstvenimi storitvami. Podeželje je zaradi ugodnih življenjskih razmer lahko kakovosten življenjski in delovni prostor za različne t.i. ranljive skupine kot so starejši, ljudje s posebnimi fizičnimi in psihičnimi potrebami, žrtve nasilja ipd.

Na drugi strani z razvojem omenjenih storitev na podeželju lahko ustvarimo nova delovna mesta, izboljšamo medgeneracijsko sodelovanje, ohranjamo poseljenost, preprečujemo socialno izključenost in revščino itn.

Ključne besede: podeželje, razvoj, priložnosti, ranljive skupine

Opportunities for Slovenian rural development

Abstract

The diversity of Slovenia's countryside, which is the product of the natural conditions, the culture, and the way of life in individual areas, offers numerous opportunities for the development of agriculture and forestry, as well as of complementary services on farms, microbusinesses, and tourism.

This piece focuses specifically on those rural development opportunities that are linked to the delivery of social protection services. The countryside can be a high quality living and working space for various so called vulnerable groups, such as older people, people with special physical or psychological needs, victims of violence, etc., thanks to good living conditions.

At the same time by developing these services in the countryside we can create jobs, improve inter-generational cooperation, maintain population levels, prevent social exclusion and poverty.

Key words: countryside, development, opportunities, vulnerable groups

Kompetence sodobnega kmeta/kmetice

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Izvleček

V prispevku so predstavljene ključne usmeritve slovenskega kmetijstva in razvoja podeželja v programskem obdobju 2014–2020 ter potrebne kompetence, ki jih morajo imeti kmetje in kmetice za uspešno kmetovanje.

Danes potrebne kompetence segajo tako na področje različnih tehnologij kmetijske, gozdarske in predelovalne dejavnosti, varovanja okolja in narave, podjetništva, trženja, upravljanja, knjigovodstva, komunikacije v slovenskem in tujih jezikih, digitalne pismenosti pa tudi na področja t.i. mehkih vsebin kot so odnosi med spoloma, medgeneracijski odnosi, medsosedski odnosi, samoiniciativnost ipd. Vse bolj je pomembno vseživljenjsko formalno in neformalno izobraževanje.

Ključne besede: kmet, znanje, kompetence, vseživljenjsko izobraževanje

The competences needed by today's farmers

Abstract

This piece sets out the key orientations of Slovenian agriculture and rural development for the 2014–2020 period, as well as the competences that farmers need to be successful today.

These competences include the various technical and technological skills needed for farming, forestry and rural maintenance activities, for the preservation of the environment and nature, business, trading, administrative and accounting skills, as well as communication skills in Slovenian and in foreign languages, and last but not least, IT skills. Moreover, farmers today also need to develop so called soft skills, such as the ability to interact with the other sex, to manage inter-generational and neighbourly relations, self-initiative and so forth. Lifelong learning, both formal and informal, is set to continue to grow in importance.

Key words: farmer, knowledge, competences, lifelong learning

Upravljanje z dohodkovnimi tveganji v kmetijstvu, prakse po svetu

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Izvelek

Dohodkovna tveganja in upravljanje z njimi postajajo v kmetijstvu pomembno področje raziskav, kot tudi vidikov kmetijskih politik. Med glavnimi razlogi za izrazitejša dohodkovna tveganja so povečana proizvodna tveganja, predvsem zaradi podnebnih sprememb ter vse večjih tržno – cenovnih tveganj, kot posledica liberalizacije in globalizacije kmetijskih trgov. Upravljanje z dohodkovnimi tveganji omogoča stabilnejše poslovanje, s tem pa tudi učinkovitejše delovanje kmetijskih gospodarstev. Na podlagi dostopne literature analiziramo ključne vire in vidike dohodkovnih tveganj. V okviru prispevka pripravljamo pregled orodij in praks za upravljanje z dohodkovnimi tveganji v svetu. Osredotočamo se na predstavitev že uveljavljenih orodij v Kanadi in ZDA. Hkrati pa analiziramo izkušnje različnih raziskav, ki so bile opravljene na področju uvedbe orodij za stabilizacijo dohodkovnih tveganj na ravni EU. Pri tem izpostavimo ključne izzive pri vzpostavitvi takšnih orodij, kot tudi dejavnike, ki zavirajo njihov razvoj na ravni EU.

Ključne besede: dohodkovna tveganja, upravljanje s tveganji

Income risk management in agriculture, world practice

Abstract

Income risk and their management in agriculture is an important area of research, as well as aspect of agricultural policy. Among the main reasons for the pronounced income risk are increased production risk, especially because climate change, and growing market – price risk as a result of liberalization and globalization of agricultural markets. Income risk management enables stable operations, and thus more efficient operation of agricultural holdings. In this article we prepared a review of existing tools for income risk management in the world. We are focusing on presentation of established tools in Canada and USA. At the same time we are analyzing experiences of studies in area of income risk stabilization tool in EU. In doing so, we are highlighting key challenges involved in establishing such tools and factors that hinder development of such tools in EU.

Key words: income risk, risk management

Zgodbarjenje kot operativno komunikacijsko orodje pri trženju turizma na Cerkljanskem

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Izveček

Oblikovanje zgodb za potrebe turizma je odraz našega razumevanja in odnosa do dediščine. Cerkljanska se ponaša s starodavno in raznoliko kulturo ter bogato in pisano tradicijo ki se prenaša iz roda v rod, vendar zgodbarjenje kljub mnogoterim vidikom, in elementom z obstoječim trženjskim potencialom, ni v zadostni meri vključeno v trženje turistične destinacije. Zgodbe so od nekdaj predstavljale učinkovit način širjenja idej. Privlačna zgodba, ki pritegne pozornost, je torej ključna za vzbujanje pričakovanj pri potencialnih kupcih, in tako ena pomembnejših komponent kakovosti turističnega doživetja. Ironično, toda s pomočjo zgodb doživetja postanejo bolj prepričljiva in verodostojna, hkrati pa z obiskovalci vzpostavimo učinkovitejše čustvene povezave. Premik od faktografskega k čustvenemu komuniciranju tako postaja imperativ sodobnega trženja. To se še posebej kaže v sektorju turizma, kjer trgujemo s predstavami o doživetjih, ki naj bi jih obiskovalci doživeli na izbrani destinaciji. Zgodbe služijo kot medij za prenos navdušenja, ki ga čutimo do krajev, njihovih zamenitosti in tradicij. S pomočjo zgodb omenjeno navdušenje delimo in širimo ideje, za katere menimo, da so pomembne. Zgodbarjenje tako ponuja učinkovit način, kako poudariti geografski karakter destinacije ob enem pa obiskovalcem zagotoviti višjo kakovost turističnega doživetja.

Ključne besede: zgodba, zgodbarjenje, geografski karakter destinacije, turistično doživetje

Storytelling as operational communication tool in Cerkljansko tourism marketing

Abstract

Creating a story to use it in tourism business is a part of how we do understand our heritage. Despite many different issues in town, in spite of ancient legacy and rich and colorful tradition handed down through generations, despite diversity in cultural heritage and various features with existing marketing potential, storytelling unfortunately hasn't been sufficiently integrated into Cerkljansko tourist destination management. The key issue we are facing is how to get engaged with prospect's attention, how to match the voice tourists' worldview was seeking and how to sync right up with their expectations. Since stories are the only way we know to spread ideas, the shift from factographical to emotional marketing communication is required. Using stories to provide experience tourism ironically brings about more convincing and authentic events while allowing visitors to establish more effective emotional connection. We are talking about the idea of sharing enthusiasm for somewhere or something that we feel is special with others. Storytelling is about a useful approach to provide overall sense of place and the finest technique to achieve the higher quality of visitors' experience at the same time, which in return brings the desired interest and excitement of our guests.

Key words: story, storytelling, sense of place, tourist experience

Zdravimo z naravo

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Izvleček

Iz zdravilnih zelišč lahko izdelamo različne pripravke, ki med drugim tudi zdravijo in preprečujejo bolezni živali. Pri zdravljenju lahko uporabljamo sveža in sušena zelišča, tinkture, hidrolate, poparke, prevretke, eterična olja, macerate, čaje, sirupe, kreme in mazila.

Iz dvanajstih zelišč smo izdelali tinkturo, ki ima med drugim tudi antihelminski učinek, in jo aplicirali sedemnajstim konjem, petim teletom in šestim bikom.

Izdelali smo prehransko dopolnilo, ki vsebuje rastlinski inzulin. V pripravek smo vključili pusto piščančje meso, piro, ješprenj, posušene regratove korenine, posušene liste borovnice, posušene fižolove luščine, artičoko, kamilice in česen. Dajali smo ga psom in mačkam in merili koncentracijo glukoze v krvi.

Za lajšanje dermatoloških težav pri ljudeh in živalih smo izdelali mazilo iz kobiljega mleka.

Za odganjanje nadležnih insektov pa smo pripravili oljni repelent in alkoholno pršilo iz eteričnih olj.

Ključne besede: tinktura, eterično olje, krema, mazilo, antihelminzik, prehransko dopolnilo, repelent

Natural Treatment

Abstract

We can produce variety of products from herbs, which among many beneficial purposes also has a usage in treatment and prevention of animals' diseases. For treatment we can use fresh herbs, dried herbs, tinctures, hidrolats, infusions, decoction, essential oils, infused oils, teas, syrups, creams and balms. We developed a tincture of twelve herbs with anthelmintic effect, which was applied to seventeen horses, five calves and six bulls.

We created a dietary supplement that contains a plant insulin. In our preparation we included lean chicken meat, spelt, barley, dried dandelion root, dried blueberries leaves, dried bean husks, artichoke, chamomile and garlic. The preparation was applied to dogs and cats and we measured the concentration of glucose in the blood.

We made a mare's milk balm for the relief of dermatological problems, which can be used both by humans and animals. For protection from annoying insects we made essential oil repellent and alcohol spray of essential oils.

Key words: tinctures, essential oils, creams, balm, antihelminic, dietary supplement, repellent

Prehranska samooskrba v luči trajnostnega razvoja v Sloveniji

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Izveček

Prehranska samooskrba postaja poleg energetske pomemben dejavnik razvoja regij in držav. Kvalitetna hrana kontroliranega porekla, vzgojena in pridelana na naraven način, pa privilegij, ki si ga lahko danes privoščijo le malo držav. Slovenija ima na skoraj vseh področjih, razen izrazito industrijskih, potenciala za proizvodnjo in razvoj panog kmetijstva. Zaščita kvalitetnih obdelovalnih površin, vodnih virov, naravnih posebnosti, zmanjšanje obremenitev s kemičnimi preparati, prednost kvalitete pred kvantiteto pa morajo postati prioriteta v trajnostno naravnem konceptu razvoja družbe prihodnosti.

Ključne besede: prehranska samooskrba, vodni viri, kvalitetna hrana, regije, trajnostni razvoj

Food self-sufficiency in the light of sustainable development in Slovenia

Abstract

Food self-sufficiency is in connections along with energy, important factor in the development of regions and countries. Quality food, a controlled origin, with growth and production in a natural way, is a privilege which you can currently enable to the citizens, less and less countries. Slovenia has on the almost all areas, except on the highly industrial, potential for the production and development of the agriculture. Protection of the quality of arable land, water resources, natural features, reducing the burden of chemical preparations, preferred quality over quantity, must become a priority in the concept of sustainable development of the society of the future.

Key words: food self-sufficiency, water resources, quality food, regions, sustainable development

Raznolikost in uporabnost *in vitro* metod določanja živosti peloda v biotehnoloških postopkih žlahtnjenja rastlin

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Izvleček

Novejše biotehnološke metode omogočajo manipulacijo peloda v *in vitro* razmerah za namene klasičnega žlahtnjenja ali ustvarjanja transgenih rastlin. Z razvojem tehnik tkivnih kultur so raziskovalci razvili in optimizirali tudi številne metode določanja živosti, ki so prilagojene uporabljenemu rastlinskemu materialu (vrsti, razvojni fazi peloda,..) in namenu eksperimentiranja. Ločimo jih na teste obarvanja peloda, ki slonijo na permeabilnosti membrane in encimskim reakcijam, ter metode *in vitro* kalitve zrelega peloda.

V članku smo opisali najbolj uporabljene metode določanja živosti peloda preko testov obarvanja, analizirali smo prednosti in slabosti nekaterih preizkušenih metod. Poudarili smo uporabnost teh metod v povezavi s poskusi oprašitve, vnosa tujih genov, izbire parentalnih genotipov in shranjevanjem peloda.

Ključne besede: pelod, živost, biotehnologija

Diversity and applicability of *in vitro* methods for pollen viability determination in biotechnical methods of plant breeding

Abstract

New biotechnological techniques allow *in vitro* manipulation of pollen for classical plant breeding or transgenic plants production. With the development of tissue cultures, a wide number of methods for determination of pollen viability has been proposed for a particular plant material (species, developmental stage of pollen,...) or specific purposes of experimentation. Mainly, these methods could be divided in staining tests, which are based on membrane permeability and enzyme reactions, and methods of *in vitro* germination of mature pollen.

In this paper, the most used staining methods of pollen viability determination were described. In particular we analysed strengths and weaknesses of tested methods. We stressed the usefulness of these methods for attempts of pollination, introduction of foreign genes, selection of parental genotypes and pollen conservation.

Key words: pollen viability, biotechnology

Izpostavljanje povezanosti med ohranjanjem tal in trajnostnimi skupnostmi v okoljski vzgoji

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Izvelek

Degradacija tal je pomembno vprašanje moderne dobe. Po desetletjih nepremišljenega uničevanja rodovitne prsti, pa je sedaj prišlo do resnih razprav o katastrofalnih učinkih, ki le-to povzročata na kmetijsko produktivnost, kakovost okolja in sequestracijo ogljika. Dvig okoljske zavesti je mogoče zagotoviti preko različnih ukrepov v urbanih in ruralnih skupnostih, pri tem pa ima vzgoja in izobraževanje pomembno vlogo. Boljše razumevanje ključne vloge tal pri ustvarjanju in vzdrževanju življenja pa je ključnega pomena za dobrobit človeštva in našega planeta.

V članku smo obravnavali pristop do te problematike v sklopu okoljskega izobraževanja, ki se je danes razvilo v vzgojo in izobraževanje za trajnostni razvoj (VITR). Predstavili smo različne pristope pri razlaganju pomena prsti za trajnostni razvoj in poudarili nekatere inovativne izobraževalne vidike projekta *Življenje iz prsti*.

Ključne besede: prst, trajnostni razvoj, okoljsko izobraževanje.

Spotlight on sustainable community and soil conservation linkages in environmental education

Abstract

Soil degradation is an important issue in the modern era. After decades of inconsiderate fertile soil and land damages, now it has raised some serious debates because of its disastrous effects on agricultural productivity, environmental quality and carbon sequestration. Raising the environmental consciousness by different actions in urban and rural communities is possible and education has a relevant role in this process. Understanding of the vital role of soil in life creation and maintenance is crucial for the welfare of humanity and Earth.

In this article, we analyzed the approach to this challenge inside environmental education, nowadays evolved in education for sustainable development (ESD). Different educational approaches to soil linked to sustainability were argued. Innovative educational elements proposed by project *Life from soil* (LFS) were emphasized.

Key words: soil, sustainable development, environmental education.

Izvajanje zahtev nitratne direktive na kmetiji »Pr Vovk« v Cerkljah na Gorenjskem

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Izveček

Nitratna direktiva je evropski predpis s področja varstva okolja. Njegov namen je preprečevanje onesnaževanja voda z nitrati iz kmetijskih virov. Nitratna direktiva od kmetov zahteva izpolnjevanje več zahtev, ki so vezane predvsem na gnojenje in skladiščenje gnojil. V diplomski nalogi smo želeli preveriti, kako so na kmetiji »Pr Vovk« v Cerkljah na Gorenjskem zahteve nitratne direktive izvajali v letu 2014. Izvajanje direktive smo na kmetiji preverili s kontrolo uradnih evidenc (primer: stalež živali, površine kmetijskih zemljišč, gnojilni nasveti, evidence o gnojenju) ter z določenimi izračuni (obremenitev z dušikom (N) iz živinskih gnojil, skladišča za živinska gnojila). Ugotovili smo, da so v letu 2014 na kmetiji zahteve nitratne direktive v celoti izvajali v skladu s predpisanimi zahtevami. Na kmetiji (1) imajo dovolj velika skladišča za živinska gnojila, (2) ustrezno obremenitev z N iz živinskih gnojil na površino kmetijskih zemljišč, (3) gnojenje izvajajo v skladu s časovnimi omejitvami, (4) odmerki N so v skladu z mejnimi vrednostmi ter (5) za raztros uporabljajo tehnično ustrezno kmetijsko mehanizacijo.

Ključne besede: nitratna direktiva, Slovenija, Cerklje na Gorenjskem, kmetija »Pr Vovk«

Implementation of the nitrates directive on the farm »Pr Vovk« in the municipality of Cerklje na Gorenjskem

Abstract

The Nitrates Directive is a European regulation from the field of protection of the environment. Its purpose is prevention from water pollution caused by nitrates from agricultural sources. The Nitrates Directive claims that farmers meet several demands, which are involved in fertilisation and the storage of fertilisers. In our research we wanted to check to which extent the demands of The Nitrates Directive were carried out on the farm »Pr Vovk«, situated in Cerklje na Gorenjskem, in the year 2014. This was checked by controlling official records (e.g. numbers of animals, the areas of agricultural land, advice about fertilisation, records about fertilising) and by specific calculations (the input of nitrogen (N) from livestock manure, storage of livestock manure). We found out that in 2014 the demands of The Nitrates Directive performed in accordance to the regulations ordered. There are (1) enough storage capacities for livestock manure, (2) the adequate input of N from livestock manure per an area of agricultural land, (3) fertilisation were carried out in accordance to closed periods, (4) the N doses are in accordance to limit values, (5) for spreading fertilisers adequate agricultural machinery is used.

Key words: Nitrates Directive, Slovenia, Cerklje na Gorenjskem, the farm »Pr Vovk«

Mnenje dijakov Srednje šole Biotehniškega centra Naklo o vplivu gnojenja na okolje

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Izvleček

Namen raziskave je bil ugotoviti, kakšno mnenje imajo dijaki Biotehniškega centra Naklo o vplivu gnojenja na okolje. V ta namen smo sestavili anketni vprašalnik, s katerim smo pridobili vse potrebne podatke za raziskavo. Po analiziranju vseh odgovorov smo ugotovili, da dijaki trdijo, da so z gnojili najbolj obremenjene podzemne vode. Prav tako menijo, da zaradi nepravilne uporabe gnojil in pomanjkanja znanja posledično prihaja do večjega onesnaženja okolja. Kar 54 % anketiranih je mnenja, da neustrezna uporaba gnojil vpliva na kakovost in količino pridelka. Več kot polovica jih meni, da so gnojila okolju nevarna zaradi snovi, ki jih vsebujejo. Trditvi, da kmetje najbolj obremenjujejo okolje z gnojili, je pritrdila več kot polovica anketirancev (58 %). Večina dijakov Srednje šole v Naklem podpira ekološko kmetovanje. Manj podpirajo integrirano in še manj konvencionalno kmetovanje. Iz pridobljenih rezultatov lahko razberemo, da so dijaki dobro osveščeni o vplivu gnojenja na okolje.

Ključne besede: anketa, gnojenje, okolje, Biotehniški center Naklo

Secondary School Biotechnical Centre Naklo Pupils' opinion about fertilization impact on environment

Abstract

The purpose of research was to determine the general opinion of the pupils of the Biotechnical Centre Naklo on the effects of fertilisation on the environment. In order to gather the necessary data for the research, we composed a survey questionnaire. After a thorough analysis of the acquired answers, we discovered that the pupils believe fertilisation mostly effect on groundwater. They also believe that the incorrect use of fertilisers and a lack of knowledge lead to more contamination of the environment. 54% of the pupils who participated in the survey believe that improper use of fertilisers influences on the quality and quantity of the yield. More than half of the pupils believe that fertilizers are dangerous to the environment because of the substances they contain. More than half of the pupils (58%) agree with the statement that fertilisers mostly contaminate the environment. Although most pupils of the Biotechnical Centre Naklo secondary school support ecological farming, they do not support integrated or conventional farming. Based on the survey results we can conclude that the pupils are conscious of the effects of fertilisation on the environment.

Key words: survey, fertilisation, environment, Biotechnical Centre Naklo

Inovacijske priložnosti kmetijstva na primeru nizko in srednje-nizko tehnoloških panog

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Izvelek

V članku izhajamo iz pomanjkanja raziskav, ki bi celovito proučile inovacijske dejavnike kmetijstva in sorodnih nizko ter srednje-nizko tehnoloških panog (NTP). Namen raziskave je bila identifikacija temeljnih inovacijskih dejavnikov v slovenskem kmetijstvu in preostalih NTP. Odgovor na temeljno raziskovalno vprašanje (Kateri so ključni dejavniki za sistematični prehod od neinovativnih do inovativnih NTP?) smo poiskali na podlagi apliciranja metodologij uspešnih tujih praks (OECD, Mannheim Innovation Panel), ki zajemajo tako finančne kot nefinančne dejavnike inovativnosti. Ključna ugotovitev je, da je velika priložnost NTP in posledično kmetijstva v nefinančnih inovacijskih vlaganjih, ki na inovacijske rezultate vplivajo močnejše od finančnih vlaganj. Ključni nefinančni dejavnik prehoda od neinovativnega do inovativnega NTP podjetja se kaže v jasni strategiji diferenciacije, torej v prvi vrsti jasni podpori vodstva.

Ključne besede: inovacije, kmetijstvo, nizko in srednje-nizko tehnološke panoge

Agricultural innovation opportunities on the example of low and medium-low technology activities

Abstract

In the paper, we emphasize the lack of research that would comprehensively examine innovation in agriculture and related low and medium-low technology activities (NTP). The purpose of our research is the identification of the key innovation factors in all Slovenian NTP with a special emphasis on agriculture. The answer to the main research question (What are the key innovation factors for a systematic transition from non-innovative to innovative NTP?), is sought with the application of successful best practice methodologies (OECD, Mannheim Innovation Panel), covering both financial and non-financial factors of innovation. Our key finding is that the main innovation opportunity for NTP and consequently agriculture lies in improving the non-financial innovation investments, as they significantly more influence innovation results than the financial innovation investments. The key non-financial factor in the transition from non-innovative to innovative NTP can be seen in the clear strategy of differentiation, implying the great importance of the management's decision for innovation.

Key words: innovation, agriculture, low and medium-low technology activities

Hematološki in biokemijski profil kot pomoč pri diagnostiki, terapiji in reji telet

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Izvelek

V prispevku želim predstaviti pomen krvnih preiskav pri teletih po odstavitvi. Na podlagi hematoloških in biokemijskih preiskav bi lahko uravnavali prehrano, prilagajali rejo telet, zmanjšali stroške zdravljenja in preprečili pretirano uporabo antibiotikov.

Pri enajstih teletih črno-bele pasme smo odvzeli kri in naredili hematološke in biokemijske preiskave. Ker so nekatera od telet imela drisko, smo predvidevali, da bo prišlo do sprememb v hematološkem in biokemijskem profilu. Pričakovali smo spremembo v številu levkocitov, hematokritu, koncentraciji beljakovin.

Pri 45 procentih telet smo ugotovili nizek hematokrit in znižano koncentracijo hemoglobina. Pri večini telet je bila znižana tudi koncentracija celotnih beljakovin v krvni plazmi. Pri štirih teletih smo zasledili povečano koncentracijo levkocitov, kar lahko kaže na infekcijo.

Pri teletih smo ugotovili tudi povišano vsebnost encima alkalna fosfataza, ALT, povečano vsebnost anorganskega fosforja in glukoze. Pri teh teletih bi priporočili spremljanje koncentracije teh parametrov, saj iz danih vrednosti ne moremo natančno opredeliti vrste obolenja.

Ključne besede: hematologija, biokemija, hemoglobin, hematokrit, celotne beljakovine, levkocitoza

Hematological and biochemical profile as an aid in the diagnosis, treatment and breeding of calves

Abstract

The article aims to present the importance of blood tests in calves after weaning. Based on haematological and biochemical investigations nutrition should be controlled, adjust breeding, reduce treatment costs and avoid excessive use of antibiotics. In the eleven calves, black and white breed were taken blood and done haematological and biochemical investigations.

Since some of the calves had diarrhea, we assume that there will be changes in haematological and biochemical profile. We were expecting a change in the number of white blood cells, hematocrit, concentration of protein.

In 45 percent of calves, we found low hematocrit and reduced hemoglobin. For most of the calves was reduced the concentration of total protein in the blood plasma. Four calves were observed increased levels of white blood cells, which can indicate infection. In the case of calves, we also found increased amounts of the enzyme alkaline phosphatase, ALT, increased levels of inorganic phosphorus. We would recommend monitoring the concentration of these enzymes, because from the given values we can not specify the types of diseases.

Key words: hematology, biochemistry, hemoglobin, hematocrit, total protein, leukocytosis

Učinkovitost razkuževanja semen paradižnika z naravnimi sredstvi

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Izvleček

V raziskavi smo ugotavljali primernost uporabe različnih naravnih sredstev za razkuževanje semen paradižnika (*Solanum lycopersicum* L.), ki ga najpogosteje okužuje fito-patogena gliva *Phytophthora infestas* L. Metode razkuževanja smo preverili z laboratorijskim poskusom. Uporabili smo poparke iz timijana, materine dušice, žajblja, kamilice ter poparke iz česna in čebule. Preizkušali smo tudi neem tonik, sodo bikarbono, 96 % in 70 % etanol ter mleko. Ugotovili smo, da seme paradižnika najučinkoviteje razkužili s pripravkom iz česna in neem tonika. Pripravki z mlekem, timijanom in materino dušico se v raziskavi niso izkazali za učinkovita naravna sredstva za razkuževanje. Ugotovili smo tudi, da način razkuževanja vpliva na kasnejšo kalivost semen in da večja stopnja razkuženosti vpliva na boljšo kalivost semen.

Ključne besede: naravna razkužila, laboratorijski poskus, paradižnik, *Solanum lycopersicum*, *Phytophthora infestas*

Effectiveness of tomato seeds disinfecting with natural remedies

Abstract

In this study we explored the effectiveness of the natural disinfecting remedies for disinfecting tomato seeds (*Solanum lycopersicum* L.), infected by phyto - pathogenic fungi *Phytophthora infestans* L. We tested the methods through a laboratory test. We used brews of plants such as thyme, wild thyme, sage, chamomile, garlic and onion have been used for treating the tomato seeds. Also, neem tonic, baking soda, 96 % and 70% ethanol and organic milk, have been tested as alternatives suggested by experts. The results showed that the preparations of garlic and neem tonic are most successful in disinfecting tomato seeds. Preparations made from milk, wild thyme and garden thyme have proved to be successful. The research results also showed that the inappropriate disinfection preparation can reduce seed germination rate of tomato seeds.

Key words: natural remedies, laboratory test, tomato, *Solanum lycopersicum*, *Phytophthora infestas*

Gorenjska kot samooskrbna prehranska regija

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Izveček

V gorenjski regiji imamo na voljo le 0,16 ha kmetijskih zemljišč na prebivalca, samo 11 % le-teh je namenjeno za rastlinsko pridelavo. Na 3.528 ha po naši oceni pridelamo le dovolj krompirja, medtem ko druge vrtnine pridelujemo v premajhnem obsegu. Za preskrbo gorenjskega prebivalstva bi potrebovali še približno 14.416 ton različnih zelenjadnic in 11.758 ton sadja. Pri tem ni upoštevano še približno 650.000 turistov, ki letno obiše gorenjske turistične destinacije in okuša našo kulinariko. Imamo dobro razvejane kmetijske institucije na področju posredovanja znanja (izobraževalne, svetovalne), institucije na področju organizacije pridelave (11 zadrug) in manjše trgovine (455), ki prodajajo živilske proizvode. Gorenjska ima 2.206 samozaposlenih kmetov, 598 kmetijskih gospodarstev ima prijavljeno dopolnilno dejavnost. Na podlagi analize proizvodnih, organizacijskih in ekonomskih dejavnikov lahko potrdimo, da bi lahko Gorenjska z boljšo povezanostjo pridelala dovolj hrane za svoje prebivalstvo in postala samooskrbna regija.

Ključne besede: samooskrba, hrana, organiziranost

Gorenjska as a self-sufficient region

Abstract

In the Gorenjska statistical region we have 0.16 hectares of agricultural land per capita, only 11% are intended for crop production. It has been estimated that only production of potatoes (grown on 3,528 hectares) seem to be in accordance with the expected quantities, while other vegetables quantities are insufficient. To supply population in Gorenjska region we would need approximately 14,416 tons of various vegetables and 11,758 tons of fruits. Yet, we have not taken into account 650,000 tourists who annually visit Gorenjska tourist destinations. We have a well-diversified agricultural institutions in the field of imparting knowledge (education and advisory institution) and institutions on the field of organization of production (11 cooperatives) and small shops (455), which sell food products. Gorenjska region has 2,206 self-employed farmers and 598 farms have declared a supplementary activity. Based on the analysis of production, organizational and economic factors, we can confirm, that Gorenjska region with better connectedness could produce enough food for its population and so become self-sufficient region.

Key words: self-sufficiency, food, organizing

Sporni dejavniki v sodobni elektroenergetiki

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Izvelek

Cilj tega prispevka je bilo poiskati čim več naravovarstveno spornih dejavnikov, pregledati vse elektroenergetske objekte, električne stroje, transformatorje, generatorje, motorje, vse naprave in elemente v elektroenergetiki, ki so sporni skozi prizmo naravovarstva. Z deskriptivno, komparativno, zgodovinsko metodo in metodo klasifikacije sem pregledal elektroenergetske sodobne vire in literaturo. Z metodo intervjujev vzdrževalcev elektroenergetskih postrojev pa poiskal trenutno ekološko sporne dejavnike v praksi. Izdelal sem matriko, kjer bodo na eni strani naravovarstveni kriteriji, ki so očitni iz mojih predavanj o elektrarnah, na drugi strani vsi elementi elektroenergetike, ki imajo škodljiv vpliv na naravo. S pomočjo te matrice bom skušal natančno zaobjeti 10 najbolj kritičnih pojavov v elektroenergetiki, kjer razvoj izdelkov še ni izključil spornih dejavnikov. Vprašanje je ali industrija sama hitro izloča te dejavnike. Glede na zgodovino bom poskušal dokazati hipotezo, da danes industrija že sama hitro umakne sporne dejavnike in ne čaka, da se zgodijo katastrofe in samo čaka na izdelek, ki nadomesti starejšega zaradi inženirskih ali ekonomskih lastnosti.

Ključne besede: Hg, naravovarstveno sporni dejavniki, elektrarne, sevanje, SF₆, olje, goriva, odpadki

Controversial factors in modern power engineering

Abstract

The goal was to find as many of the controversial nature of the factors examined all electric power facilities: power plants, electrical machines, transformers, generators, engines, all devices and elements in electricity which are contested through the prism of nature conservation. With descriptive, comparative, historical method, and the method of classification, I have reviewed electricity resources and modern literature. By the method of parts makers find interviews currently, organic factors at issue in practice. The question is whether the industry today itself quickly stripped these factors. I made a matrix, where they will be on one side of its nature-conservancy criteria are obvious from my lectures about plants: building encroachment in physical space, acting of harmful fuels, parts of buildings, machines, devices and components, acting harmful operation, decommissioning and waste recycling. On the other side all the elements that have an adverse impact on nature. In this matrix I defined the 10 most critical factors. According to the history I'm going to try to prove the hypothesis that today the industry either itself to quickly withdraw the controversial factors and not just waiting to happen, or waiting for a product that replaces an older due to engineering or economic characteristics.

Key words: Hg, nature, harmful factors, power plant, substation, radiation, SF₆, oil, fuel, waste

Vrednotenje strateškega modela turistične destinacije – tranzicija v smeri novih podjetniških aktivnosti

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Izvelek

V članku želimo identificirati to, kar lahko poimenujemo “disfunkcionalne ovire” za razvoj okolju prijaznega in ekonomsko upravičenega trajnostnega in odgovornega turizma na lokalni ravni. Ekonomske, socialne in okoljske spremembe, ki smo jim priča tudi na turističnem tržišču, so vodile k naraščajočemu pomenu in vlogi iniciativ, ki postavljajo v ospredje lokalno vodene razvojne procese pri razvoju turističnih produktov in destinacij, namesto tistih, ki so jih v preteklosti usmerjali nacionalni in mednarodni koncepti.

Naša raziskava je potekala na treh primerljivih destinacijah. Posledično v članku predstavljamo tri primere dobre prakse, v katerih izpostavljammo njihove izkušnje in potencialne prednosti/slabosti. Izpostavljammo jih kot primer lokalno vodenih razvojnih modelov, z upoštevanjem načel participativnega načrtovanja, kakor tudi kot nasprotje “od zgoraj navzdol” vodenih modelov, ki temeljijo na nacionalnih in mednarodnih iniciativah oziroma strukturah.

Ključne besede: Trajnost – dediščinski turizem – strateški model – lokalne turistične koalicije & partnerstva – prožen management resursov – nove podjetniške aktivnosti

Re-evaluating a strategic model for tourism destinations - part of the transition to new entrepreneurial activities

Abstract

In this paper we seek to identify what we see as a dysfunctional barrier in the development of environmentally and economically sustainable tourism at a local level. Changing shifts in tourism markets have led to the greater importance of sustainable tourism initiatives, which by their very nature will tend to have a locally oriented concept, as opposed to a national or international concept. Our research used three comparative case-studies to consider the potential advantage of locally focused bottom-up tourism models based on coalitions of key local actors over top-down models based on national or international structures.

Key words: Sustainability – heritage tourism – strategic modelling – local tourism coalitions – resilient resource management - new entrepreneurial activities

Dušikovi oksidi in njihova okoljska funkcija

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Izvleček

Prispevek obravnava vlogo dušikovitih oksidov pri obremenjevanju okolja. Dušik in kisik sestavljata sedem različnih spojin, izmed katerih so tri spojine pomembne glede njihovih vplivov na okolje. Vendar so večkrat pri obravnavi okoljskih vplivov dušikovitih oksidov prisotne nejasnosti. Namen prispevka je pojasniti različno vlogo posameznih spojin na obremenjevanje okolja. V prispevku je podan kratek pregled vseh dušikovitih oksidov. Pojasnjena je razlika med onesnažili (polutanti) ter toplogrednimi plini. Nato so prikazani vplivi in značilnosti didušikovega oksida, ki je toplogredni plin, ter dušikovega oksida in dušikovega dioksida, ki sodita med najpomembnejša onesnažila (polutante). Med najbolj problematične vire emisij dušikovitih oksidov sodijo dizelski motorji cestnih vozil. V prispevku so na kratko predstavljene rešitve, ki omogočajo znižanje emisij dušikovitih oksidov iz avtomobilskih motorjev ter nekateri zapleti na tem področju, ki so v letu 2015 vzbudili precej pozornosti svetovne javnosti. V zaključku je na kratko omenjena tudi problematika dušikovitih oksidov v Sloveniji, kjer so predvsem problematični kot prekurzorji troposferskega ozona.

Ključne besede: didušikov oksid, dušikov oksid, dušikov dioksid, pojav tople grede, obremenjevanje ozračja, avtomobilski izpušni plini

Nitrogen oxides and their environmental function

Abstract

The paper is concerned with nitrogen oxides and their role in pollution. Nitrogen and oxygen form seven different compounds, three of them are of environmental importance. It seems that often certain degree of ambiguity is present in public discussions of environmental role of nitrogen oxides. The purpose of the present paper is to explain different impact of certain nitrogen oxide compound on the environment. The paper contains brief review of nitrogen oxides. The difference between pollutants and greenhouse gases is also explained. Then are described properties and environmental impact of nitrous oxide which is greenhouse gas as well as properties and environmental role of nitric oxide and nitrogen dioxide which are among the most problematic air pollutants. Compression ignition (diesel) engines of vehicles are one of the most important sources of nitrogen oxides emissions. Therefore some technical solutions which enable lowering of nitrogen oxides emissions from automotive exhaust are briefly described as well as some incidents in this field which attracted a lot of public attention in 2015. In the conclusion also the problem of nitrogen oxides in Slovenia is briefly discussed where these compounds seem particularly problematic as tropospheric ozone precursors.

Key words: Nitrous oxide, nitric oxide, nitrogen dioxide, greenhouse effect, air pollution, automotive exhaust

Mnenje anketirancev o vplivu motorizirane rekreacije v zavarovanih območjih v Sloveniji

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Izvelek

Po Zakonu o spremembah in dopolnitvah zakona o ohranjanju narave (Ur. l. RS, št. 46/2014) je vožnja z vozili na motorni pogon v naravnem okolju prepovedana, ne glede na to ali gre za zavarovano območje v Sloveniji ali ne. Vožnja z vozili na motorni pogon je v naravnem okolju dovoljena razen v določenih izjemah (npr. reševanje, službene vožnje, raziskovanje, prireditve) (28. b člen), z ustreznimi dovoljenji pristojnih organizacij. V zavarovanih območjih se pojavlja veliko novih motoriziranih oblik rekreacije (npr. vožnja s štirikolesniki, vožnja z motornimi sanmi), ki se pojavljajo tudi izven poti, zaradi česar zbuja pri domačinih in drugih obiskovalcih veliko nestrinjanje.

Mnenje anketirancev je, da motorizirane oblike rekreacije v ZO, motijo predvsem tiste obiskovalce ZO, ki se ne ukvarjajo s to obliko rekreacije oziroma tiste domačine, ki nimajo od nje nobene ekonomske koristi. Motorizirane oblike rekreacije so hrupne, obiskovalci pa obiščejo ZO predvsem zaradi miru in tudi možnosti različnih oblik rekreacije. Za motorizirane oblike rekreacije bi bilo potrebno določiti posebne kriterije/pravila ali določiti cestnino/prispevek za uporabo bolj obremenjenih poti/cest.

Ključne besede: motorizirane oblike rekreacije, dovoljenja, domačini, obiskovalci, zavarovana območja

Opinion of respondents on the impact of motorized recreation in protected areas in Slovenia

Abstract

According to the Law on Amendments and Supplements to the Law on Nature Conservation (Ur. L. RS, no. 46/2014) driving power-driven vehicles in the natural environment is prohibited, regardless of whether it is a protected area in Slovenia or not. The only exemptions are eg. rescue mission transport, research, and organized events (Article 28 b), when the appropriate permits by the competent authority. In the protected areas there are many new motorized forms of recreation (eg. riding a quad, or a snowmobile), which also occur beyond the boundaries of paths and roads, which arises a lot of disagreement with the locals and other visitors.

The opinion of the respondents is that motorized forms of recreation in protected areas, particularly disturb those visitors, who are not engaged in this form of recreation or those locals who do not have it any economic benefits. Motorized forms of recreation are noisy. Visitors visit the protected areas mainly because of peace and the possibility of various forms of recreation. Motorized forms of recreation would be necessary to lay down specific criteria / rules or to determine the toll / contribution for busier routes / roads.

Key words: motorized recreation, allowed forms, local residents, visitors, protected areas

Zadovoljstvo porabnikov pri oskrbi s pitno vodo v dveh gorenjskih občinah

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Izvelek

Prispevek obravnava proučevanje zadovoljstva porabnikov javnega komunalnega podjetja na območju občin Jesenice in Žirovnica, kjer oskrbo izvaja isto javno komunalno podjetje. Med bivalnimi enotami v občini Jesenice prevladujejo večstanovanjski objekti, medtem ko so v občini Žirovnica predvsem individualne hiše. Namen raziskave je bil raziskati faktorsko strukturo zadovoljstva porabnikov glede na spol in glede na objekt prebivanja (večstanovanjske zgradbe ali individualne hiše). Vsi porabniki imajo urejeno oskrbo s pitno vodo, zato smo predpostavljali, da je pri vseh skupinah anketirancev vpliv skupnih dejavnikov enak. Statistično obdelavo smo izvedli na osnovi podatkov iz izpolnjenih anketnih vprašalnikov, pri tem smo uporabili metodo faktorske analize. Raziskava je pomembna za razumevanje ciljnih porabnikov in s tem možnosti za izboljševanja kakovosti storitev.

Ključne besede: porabniki, pitna voda, zadovoljstvo, komunala

Customer satisfaction with the drinking water supply in two municipalities of Gorenjska

Abstract

The paper presents the study of customer satisfaction with the public utility providing company in the municipalities of Jesenice and Žirovnica. Apartments dominate the residential units in the municipality of Jesenice, while in the area of the municipality of Žirovnica there are mostly individual houses. The purpose of the study was to examine the factor structure of variables measuring the satisfaction of customers according to gender and according to residential building (apartments as individual houses). All customers have access to drinking water supply, therefore we assumed the same impact of factors for both groups of respondents. The statistical analysis was carried out on the basis of completed questionnaires with application of factor analysis. The study is important for understanding the target users and potential improvements of service quality.

Key words: customers, drinking water, satisfaction, public utility

Vpliv različnih dejavnikov na zadovoljstvo uporabnikov z oskrbo pitne vode glede na starostne skupine

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Izvleček

Prispevek obravnava proučevanje vpliva na zadovoljstvo uporabnikov pitne vode glede na starostne skupine. Analiza se je izvajala za območje lokalnega trga občin Jesenice in Žirovnica. Namen raziskave je bil ugotoviti, ali sodelovanje zaposlenih v podjetju, ki izvaja lokalno oskrbo s pitno vodo, vpliva na zadovoljstvo uporabnikov pitne vode enako, ne glede na starostne skupine. Cilj raziskave je bil priti do odgovora, ali obstajajo razlike med uporabniki različnih starostnih skupin. Raziskavo smo izvajali na osnovi podatkov iz izpolnjenih anketnih vprašalnikov. Za statistično obdelavo podatkov smo uporabili metodo regresijske analize. Ugotovili smo, da sodelovanje zaposlenih nima največjega vpliva na zadovoljstvo uporabnikov, ki so stari do 60 let. Najmočnejši vpliv na to starostno skupino ima urejenost okolja, ki omogoča zdravo življenje.

Ključne besede: oskrba, pitna voda, starostna skupina, zadovoljstvo uporabnikov

Impact on customer satisfaction with drinking water supply according to different age groups

Abstract

The paper presents the study of customer satisfaction with drinking water supply according to different age groups. The analysis was conducted for the area of the local utility market of municipalities Jesenice and Žirovnica. The purpose of the study was to determine, whether the cooperation of utility company employees affects the customer satisfaction the same way, irrespective of age group. Goal of the study was to determine whether differences between customers of different age groups exist. The study was performed on the basis of completed questionnaires by applying the regression analysis. Our results suggest that the cooperation of utility company employees is not the most influential variable of customer satisfaction for customers aged up to 60 years. The most influential customer satisfaction variable for this age group is the tidiness of environment, which enables healthy life.

Key words: supply, drinking water, age group, customer satisfaction

Velika kopriva – plevel ali čudežna rastlina?

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Izvleček

Velika kopriva (*Urtica dioica L.*) je rastlina, na katero lahko gledamo zgolj kot na nadležen plevel, ki se razrašča v bližini naših domov in ob dotiku neprijetno skeli. Lahko pa jo uvrstimo v sam vrh zelo koristnih in zdravnih rastlin.

Že naši predniki so jo cenili v zdravilstvu, kulinariki in, do prihoda bombaža v Evropo, tudi kot eno izmed najpomembnejših predivnic. Prav bi torej bilo, da bi se otrsela vzdevka plevel.

Spomnimo se, kako nam njen čaj očisti telo, pospeši presnovo, zniža povišano raven krvnega sladkorja ter pomaga pri revmatičnih obolenjih. Koprivin sok je odličen pri odpravljanju spomladanske utrujenosti, globinsko čisti kožo, njen poparek pa pomaga zoper otroški ekcem. Menda je ni rudnine, ki je kopriva ne bi vsebovala. Rudolf Steiner, utemeljitelj biološko-dinamičnega kmetovanja, je menil, da se te rastline ne more nadomestiti z nobeno drugo.

Nabiramo in uporabljamo lahko celo rastlino, vse od pomladi do jeseni.

V prizadevanju, da bi se vrnil k naravi, je pravilno razmišljanje, kako izkoristiti tisto, kar nam ponuja narava okrog nas. S povečanjem ekološke ozaveščenosti in iskanjem alternativnih virov surovin, se večja pomen uporabe naravnih obnovljivih vlaken. Zakaj ne bi poskusili z izdelavo vlaken iz stebel koprive, če pa so to že počeli naši dedje?

Delo ni bilo enostavno, a uspelo nam je izdelati nekaj metrov vrvi.

Ključne besede: zdravilni učinki, mineralne snovi, naravna vlakna, predivnica, biološko-dinamično kmetovanje, obnovljivi viri

Stinging nettle – a weed or a miracle plant?

Abstract

Common or stinging nettle is a plant which could be regarded either as an annoying stinging type of weed growing around our homes or one of the most useful medicinal plants.

It was appreciated as a medicinal and culinary plant by our ancestors already. What is more, it was considered one of the most important fiber plants before cotton was introduced to Europe and it would therefore deserve not to be referred to as weed.

Stinging nettle can be used in numerous ways. Nettle tea detoxes your body, boosts your metabolism, reduces the level of blood sugar and helps easing rheumatic diseases. Nettle juice successfully fights spring fatigue and can be used as a deep skin cleanser. Steamed nettle, however, is a great relief for child eczema.

It is said that there is no mineral stinging nettle plants do not contain. Rudolf Steiner, the founder of biodynamic agriculture, believed that this plant could not be replaced by any other.

The picking season is from spring to autumn and all plant parts can be used.

Since there is a tendency to get back to nature, the best thing to do so is by appreciating and using what nature offers. The importance of using natural renewable fibres increases by our ecological awareness and by using alternative sources. Why wouldn't we therefore try to produce fibres from nettle plant stems and continue the work of our ancestors.

Our task was not easy but we managed to produce a few metres of nettle plant rope.

Key words: healing effects, minerals, natural fibers, fiber plant, biodynamic agriculture, renewable resources

Učilnica v naravi – poslovna priložnost

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Izvleček

Učenje v naravi je dandanes kot protiutež elektronskim napravam, od katerih postajajo otroci in mladina zaradi nepravilne uporabe lahko tudi odvisni. Učilnico v naravi v BC Naklo smo izdelali kot projektno nalogo v zaključnem letniku programa naravovarstveni tehnik. Učilnica je izdelana iz odpadnega lesa, izdelali so jo dijaki za otroke in dijake. Namen učilnice je spoznati različne vrste lesa, razvijati svoja čutila zlasti tip in vid, preko igre spodbujati učenje in razvijati ustvarjalnost. Učilnico sestavlja 30 stolov iz desetih vrst lesa, tablice z vžganimi slovenskimi in latinskimi imeni dreves, listi in plodovi. Z njimi poiščejo pare med lesenimi stoli (kot igra spomin). Igralo šest v vrsto, kjer na palice natikajo lesene obroče iz šestih različnih vrst lesa. Kocka ropotulja, leseni ksilofon, lesene igrače (palčki, pujski, miške, krokodil), meči, blazine iz listja. Potencialni kupci so lahko zasebniki, vrtci, šole, kampi, turistične kmetije, krajevne skupnosti (za ureditev otroških igrišč), lahko jih uporabljajo slepi in slabovidni.

Ključne besede: učilnica v naravi, didaktični pripomočki iz odpadnega lesa, dijaki za dijake, spoznavanje lesa s tipom in vidom, primerno za slepe in slabovidne, poslovna priložnost

Outdoor learning – business opportunity

Abstract

Outdoor learning is nowadays a counterweight to electronic devices and their improper use, which can lead to addiction of children and youth. Classroom in nature at BC Naklo was prepared as a project task in the final year of the nature protection program. The classroom is made of waste wood and created by the students for the students and children. The purpose of the classroom is to learn about the different types of wood, to develop our senses, especially touch and sight, to promote learning through a play, and to develop creativity. The classroom consists of 30 chairs made of ten types of wood, and plates with burnt Slovenian and Latin names of trees, leaves and fruits. These are used for searching couples among wooden chairs (just like a memory game). »Six in a row« is another example of a game in which some wooden rings made of six different types of wood are put on sticks. Cube rattle, wooden xylophone, wooden toys (dwarfs, piglets, mice, a crocodile), swords, leave-pillows. Potential buyers may be individuals, kindergartens, schools, campsites, farmhouses, and the local communities (for the arrangement of playgrounds). They can be used by the blind and the weak-sighted.

Key words: outdoor learning, didactic tools, toys made of waste wood, senses development (touch, sight), learning through a play

Implementacija tujega jezika stroke preko interpretacije šolske učne poti

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Izvleček

V prispevku je prikazano, kako šolski vodniki predstavljajo učno pot kot interpretacijo narave študentom, predavateljem višje šole, srednješolskim učiteljem in občanom v tujem jeziku. Ob poljubnem spoznavanju biotskih dejavnikov, s poudarkom na skrbi za okolje, udeleženci pridobivajo znanje s področja tuje strokovne terminologije, z možnostjo uporabe delovnih listov v nemščini. Z vrednotenjem predstavitve šolske učne poti, izpeljane v okviru projekta Teden vseživljenjskega učenja (maj 2015) smo z anketnimi vprašalniki ugotovili, da po mnenju predavateljev in učiteljev interpretacija učne poti v celoti posreduje tuje termine, po mnenju študentov pa le delno. Za predavatelje in učitelje se je tovrstno učenje tujega jezika stroke v celoti izkazalo boljše kot šolsko, za občane precej in študente delno. Predavatelji, učitelji in občani menijo, da bi povzetek v tujem jeziku na panoju v celoti dodatno pripomogel k usvajanju tujega jezika stroke, po mnenju študentov pa precej. Za utrjevanje znanja bi predavatelji in učitelji delovne liste v nemščini uporabili v celoti, občani v precejšnji meri in študenti delno. Študenti, predavatelji in učitelji se v celoti strinjajo, da je tuji jezik stroke pomemben del poklicnih kompetenc, občani pa menijo, da je delno pomemben. Ugotovitve so potrdile, da je smiselno predstavljeni turistični proizvod ponuditi širši regiji kot alternativno obliko usvajanja tujega jezika stroke.

Ključne besede: šolska učna pot, interpretacija narave, tuji jezik stroke

The implementation of foreign professional language through the interpretation of the school nature trail

Abstract

The article shows how school guides present the school nature trail as the interpretation of nature to students, lecturers, secondary school teachers and citizens in a foreign language. Beside common learning about the biological factors, with stressing care for the environment, the participants gain knowledge of foreign professional terminology with worksheets in German. The assessment of the presentation of the school nature trail, carried out within the framework of the Lifelong Learning Week (May 2015) showed, according to surveys, that for lecturers and teachers the interpretation entirely introduces foreign terms, and in students' opinion only partly. The lecturers and teachers find this kind of learning foreign professional language entirely better than school teaching, the citizens find it considerably better and the students partly better. The lecturers, teachers and citizens agree that a summary in a German on the billboard would fully contribute to the acquisition of foreign technical terms and students think it would help a lot. The worksheets in German would be completely used by lecturers and teachers, considerably by citizens and partly by students. The students, lecturers and teachers agree that foreign professional language is an important part of professional competences, but for the citizens it is of partial importance. The findings confirmed the sanity to offer this tourist product to a broader region as an alternative way to gain foreign professional language.

Key words: school nature trail, nature interpretation, foreign professional language

Invazivne tujerodne rastlinske vrste v okolici Škalskega jezera

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Izveleček

Ljudje posegamo v okolje, ga spreminjamo, ne da bi pomislili na posledice, ki jih nosijo naše nepremišljene odločitve. V naše občutljivo okolje prinašamo tujerodne rastlinske vrste, katerih vpliva na avtohtone rastlinske vrste sploh ne poznamo in tudi ne preverimo. Te tujerodne rastlinske vrste so velikokrat invazivne in izpodrivajo avtohtone rastline iz njihovega habitata in s tem spreminjajo biotsko raznovrstnost. V pričujoči raziskavi smo preverjali (s popisom in kartiranjem) koliko jih je, katere so, kako dobro jih poznamo in kakšni so vplivi tujerodnih invazivnih rastlinskih vrst (ITV) v okolici Škalskega jezera. Odkrili smo 10 rastlinskih ITV (robinija, japonski javor, enoletna suholetnica, octovec, virginijska nebina, kanadska zlata rozga, pelinolistna ambrozija, bambus, žlezava nedotika), od katerih sta problematični japonski javor in robinija. Opozarjamo na posledice vnašanja teh vrst v občutljiv habitat in iščemo predloge o zatiranju in omejevanju tujerodnih rastlinskih vrst v vodnem habitatu. Skozi sistem ozaveščanja (pri okoljevarstvenih temah biologije v šoli) o nevarnosti tujerodnih invazivnih rastlinskih vrst pa lahko mladim predstavimo rastlinske ITV ter jih tako osvestimo in usmerimo njihovo pozornost v problematiko, da lahko smotno gospodarimo in uvajamo nove podjetniške izzive v okolici jezera.

Ključne besede: ekologija, okoljevarstvo, naravovarstvo, rastlinske vrste, invazivne tujerodne rastlinske vrste, dvig nivoja osveščenosti, okoljski učinki

Invasive non-native plants in surroundings of lake Škale

Abstract

People intervene in surroundings, change it and do not think of implications. We bring non-native plant species in our fragile environment that impact native plant species. These non-native plant species are often invasive and displace native plants from their habitat, thereby changing biodiversity. In the present study we checked (by inventorying and mapping) how many there are, what are they like, what do pupils know about them, and what are the impacts of invasive non-native plant species in the vicinity of Lake Škale. We discovered 10 invasive non-native plants (*Rhus typhina*, *Solidago canadensis*, *Aster novi-belgii*, *Acer negundo*, *Fargesia robusta*, *Fallopia japonica*, *Robinia pseudacacia*, *Erigeron annuus*, *Ambrosia artemisiifolia*, *Impatiens glandulifera*) and 2 of them are problematic: *Fallopia japonica* and *Robinia pseudacacia*. The research work also warns about the consequences of introducing these species into sensitive habitat and is looking for proposals for the suppression and limitation of them in the aquatic habitat. Through the system of raising awareness (in environmental topics within biology in the school) about the dangers of invasive non-native plant species, we can introduce them to young people and in such a way attract their attention to the issue and efficiently introduce and manage new entrepreneurial challenges in the area of the lake.

Key words: ecology, environmental protection, nature conservation, plant species, invasive non-native plants, awareness, environmental effects

Potenciali za trajnostni, energetski razvoj Zasavja

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Izvelek

Regija Zasavje je v preteklosti zaradi najdbe rjavega premoga energetsko odvisnost zmanjševala s pomočjo domačega energenta. Energetika in na rjavi premog vezana industrija sta s pomočjo ekonomije, sloneče na snovno materialistični rasti, bistveno vplivali na okoljsko problematiko in posledično na vse segmente v regiji. Degradirano okolje zaradi neustreznih tehnoloških sistemov do vstopa Slovenije v EU, neustrezno oziroma nikakršno prestrukturiranje gospodarstva so na socialno-družbenem in ekonomskem področju potisnili regijo med najmanj uspešne glede na večino statističnih kazalnikov. Iskanje najboljših tehnologij in alternativnih virov za regijo je prav zaradi preteklega obremenjevanja in pritiskov na okolje nujno in potrebno.

Ključne besede: regija Zasavje, energetika, okolje, alternativni viri, obremenjevanje in pritiski

The potential for sustainable, energy development of Zasavje

Abstract

Zasavje region is in the past due to the findings of brown coal, energetics dependency reduced by using domestic energy source. Energy and on the brown coal related industries, with the help of economics, based on substance-materialistic growth, it had a significant impact on environmental issues and consequently to impact on all segments in the region. Environmental degradation Degradated environment due to inadequate technological systems until Slovenian entry into the EU, inadequate or no restructuring economy, as on the socio-social and economic area pushed the region to at least the most successfully statistics index. Finding the best technologies and alternative energy sources for the region, especially because of past pollution and environmental pressures is urgent and necessary.

Key words: Zasavje region, energy, environment, alternative sources, pollution and pressures

Okoljska sprejemljivost izolacijskih materialov

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Izvleček

Pravilnik o učinkoviti rabi energije v stavbah med drugim zelo natančno določa, kakšna mora biti gradnja, da so toplotne izgube čim manjše. Izolacija zunanje ovoja stavbe je med pomembnejšimi ukrepi, saj predstavlja do 25% prihrankov toplote. Na trgu je ponudba izolacijskih materialov zelo pestra in kar nekaj jih nosi oznako »ekološki«, ki pa večinoma ni upravičena. V prispevku smo primerjali tri skupine izolacijskih materialov glede na njihov izvor in vrednotili šest vplivov na okolje zaradi njihove proizvodnje. Vse vrednosti smo točkovali in ponderirali ter tako dobili lestvico materialov glede na njihov okoljski vpliv. Med naravnimi materiali je na prvem mestu bombaž (29,8 točk), sledi mu slama (29,4 točk) in plošče iz lesnih vlaken (25,8 točk). Pri mineralnih materialih je penjeno steklo (34,5 točk) daleč prekosilo mineralna volno (2,4 točke). V skupini organskih materialov so okolju najbolj prijazne poliuretanske plošče (2,3 točke), sledi pa mu stiropor z absorberjem toplotnega sevanja (2,1 točke). Na skupni lestvici vseh materialov je absolutni zmagovalec penjeno steklo, sledijo pa mu bombaž, slama, lesna vlakna in celulozna vlakna. Na zadnjem mestu so plošče iz lesne volne (1 točka).

Ključne besede: trajnostna gradnja, učinkovita raba energije, toplotna izolacija

Environmental acceptability of insulation materials

Abstract

Regulations of energy efficiency in buildings determines also, how to minimize heat loss in building construction. The insulation of the external envelope of the building is one of the most important measure, because it represents up to 25% heat savings. There is a wide range of insulating materials on the market and some of them are labeled "organic", which is mostly not justified. In this paper we compared three groups of insulating materials according to their origin and then we evaluated six environmental impact of their production. All values were scored, so we got the scale of materials with different environmental impact. The first place in the group of natural materials goes to cotton (29,8 points), then straw (29,4 points) and panels of wood fiber (25,8 points) follow. A foam glass (34,5 points) in the group of mineral materials is far surpassing the mineral wool (2,4 points). In the group of organic materials polyurethane panels (2,3 points) are the most environmentally friendly, then polystyrene with thermal radiation absorber (2,1 points) follows. On the overall scale of all materials an absolute winner is foam glass, then cotton, straw, wood fibers and cellulose fibers follow. At the last place are the panels of wood wool (1 point).

Key words: sustainable construction, efficient energy use, heat insulation

Možnosti uvajanja ekološke pridelave paradižnika (*Lychnopersicon esculentum* Mill.) v rastlinjaki v Sloveniji

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Izvleček

Ekološko kmetijstvo je način trajnostnega kmetijstva z uporabo okolju prijaznih ukrepov in tehnologij. V EU je 1. 1. 2009 začela veljati na področju ekološkega kmetijstva nova zakonodaja (Uredba Sveta (ES) 834/2007, Uredbi Komisije (ES) 889/2008 in (ES) 1235/2008), tej pa se prilagaja tudi nacionalna zakonodaja s Pravilnikom o ekološki pridelavi in predelavi kmetijskih pridelkov oz. živil, kjer so vključene slovenske posebnosti.

Rastlinjak v času poskusov ni bil certificiran, upoštevali pa smo se vseh ukrepe Pravilnika o ekološki pridelavi. Naloga je primer dobre prakse na Biotehniški šoli Maribor.

Ekološka pridelava sledi naslednjim splošnim ciljem:

- Vzpostavlja sistem trajnostnega upravljanja kmetijstva.
- Prizadeva si za pridelavo visokokakovostnih proizvodov.
- Prizadeva si za pridelavo različnih vrst hrane in drugih kmetijskih proizvodov, ki ustrezajo povpraševanju potrošnikov po blagu, proizvedenem s postopki, ki ne škodujejo okolju, zdravju ljudi in rastlin ali zdravju in dobremu počutju živali.

Glede na trenutno stanje v Sloveniji in povpraševanje po ekoloških proizvodih (povpraševanje je večje od ponudbe). Z uredbo, ki določa zeleno javno naročanje je potreba in možnost pridelave ekološke zelenjave povečana. Pridelava v zavarovanem prostoru predstavlja 4,3% površin tržnih pridelovalcev zelenjave ali 66,5 ha, kar je premalo za pokrivanje potreb trga, ki določa zeleno javno naročanje (vrtni, šole). S tem so kmetijskim gospodarstvom z vstopom v sistem ekološkega kmetovanja odprte možnosti razvoja. Slovenija ja neto uvoznik vrtnin.

Cilji prikaza dobre prakse so naslednji:

- pridelati zgodnejši pridelek paradižnika in pridelek podaljšati v jesenski čas,
- s kontroliranim namakanjem zmanjšati pojav in razvoj krompirjeve plesni, ki je gospodarsko najbolj škodljiva bolezen na paradižniku,
- z ekološkim zastiranjem tal povečati godnost tal pri talni vzgoji paradižnika v rastlinjaki,
- zmanjšati porabo vode pri namakanju ter onemogočiti rast plevelom (brez uporabe sintetičnih herbicidov ter fungicidov),
- količino in ceno pridelka, primerjati s konvencionalno pridelavo ter integriranim načinom pridelave,
- pridelek paradižnika dvakrat tedensko obirati in ga uspešno tržiti v šolski prodajalni,
- prikazati, način pridelave, kratko verigo trženja, problematiko trženja zelenjave v Sloveniji,
- prikazati ekološki način pridelave, kot primer dobre prakse, ki bi ga lahko na kmetijskih gospodarstvih v Sloveniji uporabili kot dodatno dejavnost na kmetijah.

Ključne besede: ekološki paradižnik, krompirjeva plesen, zastiranje, rastlinjak, ekološke tehnologije

The possibility of introducing organic production of tomatoes (*Lychopersicon esculentum* Mill.) in greenhouses in Slovenia

Abstract

Organic farming is a way of sustainable agriculture with the use of environmentally friendly measures and technologies. 1. 1. 2009 the legislation in the field of organic farming (EU Council Regulation (EC) No 834/2007, Commission Regulation ES 889/2008 and ES 1235/2008).

The most important are the national legislation with the Regulation on organic production and processing of agricultural products and foodstuffs. Adapted were Slovenian features where are included. The Greenhouse in time of experiment was not been certified, but we followed all the measures of the Regulation on organic production. The paper is an example of good practice at the Biotechnical School Maribor.

Organic production pursues the following general objectives:

- Establishes a system of sustainable management of agriculture.
- Aims at producing high-quality products.

The production of various types of food and other agricultural products that respond to consumers demand for goods produced by processes that do not harm the environment, human health, plant health or animal health and animal welfare. Given the current situation in Slovenia and demand for organic products (demand is greater than supply) and the regulation laying down the GPP is the need and the possibility of growing organic vegetables increased. Production in the protected area represents 4.3 % of the land market vegetable producers or 66.5 ha, which is insufficient to cover the needs of the market which provides for schools. With this, the holding of entry into the system of organic farming development options open.

The objectives are as follows:

- produce an early crop of tomatoes and extended crop in autumn time,
- controlled irrigation to reduce the occurrence and development of potato blight, which is the most economically damaging disease on tomato,
- organic mulch to increase soil earliness in industrial education tomatoes in greenhouses,
- Reduce water consumption for irrigation and to prevent the growth of weeds (without the use of synthetic herbicides and fungicides)
- quantity and price of the crop, compared with conventional production and integrated production method,
- crop of tomatoes picked two times a week and successfully marketed in the school store,
- demonstrate production methods, which could be on farms in Slovenia to use as an additional activity on farms.

Key words: organic tomato, potato mold, mulching, greenhouse, eco-technologies

Iskanje podjetniških priložnosti v okviru modula Vodenje v naravi v programu Naravovarstveni tehnik – Srednje strokovno izobraževanje

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Izvleček

Članek podrobneje predstavi koncept modula Vodenje v naravi, izbirnega modula, ki se redno poučuje v vseh letih izvajanja programa Naravovarstveni tehnik na Biotehniškem centru Naklo – Srednja šola. Podrobneje je predstavljena metodologija predmeta, od teoretične osnove v prvi polovici leta, do priprave na bistveni del, samostojno delo dijakov, v okviru katerega se povežejo v skupine in izberejo ter praktično predstavijo izbrano tematsko pot. Bistveno vlogo pri poučevanju tega modula igrajo učiteljeve dodatne kompetence in usposobljenost, ki se izkažejo za prednost, kjer pa je treba, pa pouk obogatimo z gosti oz. strokovnjaki na svojem področju. Gibamo se po sredogorju, kjer spoznavamo planinsko vodenje, spoznavamo možnosti za predstavljanje naravnih in družbenih znamenitosti na kolesu, spoznamo posebnosti vodenja skupin ljudi v jamah, na vodi, v okviru romarskega, lovskega in ribiškega turizma. Trudimo se za vnašanje vsakoletnih izboljšav, sprememb in prilagoditev, predvsem na področju iskanja boljših rešitev, kako s čim manj stroški še bolj popestriti pouk. Vsekakor ostaja glavni cilj, biti čim več v naravi, ki je in mora biti osnovni prostor oz. neke vrste laboratorij za izvajanje najrazličnejših praks Naravovarstvenih tehnikov. Cilj članka je zato poskrbeti za boljšo promocijo poklica in poudariti iskanje dobrih poslovnih priložnosti, ki so dijakom ob zaključku izobraževanja na voljo.

Ključne besede: naravovarstvo, vodenje v naravi, turizem, poslovne priložnosti

Finding new Entrepreneurial Opportunities for the Subject of Nature Guiding in the programme for Environmentalists – Secondary school Professional Technical Programmes

Abstract

The article presents the concept of the Nature Guiding subject, which is an optional subject that is thought every year in all four years of the Environmentalist programme at Biotechnical Center Naklo – secondary school. There is a detailed presentation of the used methods in the subject - from theoretical grounding in the first half of the year till final preparations for essential part of the subject, which is students' individual work, where they divide in different groups and choose and present theme trail of their choice. The teacher's references and additional abilities have an essential value and they lead into advantages but if needed the lessons are enriched with special guests and experts in different fields of work. We have trips in the mountains where we get to know mountain guiding and its specialities, we discover chances for presenting natural and cultural heritage on bicycles, we point out that there has to be a special way of guiding in our Carst caves, on water, in the fields of pilgrimage, hunting and fishing tourism. Every single year we try to improve, change or adjust our lessons, especially when it comes to searching for better solutions, i. e. how to enrich the programme with as less costs as possible. Our main goal stays the same, we have to be in nature as much as possible, as nature remains our primal practise terrain, the main lab for different environmentalist practise activities. The aim of the article is to promote the environmentalist's profession and to point out that we are searching for new entrepreneurial opportunities, all available for students when they finish their education.

Key words: Nature conservation, nature guiding, tourism, entrepreneurial opportunities

Uvedba energetske informacijskega sistema »GEKenergija« v stavbah

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Izvelek

Energetsko nadzorni informacijski sistem »GEKenergija« je namenjen spremljanju in vrednotenju proizvodnje ali rabe energentov po principu ciljnega spremljanja rabe energije (M&T). Omogoča takojšnje prihranke, ki jih brez sistematičnega informatiziranega pristopa ne bi identificirali. Sistem spodbudi tudi zavest pri uporabnikih za bolj ekonomično upravljanje z energijo, tako v storitvenem sektorju, kot tudi v industriji. Omogoča spremljanje porabe in stroškov, kot tudi kompleksnejše analize, povezane z določevanjem energetskih prihrankov in spremljanjem realizacije le-teh. Zato lahko z gotovostjo trdimo da z uvedbo in uporabo energetske nadzornega informacijskega sistema »GEKenergija« trajno znižamo stroške tudi do 20% in več, investicija pa se običajno povrne prej kot v 12 mesecih.

Sistem »GeENIS« je plod lastnega razvoja Gorenjskih elektrarn d.o.o.. V letu 2015 je bila uspešno izvedena integracija sistema na dveh lokacijah in sicer v upravni stavbi Gorenjskih elektrarn d.o.o. in v upravnih stavbah Elektra Gorenjske d.d.. Na obeh lokacijah se že kažejo prvi pozitivni rezultati, saj se je poraba toplote za ogrevanje v prvem primeru znižala za več kot 30%, v drugem pa za okoli 20%.

Ključne besede: energija, varčevanje z energijo, energetske nadzorni sistem, ciljno spremljanje porabe energije, CSPE

The integration of energy information system "GeENIS" in buildings

Abstract

Energy information system »GEKenergija« is aimed to monitor and evaluate the production or consumption of energy on the principle of metering and targeting (M&T). It allows immediate savings which would not be identified without a systematic computerized approach. The system also help to promote awareness for more economical energy management in the buildings, as well as in industry. It allows monitoring of consumption and costs or complex analysis, associated with the determination of the energy savings. Therefore, we can say with certainty that the integration and use of energy information system »GEKenergija« permanently reduce costs by up to 20% and more, investment is usually reimbursed in less than 12 months.

The »GEKenergija« system was made by Gorenjske elektrarne d.o.o.. In 2015 was successfully completed integration of the system at two locations, at the administrative building Gorenjske elektrarne d.o.o. and at the administrative buildings of Elektro Gorenjska d.d.. Both locations are already showing the first positive results, in the first case the heat consumption declined by more than 30% in the second case by about 20%.

Key words: energy, energy saving, energy control system, metering & targeting

Stališča in znanje dijakov v programu Naravovarstveni tehnik o volkovich

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Izvleček

Volk (*Canis lupus*) je druga najbolj pogosta vrsta velikih zveri v Sloveniji in Evropi. Varstvo te vrste temelji na večdimenzionalnosti, ki vključuje soglasje med širšo javnostjo, različnimi interesnimi skupinami, naravovarstveniki - varstvenimi biologi in politiko. V raziskavi smo ugotavljali odnos in znanje dijakov v programu naravovarstveni tehnik o volkovich. Ti dijaki bodo pri opravljanju svojega poklica predstavljali vsaj eno od že omenjenih dimenzij. Za ta namen smo uporabili anketni vprašalnik, ki je bil sestavljen iz 21 trditev, ki se nanašajo na ocenjevanje stališč in 21 vprašanj, ki se nanašajo na njihovo znanje o volkovich. V raziskavi je sodelovalo 184 dijakov iz dveh šol, izmed katerih se ena nahaja v območju pojavljanja volka. Rezultati raziskave so pokazali, da imajo dijaki, ne glede na regijo v kateri se šola nahaja, v splošnem pozitiven odnos do volkov. Njihov dosežek na preizkusu znanja pa ni bil tako visok. Na 21 vprašanj, ki se v anketnem vprašalniku nanašajo na znanje, so dijaki v povprečju le na polovico vprašanj odgovorili pravilno. Izobraževanje bodočih naravovarstvenih tehnikov naj bi se osredotočalo tudi na družbeno-znanstvene vidike, kot je varstvo velikih zveri.

Ključne besede: volk, naravovarstveni tehnik, znanje, stališča

Environmentalist students' attitude toward and knowledge about wolves

Abstract

Wolf (*Canis lupus*) is the second most abundant large carnivore in Slovenia and Europe. Its conservation can be considered as multidimensional, composed of a consensus between the general public, various interest groups, environmentalists - conservation biologists and politicians. In present study, we assessed students' attitude and knowledge regarding wolves enrolled in the Environmentalist study programme, given that their profession will be a part of this multidimensional consensus. For that purpose, we have used the questionnaire that included 21 attitudinal statements and 21 knowledge assessment questions. The study included 184 students from two schools, one located in close proximity to the wolf region. In general, the students were found to have positive attitudes towards wolves, regardless of their school region. Their knowledge of wolves however was found to be lesser, as on average only half of the knowledge assessment questions were answered correctly. Education of future environmentalists should therefore also focus on educating students about current socio-scientific issues, conservation of large carnivores being one of them.

Key words: wolf, environmentalist study programme, knowledge, attitude

Znanje in vedenje učencev v povezavi z ravnanjem in odlaganjem nevarnih in strupenih odpadkov

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Izvleček

Številna gospodinjska čistilna sredstva vsebujejo snovi, ki predstavljajo nevarnost za ljudi in okolje. Z raziskavo smo pri sedmošolcih, osmošolcih in devetošolcih preverili razumevanje pojmov nevarno in strupeno ter, ali pojma pravilno uporabljajo v kontekstu. Poleg znanja smo preverili, kako učenci ocenjujejo svoje okoljsko vedenje. Učence smo vprašali, kje dobijo informacije o ravnanju z odpadki ter nevarnih in strupenih snoveh. Rezultati kažejo, da učenci razumejo pojma nevarno in strupeno. Prav tako pojma pravilno uporabljajo v kontekstu. Sedmošolci in devetošolci so v tem delu vprašalnika v povprečju dosegli 79 %, osmošolci pa 80 % možnih točk. Ugotovili smo še, da med okoljskim vedenjem in znanjem ni korelacij. Učenci so navajali, da največ informacij o nevarnih odpadkih dobijo ali doma ali v šoli. Več deklet (54,5 %) kot fantov (42,9 %) pa je navajalo, da informacije o strupenih snoveh dobijo v šoli. Z raziskavo smo potrdili ugotovitve podobnih raziskav, da so korelacije med znanjem in okoljskim vedenjem majhne, ali pa jih skoraj ni.

Ključne besede: nevarno, strupeno, znanje, pro-okoljsko vedenje

Pupils' knowledge of and reported behaviour regarding treatment and disposal of hazardous and toxic substances

Abstract

Many cleaning products used in households contain chemicals potentially harmful or even toxic to both people and the environment. In this study we address questions how well pupils in 7th, 8th and 9th grade understand the terms (hazardous and toxic) and if they correctly integrate these two terms into a suitable context. In addition to knowledge, we were interested in how pupils evaluate their behaviour concerning environmental issues. We also asked pupils about the primary source of information for waste management and hazardous and toxic substances. The results show that pupils understand the terms hazardous and toxic. We found that pupils correctly integrated terms hazardous and toxic in the text. 7th and 9th graders on average achieved 79 %, and 8th graders 80 % for this item. Results show that pupils' self-reported behaviour does not correlate with their knowledge. We found that pupils gain the most information about hazardous waste from the family or school. More girls (54.5 %) than boys (42.9 %) obtained information about toxic substances in school. In this study, we support the findings of previous research, that there is little or no correlation between knowledge and pro-environmental behaviour.

Key words: hazardous, toxic, knowledge, pro-environmental behaviour

Sezonska sukcesija fitoplanktona in kvaliteta vode Koseškega bajerja

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Izvelek

Koseški bajer je plitvo vodno telo antropogenega izvora, locirano na obrobju Ljubljane, in je tako z vidika naravne kot tudi kulturne dediščine pomemben element mesta. Izkazuje evtrofno do hiperevtrofno stanje. Kljub svoji biotski raznovrstnosti in potencialu za masovni razvoj toksičnih cianobakterij zaradi svoje majhnosti ni vključen v državni monitoring. O njegovem ekološkem stanju tako obstaja relativno malo podatkov. Raziskava je obsegala dvoletno sezonsko spremljanje številčnosti in vrstne sestave fitoplanktona ter fizikalnih in kemijskih parametrov. Standardne metode spremljanja fitoplanktona z odvzemi vzorcev vode za laboratorijsko izolacijo barvil in mikroskopsko identifikacijo fitoplanktonskih vrst smo primerjali z *in-situ* meritvami fluorescence klorofila in cianobakterijskega pigmenta fikocianina. S tem smo želeli oceniti, ali lahko senzorji fluorescence nadomestijo oziroma nadgradijo standardne metode ovrednotenja fitoplanktona, ter napovedati možnost razvoja strupenih cianobakterij. Ujemanja med obema pristopoma so bila visoka. Primerjava kaže visoko uporabno vrednost uporabe senzorske metode za upravljalce in uporabnike malih vodnih teles, kjer drage laboratorijske preiskave niso dostopne. Taksonomske analize so pokazale, da je bil kljub prisotnosti številnih fitoplanktonskih predstavnikov, ki so značilni za evtrofna vodna telesa, delež cianobakterij v letih 2014 in 2015 zelo nizek. Cianobakterije so v povprečju predstavljale le 0,5 % celotnega biovolumna fitoplanktona, kar si razlagamo z nestabilnimi vremenskimi pogoji v omenjenih dveh letih.

Ključne besede: cianobakterije, zelene alge, fikocianin, klorofil *a*, fluorescenca, monitoring vode

Seasonal succession of phytoplankton and water quality of Koseze pond

Abstract

Koseze pond is an anthropogenic, shallow water body, located on the outskirts of Ljubljana and an important element in terms of natural and cultural heritage of the city. It shows eutrophic to hypereutrophic status. Despite its biodiversity and the potential for massive development of toxic cyanobacteria, it is not included in the national monitoring program because of its small size. There are therefore relatively little data on its ecological condition. The study covered a two-year seasonal monitoring of phytoplankton abundance and species composition including physical and chemical parameters. The standard methods of phytoplankton monitoring, with abstractions of water samples for laboratory quantification of pigments and microscopic identification of phytoplankton species, were compared to *in-situ* measurements of the fluorescence of chlorophyll and cyanobacterial pigment phycocyanin. Our goal was to assess whether we can replace or upgrade the standard methods of phytoplankton quantification with the use of sensors and predict the possibility of mass development of dangerous cyanobacteria. Correlations between the two approaches were high.

The comparison shows a high applicability of fluorescence sensors for operators and users of small water bodies, where expensive laboratory tests are not affordable. Taxonomic analysis showed that in spite of abundant presence of phytoplankton groups typical for eutrophic water bodies the share of cyanobacteria in the years 2014 and 2015 remained low and on average accounted only for 0.5% of the total phytoplankton biovolume. We ascribe the unusual absence of cyanobacterial blooms to abnormal weather conditions in the last two years.

Key words: cyanobacteria, green algae, phycocyanin, chlorophyll *a*, fluorescence, water monitor

Tehnologija elektrokemijske oksidacije za zmanjševanje odpadnih onesnažil v sledovih iz vode

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Izвлеček

Nekateri ostanki zdravil in fitofarmaceutskih sredstev so zaradi svoje strukture v okolju biološko težko razgradljivi. Razlogi za pojavljanje izvornih učinkovin in njihovih bioaktivnih metabolitov so nenadzorovani izpusti iz industrije, ekskrecija, nepravilno odlaganje zdravil iz gospodinjstev in njihovo neučinkovito odstranjevanje v čistilnih napravah. V komunalnih čistilnih napravah se večkrat poleg primarne in sekundarne stopnje čiščenja izvaja tudi dezinfekcija vode s kloriranjem in UV-sevanjem, ki sta v primeru zdravil in fitofarmaceutskih sredstev neučinkovita. Namen naše raziskave je bil testirati razgradljivost osmih zdravil in dveh fitofarmaceutikov v postopku elektrokemijske oksidacije z uporabo z borom dopirane diamantne elektrode (BDD). Preizkus smo opravili pri dveh pretokih in dveh koncentracijah mešanice učinkovin (10 in 100 µg/L vsake učinkovine). Vsebnost amoksicilina, ciprofloksacina, metoprolola, imatiniba, bisoprolola, fluoksetina, karbamazepina in diklofenaka pri koncentraciji 10 µg/L posamezne snovi – koncentraciji, ki jo lahko pričakujemo v komunalnih odpadnih vodah, je po enournem tretiranju in gostoti toka 37,5 mA/cm² padla za več kot 80 %. Stopnja razgradnje pri višji koncentraciji je bila nižja, okrog 40 %. Primerjava pretokov je pokazala večjo razgradnjo pri hitrejšem pretoku (3,2 mL/s) kot pri počasnejšem (0,8 mL/s), kar je posledica boljšega odzračevanja in kontakta molekul onesnažil s hidrosilnimi radikali. Metoda elektrokemijske oksidacije je pokazala obetavne rezultate in potencial za uporabo v končnih stopnjah čiščenja odpadnih voda.

Ključne besede: čiščenje odpadne vode, elektrolitska celica, zdravilne učinkovine, fitofarmaceutiki, hidrosilni radikali, mikroonesnažila, z borom dopirana diamantna anoda

Electrochemical oxidation technology for the reduction of refractory trace pollutants from water

Abstract

Some pharmaceuticals (P) and phytopharmaceuticals (PP) are due to their chemical structure slowly biodegradable pollutants in the environment. The reasons for occurrence of original molecules and their bioactive metabolites in waters include uncontrolled discharges from industry, excretion, improper disposal of medicines from households and ineffectiveness of wastewater treatment plants. Specifically disinfection of water with chlorination and UV radiation, which is carried out in sewage treatment plants in addition to primary and secondary wastewater treatment, is often ineffective for degradation of P and PP and their metabolites. The aim of our study was to examine the removal of eight P and two PP by using anode electrochemical oxidation with boron-doped diamond anode (BDD). Tests were carried out at two flows and two mixtures with different concentrations of active ingredients (10 in 100 µg/L of each ingredient). The concentration of 10 µg/L of amoxicillin, ciprofloxacin, metoprolol, imatinib, bisoprolol, fluoxetine, carbamazepine and diclofenac, which is typically expected in sewage, decreased by more than 80% after one-hour treatment using 37.5 mA/cm² current density. The removal efficiency at higher concentration was lower, around 40%. Higher degradation rate was observed in faster (3.2 mL/s) compared to slower flow rate (0.8 mL/s). This can be contributed to better de-aeration and contact of molecules with hydroxyl radicals. Electrochemical oxidation showed promising results and potential for application in the final steps of wastewater treatment.

Key words: boron doped diamond anode, electrolytic cell, hydroxyl radicals, micropollutants, pharmaceuticals, phytopharmaceuticals, wastewater treatment

Uvajanje novega energetske učinkovitega izdelka – lesnih peletov na trg

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Izvleček

Lesni peleti so stiskanci valjaste oblike, premera 6-8 milimetrov in dolžine do 50 milimetrov, narejeni iz čistega lesa in skorje. Proizvajajo se industrijsko s stiskanjem suhe žagovine in iveri. Po standardu SIST EN 14961-2:2011 poznamo tri kakovostne razrede: A1, A2 in B. Lesni peleti so lahko uvrščeni v katerega od njih, če izpolnjujejo vse predpisane kriterije – poleg vsebnosti vode in pepela so med najpomembnejšimi še mehanska obstojnost, energijska vrednost in gostota nasutja.

Ob vpeljavi novega ekološko in energetske učinkovitega izdelka na trg – lesnih peletov kakovosti A2, smo segmentirali kupce v značilne skupine z vidika časovnega odločanja za nakup. Oblikovali smo ponudbo, ki je bila glede na naročene količine konkurenčna. V marketinški akciji smo kupcem podarili kupon za popust, ki so ga uveljavili pri plačilu električne energije. Pripravili smo oglaševanje z različnimi komunikacijskimi kanali, ki smo jih spremljali in se glede na odziv kupcev prilagajali.

Spremljali in analizirali smo cene lesnih peletov konkurentov v časovnem obdobju in se prilagajali s cenami glede na gibanje na trgu.

Odzivali smo se na reklamacije kupcev in hitro ukrepali. Ugotovili smo razloge v kakovosti lesnih peletov in v transportu. Ukrep je bil v segmentiranju dobaviteljev in preverjanju referenc ter v poglobitvi partnerskega odnosa. Z natančnejšim načrtom smo bdeli nad logistiko od sprejetega naročila do realizacije dobave.

Analizirali smo učinke prodaje segmentiranih kupcev z vidika ponovitev nakupa in pridobivanjem novih kupcev glede na marketinške pristope. Z anketnim vprašalnikom smo analizirali zadovoljstvo med kupci s statistično, regresijsko, korelacijsko in faktorsko analizo.

Ključne besede: lesni peleti, analiza cen, analiza prodaje, analiza zadovoljstva kupcev, multivariatna statistična analiza, korelacijska analiza, regresijska analiza, faktorska analiza

Implementing of new energy efficient product – wooden pellets on the market

Abstract

Wooden pellets are compressed wooden material of 6 to 8 mm diameter and max 50 mm length, made from waste forest material. Pellets are industrial produced by compressing a uniform dough-like mass from dried sawing dust and particle board. According to standard SIST EN 14961-2:2011 there are three quality standards: A1, A2 and B. Wooden pellets can be classified into three quality standards, if they fulfil all demanding criteria: besides water and ash content also mechanical resistance, uniform in density are the most important.

By implementing the new ecological and energy efficient product to the market – wooden pellets in the standard quality A2, we have segmented customers into typical groups from the view of time bound purchasing decision. We developed an offer which was competitive regarding ordered quantities. We donated a discount voucher to customers in a marketing action which they could cash in by paying their electricity bill. We prepared a marketing action with different communication channels, which we were monitoring and adjusting considering customer feedback.

Furthermore, we have been monitoring and analysing wooden pellets prices regarding competition over a certain period of time, and adjusting prices with respect to market movements.

Considering customer's complains we responded, and appropriate measures were taken. We established causes in wooden pellets quality and transportation. Our reaction was segmenting suppliers and reference checking and deepening our partnership. We were monitoring logistics from order to delivery by means of exact planning.

Sales effects of segmented customers were analysed from the perspective of repeat purchase and gaining new customers according to marketing approaches.

Survey questionnaire with statistical method, regression modelling techniques, correlation coefficient and factor analysis helped us to analyse customer contentment.

Key words: wooden pellets, price analysis, sales analysis, customer content analysis, multivariate statistical analysis, correlation analysis, regression analysis, factor analysis

Naravovarstveni pristop pri odstranjevanju žlezave nedotike (*Impatiens glandulifera* Royle) in primer izobraževanja o invazivnih tujerodnih rastlinah v Sloveniji

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Izvelek

Problematika invazivnih tujerodnih rastlin se v Sloveniji in po svetu vedno bolj postavlja v ospredje, saj invazivnost močno posega v biotsko raznovrstnost avtohtonih rastlin.

Invazivna tujerodna rastlina je vrsta, ki ima negativne vplive na biotsko pestrost, ekosisteme, gospodarstvo ali zdravje ljudi. V sklopu študija naravovarstva smo ustvarili tim študentov, ki smo si za

praktično izobraževanje izbrali problematiko invazivnih tujerodnih rastlin v Sloveniji. Naš namen je bil ljudem približati in predstaviti invazivne tujerodne rastline, kar pa smo poskušali uresničiti s cilji, ki smo si jih zadali. Primarni cilj je bil izobraziti in ozavestiti ljudi o pojavljanju in razširjenosti ter vplivu invazivnih tujerodnih rastlin v Sloveniji. Osredotočili smo se na žlezavo nedotiko (*Impatiens glandulifera* Royle). Vzporedni cilj je predstavljal odstranjevanje žlezave nedotike v čim večjih količinah v obliki akcij odstranjevanja invazivne rastline. Dosežke našega dela vidimo v izvedenih izobraževanjih na zavodih izobraževanja, domu za ostarele, krajevni skupnosti in predstavitvi v sklopu Evropskega tedna trajnostnega razvoja, organizirani akciji odstranjevanja v krajevni skupnosti Predoslje (ob pritoku reke Kokre), več manjših akcij odstranjevanja, promociji tujerodnih invazivnih vrst na radiju, preko zloženke in drugih materialov. Ugotavljamo, da je izobraževanje o tujerodnih invazivnih rastlinah zelo pomembno, saj bi se ljudje bolje zavedali, da s pravilnim odstranjevanjem pripomoremo k ohranjanju biotske raznovrstnosti, naravnega kapitala v regijah in trajnostnem razvoju skupnosti.

Ključne besede: invazivne tujerodne rastline, žlezava nedotika (*Impatiens glandulifera* Royle), izobraževanje, akcije odstranjevanja žlezave nedotike, biotska raznovrstnost, naravovarstvo

Environmental approach to removal of the *Himalayan balsam* (*Impatiens glandulifera* Royle) and an example of educating about invasive plants in Slovenia

Abstract

The issues concerning the invasive alien plants in Slovenia and worldwide are of great significance nowadays, because it is a fact that the invasivity is a factor that has a big influence on the biotic diversity of autochthonous plants. The invasive alien plant is a species that has a negative influence on biotic diversity, ecosystems, economy or people's health. Our team of students of Environmental Studies Program has been created in order to research the issues concerning the invasive alien plants in Slovenia as a part of our practical education. Our main goal was the presentation, the recognition of invasive plants to the people and to raise the awareness of its extent. The main goal was to educate people and make them aware of this type of plant in Slovenia. Our focus was on the Himalayan balsam (*Impatiens glandulifera* Royle). Our parallel goal was also the removal of this plant in large amounts. Our working achievements can be seen in the form of educational programs at educational institutions, at day care centre, in the local community in the presentation that was a part of European Sustainable Development. Week, in the removal of the plant in community Predoslje (an affluent of the Kokra river), in a great amount of minor plant removal actions, in the promotion of the invasive alien plants on the radio, on the leaflets and other materials. Our main statement is that educating people about the invasive alien plants is of great significance, because people recognise the importance of the plant removal and therefore the biotic diversity, natural capital in the regions and community development can be preserved.

Key words: invasive alien plants, the Himalayan balsam (*Impatiens glandulifera* Royle), education, removal actions of the Himalayan balsam, biotic diversity, Environmental Studies

Zelene strehe in njihovi gradniki

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Izvleček

Zelene strehe so v slovenskem prostoru še vedno redkost. Predvsem je v Sloveniji problem povsem praktične narave – strehe so ponavadi pod prevelikim naklonom, hkrati pa je raven ozavešanja prednosti takšne strehe še vedno precej nizka in cenovno sorazmerno neugodna (subvencij ni na voljo). Z našim delom smo želeli predstaviti prednosti ozelenjevanja streh in predvsem primerjati sestavo različnih podlag-substratov, na katerih temeljijo takšne kompozicije. Primerjava rasti je pokazala boljše lastnosti substrata B, medtem ko je spremljanje fizikalno kemijskih lastnosti pokazalo najizrazitejše vplive na spreminjanje pH vrednosti obeh substratov, ki so povezani z letnim časom. Povprečna pH vrednost substrata B med eksperimentom je bila 7,974, substrata A pa 8,113, kjer so višja nihanja zabeležena v primeru substrata B. Izdelali smo tudi prenosni model, ki omogoča nazoren uvid v plasti in primernost izbora rastlin v takšne namene. Delo je delno potekalo pod pokroviteljstvom večjega evropskega projekta in bilo predstavljeno že na več javnih dogodkih, kjer je bilo sprejeto z velikim zanimanjem.

Ključne besede: zelene strehe, različna sestava, prenosni model, prednosti, trajnost

Green roofs and their composition

Abstract

Green roofs are still quite rare in Slovene environment. There is one very practical reason for that – the traditional angle of Slovene roofs and still quite low awareness of benefits of such roofing. In our paper we will present advantages of green roofing and also compare two different substrates, needed for extensive greening. Comparative growth of both substrates showed better characteristics of substrate B, whereas continuous physical-chemical observation parameters gave most evident results regarding pH measurements. Average pH value of substrate B was 7.974 and for substrate A 8.113, where higher fluctuation was monitored in a case of substrate B. Our work includes a portable model, which enables clear presentation of layers used and vegetation planted. The work was partly developed under bigger European project tender and was already presented at different events, where it got a lot of positive feedbacks.

Key words: green roofs, different composition, portable model, advantages, sustainability

Električna mobilnost kot del trajnostne mobilnosti v Sloveniji

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Izvleček

Električna mobilnost predstavlja relativno nov način trajnostne in okolju prijazne mobilnosti. Povečano zavedanje globalnih podnebnih sprememb, težnja po učinkoviti rabi energije in zmanjšanju ogljičnega odtisa ter pojemanje zalog fosilnih goriv so v razvitih državah spodbudili raziskave in razvoj vozil na električni pogon in infrastrukture električnih polnilnic.

Z zmanjšanjem zalog fosilnih goriv, se bodo cene fosilnih goriv povečevale, kar bo obremenjevalo stroške gospodinjstev in gospodarskih družb. S predelavo motorja na utekočinjen naftni plin zmanjšamo stroške, ne razbremenimo pa svojega okolja s toplogrednimi plini. Hitro razvijajoča alternativa so električni avtomobili, ki so z energetskega in okoljskega vidika najboljša konkurenca avtomobilom z motorjem z notranjim izgorevanjem.

V prispevku je izdelana SWOT analiza, prikazano stanja električne mobilnosti v Sloveniji glede na dostopna vozila in električne polnilnice. Primerjamo lastnosti in stroške dveh tipov električnih avtomobilov Renault Zoe in BMW 320i EfficientDynamics Edition. Ekonomsko upravičenost nabave dostopnega povprečnega električnega avtomobila izračunamo z upoštevanjem prihrankov podobnega avtomobila z bencinskim motorjem. V izračunih smo upoštevali subvencije Eko sklada iz razpisa za električne avtomobile. Enostavna doba vračanja za električno vozilo je 5,14 let, interna stopnja donosnosti je 5,66 %. Z analizo občutljivosti ugotovimo, da se pri 5 % višji naložbi interna stopnja donosnosti zmanjša za 2,23 odstotne točke. Večje je tveganje z vidika 5 % zmanjšanih prihrankih, ko se interna stopnja donosnosti zniža za 4,05 odstotne točke. S Cost-Benefit analizo, kjer upoštevamo okoljske prihranke zmanjšanja emisij CO₂ se ekonomski kazalniki izboljšajo.

Z mnenjsko raziskavo med strokovnjaki, uporabniki in javnostjo smo ugotovili podobnosti in razlike. S pomočjo transkript intervjujev je bila izdelana tabela kriterijev, analiza in interpretacija podatkov. Skozi odgovore so se izoblikovale kategorije, ki so usmeritev za implikacije za politiko trajnostne mobilnosti v Sloveniji.

Ključne besede: e-mobilnost, alternativni pogonski viri, električni avtomobili, ekonomska analiza, Cost-Benefit analiza, kvalitativna analiza

Electric mobility as part of sustainable mobility in Slovenia

Abstract

Electric mobility represents a relatively new form of sustainable and environmentally friendly mobility. The increased awareness of the global climate changes, the tendency towards the efficient use of energy and towards the decrease of the carbon print, as well as the declining fossil fuel supplies have urged the developed countries to undertake research and develop vehicles powered by electricity as well as the infrastructure of electric vehicle charging stations.

The decline in the fossil fuel supplies will lead to the increase of the fossil fuel prices which will represent a financial burden on the households and businesses. Liquefied petroleum gas engine conversions reduce costs but, on the other hand, do not contribute to the solving of the problem of greenhouse gasses in the environment. Electric cars are a rapidly developing alternative and, from the energetic and environmental points of view, represent the best form of competition to cars with internal combustion engines.

The presentation includes a SWOT analysis and offers an overview of the current state in the area of electric mobility in Slovenia in view of the available vehicles and electric vehicle charging stations. The characteristics and costs of two types of electric cars were compared, namely Renault Zoe in BMW 320i EfficientDynamics Edition. The economic viability of purchasing an affordable average-price electric car can be calculated by considering the savings of a similar car with a petrol engine. The calculations take into account the subsidies of the Slovenian Environmental Public Fund (Eco Fund) and its call for electric cars. Simple payback period for an electric vehicle is 5.14 years, while the internal degree of profitability is 5.66 %. The sensitivity analysis reveals that a 5 % higher investment leads to a decrease of 2.23 percent of a point in the internal degree of profitability. There is a higher risk from the perspective of a 5 % decrease in savings when the internal degree of profitability decreases for 4.05 percent of a point. With the Cost-Benefit analysis, which takes into account environmental savings in the form of reduced CO₂, the economic indicators improve.

The similarities and differences were determined through the opinion study performed among the professionals, users and the general public. With the help of the transcripts of interviews, a table of criteria was prepared, an analysis was performed and the results were analyzed. Categories which represent guidelines for implications of the sustainable mobility policy in Slovenia were formed on the basis of the answers.

Key words: e-mobility, alternative fuel sources, electric cars, economic analysis, Cost-Benefit analysis, qualitative analysis

Primerjalna analiza naravovarstvenih vsebin mestnega parka Tivoli v Ljubljani in mestnega parka Maksimir v Zagrebu

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Izvleček

Namen študije je analizirati ter primerjati ponudbo mestnega parka Tivoli v Ljubljani in mestnega parka Maksimir v Zagrebu. Oba parka imata status zavarovanega območja in sta zaščitena kot kulturna spomenika. Parka imata veliko vsebin, ki sodijo v kulturno dediščino, v študiji pa smo se osredotočili na naravovarstvene vsebine mestnih parkov. V študiji smo ugotavljali, kako se dva evropska mestna parka razlikujeta v organizaciji in upravljanju parka, pri promociji in ponudbi parka, pri informiranju obiskovalcev o ponudbi parka ter pri vodenju obiskovalcev po parku. Raziskovalna vprašanja smo preverjali kvalitativno, s pomočjo študije primerov in primerjalne analize. Primerjalna analiza, ki smo jo izvedli s deskriptivno metodo, je pokazala, da imata oba parka veliko obstoječih vsebin, vendar pa te niso sistematično vključene v ponudbo. Oba parka imata možnosti za vključitev obstoječih vsebin in razvoj novih vsebin na prostem, ki sodijo v dopolnilno ponudbo parkov. Študija je pokazala, da je za nadaljni razvoj parka pomembno povezovanje in iskanje sinergije v obliki dejavnosti, dogodkov, razstav, tematskih poti, učnih točk, delavnic, ki bi bile ciljno usmerjene. Pri tem je potrebno nadgraditi in izboljšati promocijo ponudbe parkov, ki bi prispevala k večji prepoznavnosti parka samega in tudi njune ponudbe.

Ključne besede: mestni park, naravovarstvo, ekologija, prireditve na prostem, promocija

Comparative analysis of natural features in Ljubljana Tivoli Park and Zagreb Maksimir Park

Abstract

The purpose of the study is to analyze and compare offers urban Tivoli park in Ljubljana and city park Maksimir in Zagreb. Both parks have protected status and are protected as a cultural monument. Parks have a lot of content that belong to the cultural heritage, in the study, we focused on the nature of content city parks. In this study we observed how two European city parks vary in organization and management of the park, in the promotion and supply of stock, to inform visitors about park facilities and in conducting visitors around the park. The research questions were examined qualitatively, through case studies and comparative analyzes. Comparative analysis, which was conducted by descriptive method, showed that both the park a lot of existing content, but these are not systematically included in the offer. Both parks have opportunities to incorporate existing content and develop new content to the free falling in the supplementary offer parks. The study showed that for the further development of the park an important networking and synergies in the form of activities, events, exhibitions, thematic channels, learning points, workshops, that would be targeted. It is necessary to upgrade and improve the promotion offers parks, which would contribute to the greater visibility of the park itself, as well as their offers.

Key words: city park, nature conservation, ecology, outdoor events, promotion

Ogroženost divjega petelina v Zgornjesavski dolini

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Izvleček

Populacija divjega petelina je v Sloveniji v stalnem upadanju kljub temu, da je vrsta zavarovana že 30 let. V Zgornjesavski dolini se srečujemo z enako težavo.

Prispevek je namenjen predstavitvi problematike ogrožene vrste ter ugotavljanju dejavnikov ogrožanja. Temelji na zbranih podatkih preteklih popisov, ki so bili opravljeni na raziskovanem območju v letih 1986, 1998, 1999, 2000 in 2010, ter lastnih popisih v letih 2013 in 2014. Število aktivnih rastišč se je v zadnjih 27 letih zmanjšalo za več kot polovico, število odraslih samcev pa se je v tem času zmanjšalo za dve tretjini. Večina upada populacije se je zgodila v zadnjih 10 letih. Na splošno je bilo ugotovljeno, da gre za izjemno ogroženo populacijo, ki ji grozi izumrtje, če v prostoru ne bodo izvedeni določeni ukrepi, ki bi utegnili preprečiti zmanjševanje številčnosti populacije.

Ključne besede: divji petelin, Zgornjesavska dolina, upadanje populacije, dejavniki ogrožanja

Endagerment of the Capercaillie population in the Upper Sava Valley

Abstract

The population of capercaillie in Slovenia has been in constant decline despite the species being protected for over 30 years. The region of the Upper Sava Valley has been facing this problem as well. This article is a result of my own interest in the species, namely I wanted to determine the factors of endangerment. Based on the data collected from past surveys conducted in the studied area in the years 1986, 1998, 1999, 2000 and 2010, and the data obtained through my own censuses conducted in 2013 and 2014. The number of active habitats has decreased by more than half in the last 27 years, and the number of adult males has declined by two thirds in the same period. The majority of this decline in the studied capercaillie population has occurred in the last 10 years. On the whole, I found that capercaillie population is extremely endangered in the Upper Sava Valley and is threatened to become extinct if certain measures will not be taken in this area to prevent the decline of population numbers.

Key words: capercaillie, Upper Sava Valley, population decline, factors of endagerment

Učenje o alternativnih virih energije s pomočjo mobilnih telefonov

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Izvelek

Zaradi vedno večje uporabe fosilnih goriv in vedno manjših zalog le-teh je želja po izrabi alternativnih virih energije vse večja. Učenje in posledično poznavanje alternativnih virov energije je ena izmed učnih tem v splošnem izobraževanju. Učenci se dandanes učijo o alternativnih virih energije že v osnovni šoli, vendar je njihovo znanje največkrat slabo in kratkotrajno, saj se učijo na tradicionalen način. Uporaba računalnikov omogoča interaktivno učenje, vendar nimajo vse šole možnosti zagotoviti dovolj veliko število računalnikov za uporabo. Velika večina učencev ima dandanes mobilni telefon, ki jim omogoča odpiranje spletnih strani in njihovo uporabo. Učenje o alternativnih virih energije z e-učnimi enotami preko mobilnih telefonov je tako bolj privlačno in znanje učencev trajnejše. Opravljena je bila raziskava, katere namen je bil ugotoviti, ali bo znanje učencev, ki bodo uporabljali mobilne telefone za učenje o alternativnih virih energije, boljše od znanja učencev, ki se bodo o tem učili na tradicionalen način. Rezultati raziskave so pokazali, da je prišlo do statistično pomembnih razlik med kontrolno in eksperimentalno skupino, kar spodbuja nadaljnjo uporabo mobilnih telefonov pri poučevanju.

Ključne besede: alternativni viri energije, e-učne enote, mobilni telefoni

Learning about alternative energy with the help of mobile phones

Abstract

Due to the increasing use of fossil fuels and decreasing stocks of these, comes a desire to increase the use of alternative energy sources. Learning and consequently knowledge of alternative energy sources is one of the teaching subject in general education. Students today learn about alternative energy sources already in elementary school, but their knowledge is often weak and short-lived, as it is taught in the traditional way. The use of computers allows interactive learning, but not all schools have the possibility to provide a sufficient number of computers. The vast majority of pupils nowadays have a mobile phone, which allows them to visit web pages. Learning about alternative energy sources with e-learning units via mobile phones is also more attractive and produces a durable students' knowledge. A survey was carried out, to determine if there are any differences in the knowledge of students, which will use mobile phones to learn about alternative energy sources, than the students that will learn about it in the traditional way. The results have showed us, that there was a statistically significant difference between the control and experimental group, which encourages further use of mobile phones in the classroom.

Key words: alternative energy source, e-learning units, mobile phones

Okolju prijazne nizekopadne MHE in slovenska zakonodaja

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Izveček

Klasične male hidroelektrarne (MHE) so v območju nizkih padcev (pod 4 m padca) slabo rentabilne, zaradi relativno drage investicije na kW instalirane moči.

V zadnjem času je prišlo do novega koncepta nizekopadne MHE, ki nima klasične strojnice, turbina in generator sta v celoti potopljena pod vodo. Koncept nizekopadne MHE ponuja prihranke na investicijskih stroških in je obetajoča tehnologija, ki bi se lahko izrabila za proizvodnjo OVE na mnogih naših jezovih z nizkim padcem, kateri so danes še večinoma energetske neizkoriščeni.

Žal slovenska zakonodaja ne dovoljuje umestitve teh modernih kompaktnih naprav, čeprav gre za koncept MHE, ki je okoljsko najbolj prijazen. Nizekopadne MHE se v glavnem izvedejo kot točkovni odjemi, kjer se voda vrača v strugo neposredno pod jezom tako da MHE ne povzroči odseka struge z zmanjšanim pretokom vode v strugi.

Ključne besede: MHE, nizek padec, okoljsko, zakonodaja, izkoristek

Environmentally friendly Small Hydro Power Plants & Slovenian legislation

Abstract

Economic feasibility of classical Small Hydro Power plants in small head applications is rather poor, cause the specific investment cost per kW of installed power is high.

Recently, a development of new concept of Low Head Compact Hydro units were developed, which offer substantial investment cost reduction in comparison to classical hydro power plants, especially on the civil works costs. The power house building is not needed any more; the turbine and generator are completely submerged. This technology seems to be very promising for many Slovenian river dams with low head, where energy exploitation was not feasible till now.

Unfortunately, current Slovenian legislation does not allow installation of such units, even though such hydro power applications are the most environmentally friendly, since they do not produce a river segment with reduced water flow.

Key words: energy, small head hydro power plants, turbine, generator, environmental flow

Analiza razvoja turizma v podeželskem kraju

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Izvleček

V kraju, ki leži le 4 km od znanega turističnega kraja Bled, bi bilo pričakovati, da je za prebivalce samoumevno, da je turizem poslovna priložnost in ne moteči dejavnik. Čeprav ima kraj izjemno lokacijo in naravne pogoje za razvoj turizma, je bilo potrebnega veliko truda, da je prišlo do spremembe odnosa do turizma. Na osnovi statistične obdelave zbranih podatkov o turistični ponudbi v kraju za obdobje zadnjih 20 let lahko ugotovimo, da se je odnos do turizma močno spremenil. Povečuje in izboljšuje se turistična ponudba v kraju ter narašča delež prebivalcev, ki jim turizem predstavlja dopolnilno ali osnovno dejavnost. Prikazana je pestra ponudba in možnosti za aktivno preživljanje prostega časa v kraju. Spremembe so opazne tudi obiskovalcem, ki kraj obiščejo naključno. Da kraj živi s turizmom, potrjuje urejenost kraja, infrastruktura, sprehajalne poti in možnosti informiranja z uporabo sodobne informacijske tehnologije na spletu www.bohinjskabela.si. Analizirani so tudi dejavniki, ki so vplivali na spremembe.

Ključne besede: statistika, analiza, podeželski kraj, turistična ponudba, poslovna priložnost, informacijska tehnologija

Analysis of the Development of Tourism in a Rural Village

Abstract

In a village that lies 4 km from the well-known town of Bled it is to expect that tourism would be a business opportunity and not a disturbing factor. Even though the village has an exceptional location and natural conditions for the development of tourism, great efforts were needed to change the attitude of local people towards tourism. Statistical analysis of the data on tourist offer in the village in the last 20 years suggests that the attitude towards tourism changed considerably. Tourist offer has become better and richer and increasingly more people are engaged in tourism, let it be their primary source of income or a secondary activity. A rich offer and opportunities for active free time in the village are presented. Changes are also visible to random visitors. Infrastructure, orderliness, walking trails and opportunities for finding information on the internet (www.bohinjskabela.si) prove that tourism plays an important part in the life of the village. In addition, the factors that influence the changes are also analysed.

Key words: statistics, analysis, rural village, tourist offer, business opportunity, information technology

Turizem – podjetniška priložnost za podeželje

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Izvleček

Čeprav so znane različne definicije podeželja, je vsem skupna opredelitev, da je to območje s prevladujočo kmetijsko in gozdarsko dejavnostjo, manjšo gostoto in počasnejšo rastjo prebivalstva. Temu opisu ustreza tudi kraj Bohinjska Bela z zaselki Slamniki in Kupljenik. V kraju sta bila včasih kmetijstvo in gozdarstvo najpomembnejši dejavnosti, danes pa se kmetovanje iz različnih razlogov opušča. To ima negativne posledice tudi na izgled krajine, saj se pašniki in travniki zaraščajo. Kljub spodbudam občine in države se je v kraju ohranilo le malo kmetijskih gospodarstev. Prikazani so trije primeri dobre prakse, kjer so sorazmerno mladi kmetje turizem uspešno vključili v svojo dejavnost. Kmetije se med seboj zelo razlikujejo po velikosti, lokaciji, organizacijski obliki in obsegu dopolnilne dejavnosti. Različna je tudi gostinsko-turistična ponudba. Skupna vsem pa sta kakovost storitev in uspešno poslovanje. Te družinske kmetije, z mladimi, izobraženimi nosilci dejavnosti, ki so v turizmu uresničili svojo poslovno idejo, so lahko zgled mnogim, ki iščejo podjetniške priložnosti.

Ključne besede: podeželje, dopolnilna dejavnost, družinske kmetije, poslovna ideja, turizem

Tourism – A Business Opportunity for Rural Areas

Abstract

There are many definitions of rural area; however, all of them have in common that it is an area with predominant agricultural and forestry land, a low population density and slower population growth. The village of Bohinjska Bela with the hamlets of Slamniki and Kupljenik corresponds to this definition. In the past, agriculture and forestry were the most important activities, whereas today agriculture has been abandoned due to various reasons leading to negative consequences on the appearance of the landscape (e.g. overgrown meadows and pastures). Despite incentives from the municipality and the state, there are very few farms in the village. Three examples of good practice are presented showing relatively young farmers who successfully incorporated tourism into their business. These farms are very much different from each other. They differ in size, location, organisational form, the extent of their secondary activity and in their offer. However, their common features are quality service and successful business activity. These family farms with young and educated farmers that realised their business ideas in tourism can be a great example for all those who are looking for business ideas.

Key words: rural area, secondary activity, family farm, business idea, tourism

Vpliv tehnoloških ukrepov na čas spravila in pridelek endivije (*Cichorium endivia* L.)

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Izvleček

Raziskavo z endivijo cv. 'Ciarda' smo izvedli na laboratorijskem polju Biotehniške fakultete v Ljubljani. Med rastno sezono v letu 2014 smo zasnovali dva poskusa z namenom, da bi ugotovili, kakšne so možnosti pridelovanje endivije v pozno-jesenskem času. S prvim delom poskusa smo želeli določiti primeren čas presajanja sadik na stalno mesto in v zvezi s tem upoštevati temperaturne pragove v pridelavi. Drugi del poskusa pa je temeljil na štirih različnih metodah varovanja rastlin (kontrola-brez varovanja, varovanje z vezanjem rozet, varovanje s pokrivanjem rastlin z naluknjano polietilensko-PE folijo in kombinacija vezanja rozet ter naluknjane PE folije) pri temperaturah, nižjih od $-5\text{ }^{\circ}\text{C}$. V prvem delu poskusa je analiza vsote učinkovitih temperatur pokazala, da ima presajanje rastlin po prvi dekadi v septembru odločilen vpliv na zmanjšanje pridelka. Drugi del poskusa je pokazal uspešnost gojenja endivije v pozno-jesenskem času glede velikosti pridelka, še posebej pa glede njegove kvalitete. Kvaliteto je v našem primeru predstavljal premer rumenega dela rozete (notranji listi). Iz rezultatov lahko sklepamo, da način varovanja rastlin ni statistično značilno vplival na kvantitativne lastnosti rastlin (neto maso rozete, suho snov, premer in višino rozete). Rastline, ki so bile zavarovane z vezanjem in s kombinacijo vezanja in prekrivanja z naluknjano PE folijo, so imele največ rumenega dela.

Ključne besede: endivija, *Cichorium endivia*, čas presajanja, varovanje rastlin, pridelek

Impact of the technological measure on the harvest date and yield of endive (*Cichorium endivia* L.)

Abstract

The investigation with endive cv. 'Ciarda' was performed on the Laboratory field of Biotechnical faculty in Ljubljana. During the growing season of the year 2014 a test consisting of two trials was conducted in order to determine the possibilities of growing endive in late autumn. The first trial was performed to investigate the right timing of transplanting the seedlings to a permanent place and thus considering the sensitivity to temperature in the endive production. The basis of the second trial was the comparison of four methods of protecting the plants of endive from the negative effects of temperatures lower than $-5\text{ }^{\circ}\text{C}$ (control-the plants without protection, tying up plants, covering plants with perforated polyethylene-PE film and combination of tying up and covering plants with perforated PE film). In the first trial, the analyses of sums of effective air temperatures showed that time lapse of the transplantation after the first decade of September plays a decisive role in lowering the body of production. The second trial showed that growing endive in the period of late autumn growth proved successful as far as the body and especially the quality of production are concerned. The results showed that the method of protecting plants didn't have a statistically significant effect on the quantitative parameters (net weight of rosette, dry matter, diameter and height of rosette). The qualitative parameter considered here was the yellow part of rosette (central leaves), the diameter of which was measured. The plants which were protected by being tied up and plants protected using a combination of tying up and covering with perforated PE film had the greatest extent of the yellow part.

Key words: endive, *Cichorium endivia*, transplanting dates, plants protecting, yield

Trajnostni razvoj v kontekstu semantičnih aporij in evropske lokalnosti

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Izvleček

V prispevku obravnavamo problematiko trajnosti in trajnostnega razvoja kot koncepta, ki naj bi se realiziral v kontekstu »globalnega mišljenja« in »lokalnega delovanja«, pri čemer pa je dejanski domet same ideje trajnosti kot povezovanja (*problematičnih*) okoljskih, družbeno-ekonomskih ter socialno etičnih, bivanjskih razsežnosti našega časa in prostora v smislu presežnosti in rešitve nakazanih težav najmanj vprašljiv, in to že na lingvistični ali bolje rečeno semantični ravni sintagme trajnostnega razvoja. Drugi, nič manj zaskrbljujoč vidik pa se nedvomno kaže v dejstvu, da očitnih, okoljsko nesporno negativnih posledic vpliva sodobnega »življenjskega sloga«, ki tlakuje pot morebitni planetarni katastrofi v naslednjih desetletjih, ni mogoče preprečiti brez širokega, težko dosegljivega mednarodnega konsenza, ki bi omogočil izvedbo v znanstveni srenji bolj ali manj preverljivih in nujno potrebnih ukrepov za ustavitev negativnih trendov, kar predstavlja poseben izziv Evropi kot naši »širši domovini« ali kot geografskemu in duhovnemu lokusu »lokalnega delovanja«, ki naj »misli globalno«.

Ključne besede: trajnostni razvoj, trajnost, ekologija, gospodarstvo, politika, etika, Evropa

Sustainable development in the context of semantic aporiae and European locality

Abstract

The paper focuses on sustainability and sustainable development concept issues, which should be implemented in the context of a »global reflection« and »local action«. The actual reach of the sustainability idea as a means of connecting (problematic) environmental, socioeconomic, socioethical and existential dimensions of our time and space in the sense of transcending and solving of the indicated problems is at least questionable; it is such, yet, on the level of linguistics, or better put, semantics of the syntagm »sustainable development«. The second, no less worrisome aspect can be undoubtedly perceived in a fact that obvious environmentally negative effects of the contemporary »life style«, that leads to a possible planet catastrophe in the following decades, cannot be prevented without a broad, hard to reach consensus of the international community. Only that could open ways for taking scientifically more or less verifiable and urgent measures to stop the negative trends. That presents a special challenge to Europe as our »broader homeland« or geographic and spiritual locus of »local action« in the process of »global reflection«.

Key words: sustainable development, sustainability, ecology, economy, politics, ethics, Europe

Narava, ki to nikoli ni bila: rekreacijsko območje kot sanacija odlagališča pristaniškega mulja

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Izvleček

V ZDA in v Evropi je postala navada, da se degradirana območja odlagališč takšne in drugačne vrste revitalizirajo in namenjajo rekreaciji. Sanacija razvrednotenega prostora se nanaša predvsem na izboljšave obstoječega stanja in odpravljanje negativnih posledic, ki presegajo dovoljene najnižje pragove in so hkrati rezultat predvsem opuščeni dejavnosti. Odlagališča imajo na neposredno okolico nek negativen vpliv, ki pa se ga da s sanacijo omiliti, v nekaterih primerih pa tudi odpraviti. Poleg izboljšanja razmer mikrolokacije je pomembna fizična prenova in preobrazba prostora. Navadno se za degradirana območja odlagališč že v fazi načrtovanja primarne dejavnosti, odlaganja, predvidi program, ki ga bo območje dobilo v procesu sanacije, kar se je zgodilo tudi na območju deponije pristaniškega mulja v mestu Vlaardingen, kjer so s poglobljanjem pristaniškega dna v zgodnjih 60. letih 20. stoletja odlagali toksičen pristaniški mulj. Leta je bilo območje, veliko približno 300 hektarjev prepuščeno postopnemu zaraščanju, a so ga v letih 2006 do 2011 s civilno iniciativo in skrbnim načrtovanjem spremenili v rekreacijsko območje. Revitalizacije takšnega tipa so izjemno zahtevne in zahtevajo sodelovanje različnih strok. S skrbnim načrtovanjem je zato območje "Hlač in kmetij" kot se v prevodu imenuje Broekpolder tako vizualno prijetno kakor tudi primerno za različne rekreacijske in druge dejavnosti.

Ključne besede: sanacija odlagališča, revitalizacija, rekreacijsko območje, Vlaardingen

Nature, which it never was: a recreational area as a landfill remediation of harbour sludge

Abstract

In the US and in Europe has become a habit that degraded areas like landfills are transformed to recreational areas. Revitalisation of degraded area relates primarily to the improvement of the status quo and counteracts the negative consequences that exceed the allowable minimum thresholds and are mainly result of abandoned activities. Landfills have negative impact on immediate surroundings, but it can be mitigated by rehabilitation, in some cases, eliminated. In addition to improving the situation of micro-location is an important physical renovation and transformation of space. Normally the degraded areas are envisaged in the program at the planning stage of the primary activities of disposal. The new programmes has to be planned for the process of rehabilitation. This was also the case in the area of the landfill of harbour sludge in the town Vlaardingen where the dredging of the port bottom in the early 60. 20th century dumps toxic harbour sludge. The area of approximately 300 hectares big and was left to progressive overgrowth. In the years 2006 to 2011 civil initiative and careful planning lead to transformation into a recreational area. Revitalization of such type is extremely demanding and requires input from various disciplines. With careful planning is therefore an area of "trousers and farms" as translated appoint Broekpolder visually pleasant and dedicated for a variety of recreational and other activities.

Key words: landfill, revitalization, recreation area, Vlaardingen

Spremembe na cvetličarskem trgu v Sloveniji

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Izveček

Globalizacija gospodarske krize se odraža tudi v spremembah na cvetličarskem trgu v Sloveniji. Verige trgovskih podjetij se širijo preko meja in s tem tudi konkurenca na tržišču. Potrošniki sledijo spremembam, ravno tako se njihove potrebe spreminjajo glede na njihovo kupno moč. Okrasne rastline sodijo v kategorijo prestižnega blaga, brez katerega lahko potrošniki preživijo. Zato je za cvetličarsko stroko zelo pomembno sistematično spremljanje sprememb potreb potrošnikov. Tako od leta 2011 z anketno metodo sistematično spremljamo trende teh sprememb. Tako smo opazili, da so potrošniki leta 2012 raje kot v cvetličarnah (le 26%), kupovali okrasne rastline in aranžmaje v večjih trgovskih centrih. Ko so ugotovili kakšna je kakovost prodajnega blaga in storitev, se je odstotek kupcev, ki kupujejo v cvetličarnah leta 2015 dvignil na 45, 81% (raziskava). Rezultati raziskave so potrdili, da je za razvoj cvetličarn pomembno permanentno izobraževanje in kakovost storitev.

Ključne besede: cvetličarstvo, potrebe potrošnikov, anketna metoda, spremembe trga

Changes on the florist market in Slovenia

Abstract

Globalisation of the economic crisis is being expressed through changes on the florist market in Slovenia. Chains of marketing companies are expanding beyond borders thus increasing competition on the market. Consumers are following the changes on the market as their demands change as well, depending on their buying potential. Decorative plants are in the category of prestige goods as they are not of vital importance for consumers. This is the reason why systematic monitoring of consumer's demands changes are very important in the field of floristics. We have been monitoring these changes since 2011 by using surveys. We noticed consumers were more likely to buy decorative plants in bigger shopping centres than in flower shops (only 26%). When buyers realised the quality of the produce and service, the percentage of florist shop customers rose to 45,81% (research). Findings of the research show that permanent education and service quality are needed for development of florist shops.

Key words: floristics, consumer's demands, survey method, market changes

Podjetniški pristop za turistični razvoj v lokalnih skupnostih

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Izvleček

Po statističnih podatkih turizem v Sloveniji predstavlja eno vodilnih gospodarskih panog. V letu 2015 smo s turistično dejavnostjo ustvarili skoraj 13 odstotkov slovenskega bruto družbenega produkta, s turizmom pa je bilo posredno in neposredno povezanih več kot 150.000 delovnih mest. V istem letu smo v Sloveniji zabeležili 10,8 % prihodov turistov več in 7,2 % prenočitev več kot v letu 2014. Posledica večjega porasta prihodov turistov v primerjavi s porastom nočitev je krajšanje povprečne dobe bivanja turista, ki je lani znašala 2,6 dni, leto poprej pa 2,7 dni.

Krajšanje povprečne dobe bivanja turista je žal rak rana slovenskega turizma. Z ustanavljanjem regionalnih destinacijskih organizacij v zadnjih nekaj letih so posamezne lokalne skupnosti znotraj regije pričakovale, da bodo iz leta v leto postopno podaljševale povprečno dobo bivanja turista. Smeli načrti se niso uresničili. In kaj so vzroki za to?

Turisti, ki si jih želimo, so večinoma zahtevni in ozaveščeni ter iščejo trajnostno naravnano turistično ponudbo destinacije. Z nastankom lokalne samouprave so občine, kar 212 jih imamo, dobile pomembno in močno vlogo pri načrtovanju in razvoju turizma. Imajo neposreden vpliv na oblikovanje turistične ponudbe v mikro destinaciji. Ugotavljamo, da vsi potenciali, ki jih turizem v lokalnih skupnostih ponuja, niso izkoriščeni, zato razvoja turizma v Sloveniji ni mogoče primerjati s tempom razvoja turizma sosednjih držav kot je npr. Avstrija. Turizem ostaja velika priložnost, ki ima čvrste temelje lahko zgolj v lokalni skupnosti.

Cilj raziskave je ugotoviti dejavnike turističnega razvoja v lokalnih skupnostih. Z anketnim vprašalnikom smo ugotovili statistične ocene dejavnikov, z regresijsko analizo pa potrdili hipoteze turistične ponudbe in politike v lokalnih skupnostih.

Pomembni dejavniki turističnega razvoja so: trajnostna turistična ponudba, skupna turistična blagovna znamka, sodobne komunikacijske poti, kakovost turistične ponudbe in upravljanje destinacije.

Ključne besede: turizem, lokalna skupnost, turistična blagovna znamka, družbena omrežja, kakovost, upravljanje destinacije, statistična analiza, regresijska analiza

Entrepreneurship Approach to the Development of Tourism in Local Communities

Abstract

According to statistics, tourism constitutes one of the major economic sectors in Slovenia. In 2015, tourist activities have created nearly 13 % of the Slovenian GDP and more than 150,000 jobs are directly or indirectly related to tourism. In that same year, the number of tourists visiting Slovenia has increased by 10.8 % and there have been 7.2 % more overnight stays than in 2014. A consequence of this increase in visits is a shorter average stay of a tourist, which amounted to 2.6 days last year and 2.7 days in the year before that.

Such shortening of the average tourist stay is unfortunately a festering wound of the Slovenian tourism. By establishing regional organizations to promote tourist destinations in recent years, some local communities have expected to gradually increase the average number of days in which tourists stay in their region. These bold plans have not been realized. So what are the reasons for this?

The tourists that are desired to stay longer are in most cases demanding and well-informed customers looking for tourist amenities of a destination which are oriented towards sustainability.

After local self-government has been introduced, the 212 municipalities in Slovenia have acquired an important and strong role in planning and developing tourism. They have a direct influence on designing tourism products in the destination. We have found that the full potential of tourism in local communities has not been tapped yet. Therefore, the development of tourism in Slovenia cannot be compared to the pace of such development in the neighbouring countries such as Austria. Tourism remains a great opportunity, but it can only be built on solid foundations within a local community. This study is aimed at identifying the factors of tourism development in local communities. Using a survey questionnaire, we have established statistical estimates of these factors. Regression analysis has been applied to confirm our hypotheses regarding tourism services and policies in local communities. Important factors of tourism development are: sustainable tourist programmes, common tourism trademark, modern communication pathways, quality of tourism services and management of a destination.

Key words: tourism, local community, tourism trademark, social networks, quality of tourism services, management of destinations, statistical analysis, regression analysis

From freshwater to marine aquaponic: new opportunities for marine fish species production

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Abstract

Due to the increasing world population, by 2050 food production should be increased of about 70% to 100%. Tanks to the lowest “carbon footprint”, aquaculture seems to be the most sustainable system for producing food (protein) of animal origin. Despite that, progress can be done for further improving aquaculture sustainability through the “aquaponic” system (IAS).

A IAS is based on the bacteria nitrogen cycle which convert fish waste (faeces and uneaten feed) into nitrite and nitrate, this latter absorbed by plants grown in the hydroponic section of the aquaponic system; as a results, water is “depurated” and recycled into the fish tanks.

Advantages of this system are the high productivity, the reduced water requirement, the neglectable waste production, the reduced plant disease incidence and pesticides utilization, the modularity of the system which allow its uses for a wide range of purposes (urban agriculture, people resilience in developing countries, marginal land exploitation, etc.); for a contrary, disadvantages are the relevant initial investments, the required high education level of the employees, the “sensitivity” of the systems and some minor others.

A relevant future challenge for scientists is to develop “marine aquaponic system” for producing more valuable fish and crops, interesting also for the EU and ‘developed countries’ market.

Key words: Aquaculture, aquaponic, fish production, food security, sustainability

Primerjava nakupa mlečnih izdelkov v treh slovenskih mestih

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Izvelek

V raziskavi smo ugotavljali, ali anketirani največkrat kupujejo mlečne izdelke iz svoje regije (iz njihovih mlekarn). Anketo smo opravili v Celju, Mariboru in Ljubljani. Anketiranih je bilo 300 naključno izbranih oseb, v vsakem mestu 100 ljudi. Največ anketirancev (43,7 %) je odgovorilo, da kupujejo mlečne izdelke enkrat na teden. 28,3 % jih največkrat kupi mlečne izdelke v trgovini Mercator. Sledijo trgovina Tuš (27,3 %), Spar (27,3 %), Lidl (12,4 %) in Hofer (4,7 %). Iz analize podatkov smo ugotovili, da vprašani mleko najpogosteje kupujejo iz Ljubljanskih mlekarn (43,6 %). Sledita Celjska mlekarna (Mlekarna Celeia) z 28,0 % in Pomurska mlekarna (20,8 %). Vprašani iz Celja (55,0 %), največkrat kupijo mleko iz Celjskih mlekarn, v Mariboru (43,0 %) iz Pomurskih mlekarn, v Ljubljani pa iz Ljubljanskih mlekarn (70,0 %). Tudi pri nakupu jogurtov, skute in sira so vprašani v največjem deležu dali prednost izdelkom iz bližnjih mlekarn. V Celju z 47,0 %, Mariboru (51,0 %) in Ljubljani (58,0 %), je bila kakovost mlečnih izdelkov najbolj pomembna pri odločitvi za nakup. Velik vpliv ima tudi cena. Embalaža ima manjši vpliv na odločitev pri nakupu. Dejstvo, da Mlekarna Celeia predeluje izključno slovensko mleko, je poznalo le 47,7 % vseh vprašanih v naši raziskavi. 58,0 % vprašanih daje pri nakupu prednost mleku in mlečnim izdelkom lokalnih proizvajalcev.

Ključne besede: mlekarnе, mlečni izdelki, trženje, regija

Comparison of Purchase Patterns of Dairy Products in Three Slovenian Cities

Abstract

In this study we established whether the respondents most often buy milk products from their region (from their dairies). The survey was carried out in Celje, Maribor and Ljubljana. 300 randomly selected people were surveyed, one hundred in each city. Most respondents (43,7%) responded that they buy dairy products once a week. 28,3 % of them usually buy dairy products in the shop Mercator, which is followed by the shops Tuš (27,3 %), Spar (27,3 %), Lidl (12,4 %) and Hofer (4,7 %). From the data analysis we found out that the respondents most often buy milk from the Ljubljana dairies (43,6 %), followed by The dairy Celeia with 28,0 % and The dairy Pomurje (20,8 %). The respondents from Celje (55,0 %), most often buy milk from The Celje dairies, in Maribor (43,0 %) from The Prekmurje dairies, and in Ljubljana from The Ljubljana dairies (70,0 %). Even when buying yogurts, curd cheese and cheese the respondents gave priority to the products of the nearby dairies. In Celje with 47,0 %, in Maribor (51,0 %) and in Ljubljana (58,0 %) the quality of dairy products was the most important at the purchasing decision. The large impact bears the price. The packaging has a smaller impact on buying decisions. Of the fact that The dairy Celeia processes exclusively Slovenian milk are aware only 47,7 % of all respondents in our survey. 58,0 % of respondents gave priority to local products when purchasing milk and dairy products.

Key words: dairies, dairy products, marketing, region

Terjak kot funkcionalno živilo

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Izvleček

Črni bezeg (*Sambucus nigra*) se v Evropi že stoletja uporablja kot domače zdravilo za lajšanje prehladnih in virusnih obolenj ter kot pomoč pri okrevanju po bolezni. Tudi v nekaterih delih Slovenije se na tradicionalen način še vedno izdeluje domače zdravilo iz jagod črnega bezga, imenovano terjak. Načini izdelave terjaka in njegova kakovost se pri posameznih izdelovalcih razlikujejo, kar je bilo ugotovljeno na podlagi kemijske analize vzorcev terjaka. Zdravstvene trditve o domačih pripravkih iz črnega bezga niso podprte s kliničnimi raziskavami, a so spodbudile številne raziskave o učinkovanju določenih sestavin plodov črnega bezga v človekovem organizmu. V prispevku je podan pregled najpomembnejših raziskav. Za promocijo izdelka in njegovo ponudbo na trgu je potrebno poenotiti kakovost terjaka in definirati njegove funkcionalne sestavine.

Ključne besede: antociani, črni bezeg, domača zdravila, kemijska sestava, pepel, terjak

Terjak as Functional Food

Abstract

Black elderberry (*Sambucus nigra*) has been used in Europe as a home remedy for colds, virus diseases and as help for recovering from diseases for centuries. Making a home remedy from berries of black elderberry, called terjak, is still common in some parts of Slovenia. Methods of manufacturing terjak and its quality differ among individual manufacturers, which is based on chemical analysis of terjak samples. Health claims of home remedies from black elderberry are not supported by clinical researches, but have stimulated numerous studies about the effects of certain components in elderberries in the human organism. Overview of the most important studies is given in this paper. To promote the product and its offer on the market it is necessary to unify the quality of terjak and define its functional components.

Key words: anthocyanins, black elderberry, home remedies, chemical composition, ash, terjak

Ugotavljanje potvorbe kranjskih klobas z dodatkom fosfatov

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Izvleček

V kranjsko klobaso, kmetijski izdelek zaščiten z geografsko oznako (ZGO), dodajanje fosfatov ni dovoljeno. Namen prispevka je pokazati, da nekateri proizvajalci potvarjajo te mesnine s tem, da med izdelavo dodajajo manjše količine fosfatnega preparata z namenom boljše vezave večjih količin dodane vode, manjših izgub med toplotno obdelavo in večjega ekonomskega učinka. Možnost te potvorbe smo dokazali z določanjem skupnih (naravno prisotnih in dodanih) fosfatov izraženih kot P_2O_5 v eksperimentalnih skupinah kranjskih klobas, ki smo jim med izdelavo dodali različne količine (brez, 0,1 g/kg, 0,2 g/kg, 0,3 g/kg in 0,4 g/kg) fosfatnega preparata, ter v kranjskih klobasah treh proizvajalcev, katerih klobase smo šestkrat vzorčili v trgovinah. V vseh vzorcih smo določili osnovno kemijsko sestavo, vrednost pH, vsebnost soli in fosfatov ter instrumentalno izmerili (*Texture Profile Analysis*) in senzorično ocenili teksturo (kvantitativna deskriptivna analiza). Na splošno se vsi parametri kranjskih klobas spremenijo že z dodatkom 0,1 g fosfatnega preparata/kg, ker uporaba alkalnih fosfatov poveča vrednost pH in sposobnost beljakovin za vezanje vode. Ob tem dodatku so preskuševalci senzorično zaznali večjo jedrost (slabšo sočnost pa pri dodatku nad 0,2 g/kg), z instrumentalnimi meritvami smo zaznali spremenjeno teksturo, in sicer bistveno povečano trdoto, prožnost, gumijavost, žvečljivost in elastičnost, s kemijskimi analizami pa dokazali sum na dodan fosfatni preparat v kranjskih klobasah ZGO dveh proizvajalcev.

Ključne besede: Kranjska klobasa, fosfati, potvorbe

Determination of Kranjska klobasa falsification by addition of phosphates

Abstract

In production of Kranjska klobasa protected by geographical indication status (ZGO) the addition of phosphate is not allowed. The aim of this study was to prove that some producers modified (falsificated) those products during the production with addition of small quantities of phosphate preparation/phosphate salts with intention of improving the water binding capacity, reducing losses during heat treatment and increasing of economic impact. The possibility of such falsifications were proved by determination of the total (naturally occurring and added) phosphates expressed as P_2O_5 in the experimental groups of Kranjska sausage, which was produced by addition of different amounts of phosphate preparation (without, 0.1 g/kg, 0.2 g/kg, 0.3 g/kg, and 0.4 g/kg), as well as in Kranjska klobasa PGI of three producers whose sausages were sampled six times in the shops. In all the samples were determined the basic chemical composition, pH values, contents of salt and phosphates, as well as were instrumentally measured (*Texture Profile Analysis*) and sensory evaluated texture (quantitative descriptive analysis). In general, all parameters of Kranjska sausage are changed by adding phosphate preparation (in amount of 0.1 g/kg or more), whereas the use of alkaline phosphate increased the pH value and the ability of proteins to bind water.

When phosphate preparation was added in this amount tester were perceived greater gumminess (poor juiciness at addition of 0.2 g/kg or more), altered texture were detected by instrumental measurement, significantly increased hardness, flexibility, gumminess, chewiness and elasticity; as well as by analysing the content of total phosphate and pH values suspicion of added phosphate preparation in Kranjska sausage ZGO of two producers were proved.

Key words: Kranjska klobasa, phosphate, falsification

Ekonomska analiza pridelave krompirja v Sloveniji

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Izvleček

Po osamosvojitvi Slovenije se je s spremembami družbenega in gospodarskega sistema zmanjšala pridelava krompirja v Sloveniji. Zmanjšale so se obdelovalne površine in količine pridelanega krompirja. Z vstopom Slovenije v Evropsko unijo se je povečal uvoz krompirja. Analizirali smo pridelavo, uvoz in razpoložljivost krompirja v Sloveniji ter skupno uporabo, izvoz in domačo porabo krompirja v Sloveniji.

S korelacijsko analizo smo ugotovili, da je med cenami jedilnega krompirja iz lastne pridelave in cenami prehranskih izdelkov iz žit (moka, kruh) in nadomestki beli riž močna povezanost. Med cenami jedilnega krompirja iz lastne pridelave in cenami pšenice, koruze in drugih žit, količinami jedilnega krompirja, količinami žit (pšenica, koruza), količinami perutninskega mesa (kokoši, piščanci, purani) je močna povezanost v obratno smer.

Z metodo multiplo regresijske analize smo ocenili cenovno funkcijo cene krompirja. Ugotovili smo, da je cena jedilnega krompirja iz lastne pridelave pozitivno povezana s cenami polnozrnatega kruha, s cenami testenin in s cenami riža. Cena jedilnega krompirja iz lastne pridelave je negativno povezana s ceno pšenice, s ceno koruze, s ceno drugih žit, s ceno pšenične moke, ceno koruzne moke, s količinami jedilnega krompirja iz lastne pridelave, količinami mesa kokoši in piščancev, količinami pšenice, količine koruze in ceno mesa puranov.

Ključne besede: krompir, hektarski donos, proizvodnja, prodaja, statistična analiza, korelacijska analiza, regresijska analiza, Slovenija

Economic analysis of production of potato in Slovenia

Abstract

After gaining independence, the changes in social and economic system brought about the decrease in the production of potatoes in Slovenia. The cultivated areas and the quantity of potato crops have decreased. After the entry of Slovenia into the EU the import of potatoes has increased. We have analysed the production, imports and availability of potatoes in Slovenia and the overall consumption, exports and domestic consumption of potatoes in Slovenia. Using the correlation analysis, we found a strong connection between the prices of ware potatoes from own production and the prices of food products from cereals (flour, bread) and substitutes (white rice). A strong inverse proportional relationship exists between the prices of ware potatoes from own production and the prices of wheat, maize and other cereals, the quantities of ware potatoes, the quantities of cereals (wheat, maize) and the quantities of poultry meat (hens, chickens, turkeys). Using the multiple regression analysis method we assessed the pricing function of potato price. We have found that the price of ware potatoes from own production is positively related to the prices of wholegrain bread, the prices of pasta and the prices of rice.

The price of ware potatoes from own production is negatively related to the price of wheat, the price of maize, the prices of other cereals, the price of wheat flour, the price of maize flour, the quantities of ware potatoes from own production, the quantities of hen and chicken meat, the quantities of wheat, the quantities of maize and the price of turkey meat.

Key words: potatoes, yield per hectare, production, sales, statistical analysis, correlation analysis, regression analysis, Slovenia

Mnenje kupcev o svežem sadju in zelenjavi v Tuš centru Resman

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Izvelek

Tuš Center Resman (TCR) je sodobno nakupovalno središče v Naklem. Namen raziskave je bil z anketo ugotoviti mnenje kupcev o ponudbi svežega sadja in zelenjave v TCR ter na podlagi tega oblikovati predloge za izboljšanje ponudbe v prihodnje. Anketni vprašalnik, ki je vseboval 20 vprašanj, je bil kupcem v TCR dan v izpolnjevanje med 15. julijem ter 15. avgustom 2015. Anketo je izpolnilo 120 kupcev. Rezultati ankete so pokazali, da so stranke večinoma zadovoljne s ponudbo sadja in zelenjave v TCR. Stranke so bile večinoma zadovoljne (1) s postavitvijo in načinom prodaje sadja in zelenjave v trgovini, (2) ceno in akcijskimi ponudbami izdelkov, (3) z oznakami porekla, (4) s pestrostjo ponudbe ter (5) svežino izdelkov. Večina anketiranih je menila, da v TCR ponudbe sadja in zelenjave ni potrebno spreminjati. Kljub temu je bilo predlagano, da bi ponudbo lahko izboljšali (1) z razširitvijo ponudbe domačega ali ekološko pridelanega sadja in zelenjave, (2) izboljšano vidljivostjo podatkov o izdelkih (poreklo, cena ipd.) ter (3) uvedbo tehtnice za samostojno tehtanje izdelkov.

Ključne besede: Tuš Center Resman, sadje, zelenjava, mnenje kupcev

Customers' opinion of fresh fruit and vegetables in the Tuš Centre Resman

Abstract

Tuš Centre Resman (TCR) is a modern shopping centre in Naklo. The objective of the research was to examine the customers' satisfaction about fruit and vegetables in the shopping centre TCR and to create suggestions for improvement in the future. A 20-questions survey was carried out in the TCR from July 15 to August 15 2015. 120 customers answered the questions. The survey showed that most shoppers are happy with the whole range of fruit and vegetables in the TCR. The shoppers are mostly happy (1) with the location and the sales way of fruit and vegetables, (2) with prices and special offer prices, (3) with designation of origin, (4) with product diversity and (5) with freshness. The majority of surveyed said, that in the TCR there is no need to change the fruit and vegetables offer. Anyway, I established that we could improve our offer (1) with diversification of home-grown or organic fruits and vegetables, (2) with improved visibility of product information (origin, price etc.) and (3) with self-service scale.

Key words: Tuš Centre Resman, fruit, vegetables, customer's opinion

(Ne)zdrava hrana in prehranske navade učencev in dijakov

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Izvleček

Zdrave prehranske navade pomenijo dobro počutje. Prej kot jih usvojimo, lažje se spopadamo z vsakdanjim stresom in obveznostmi. V članku so predstavljene bolezni, ki so posledica slabega prehranjevalnega vedenja in včasih tudi ignoranca načel zdravega prehranjevanja zaradi vpliva vrstnikov in prehranjevalno vedenje otrok in mladostnikov. Za namen raziskave je bil izdelan anketni vprašalnik, ki je spraševal po prehranskih navadah osnovnošolcev in srednješolcev. Raziskava, opravljena pri 62 osnovnošolcih in 57 srednješolcih je pokazala pomembne razlike v prehranskih navadah med obema skupinama, v prid učencem, ki imajo šolsko malico in načrtovane obroke, za razliko od dijakov, ki jedo malico glede na trenutno počutje in si želijo sami izbirati kaj bodo jedli. Raziskava, kot tudi prej že literatura kaže, da tako učenci kot dijaki kljub opozorilom zdravstvenih organizacij še vedno uživajo premalo zelenjave.

Ključne besede: prehransko vedenje, bolezni, zdrava prehrana

(Un)healthy food and eating habits of pupils and students

Abstract

Healthy eating habits mean welfare. Sooner as we get to know healthy habits easier it is to cope with everyday stress and obligations. The article presents diseases that are caused by bad eating behaviour and sometimes ignorance of the principles of a healthy diet because of the influence of peers and eating behaviour of children and adolescents. For the purpose of the research a questionnaire, which asked the dietary habits of primary and secondary school, was designed. A survey conducted in 62 students of primary and 57 students of secondary schools showed significant differences in dietary habits between the two groups in favour of primary students. Secondary students prefer eating what they wish at the moment and not what is planned. They like to decide for themselves. The survey, as well as previous literature indicates that both students and pupils despite warnings from health organizations still do not eat enough vegetables.

Key words: eating behaviour, diseases, healthy food

Prehranske navade zaposlenih v Biotehniškem centru Naklo

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Izvleček

Namen raziskave je bil ugotoviti prehranske navade zaposlenih v Biotehniškem centru Naklo (BC Naklo). Vzorec predstavljajo zaposleni v BC Naklo (89 ljudi). Anketa je vsebovala 32 vprašanj. Podatki so bili obdelani v programu Microsoft Excel. Iz podatkov o telesni višini in telesni masi zaposlenih je bil izračunan indeks telesne mase. Pokazalo se je, da prehrana zaposlenih povsem ne izpolnjuje značilnosti zdrave prehrane. Nekateri (občasno) izpuščajo zajtrk, zaužijejo premalo dnevnih obrokov, premalo sadja in zelenjave. Zaposleni v BC Naklo se zavedajo pomena zadostnega vnosa tekočine v organizem, saj jih večina popije od 1,5 do 2 litra tekočine na dan.

Mislím, da čisto vsak posameznik svoje prehranske navade lahko (vsaj malo) izboljša.

Ključne besede: prehranske navade, zaposleni, Biotehniški center Naklo, anketa

Nutritional Habits of Employees in Biotechnical Centre Naklo

Abstract

The purpose of the dietary was to research habits of employees in Biotechnical Centre Naklo (BC Naklo). So, the pattern is represented by employees in BC Naklo (89 people). The poll was composed of 32 questions. The data were processed with Microsoft Excel. The data on the height and weight of employees was used to calculate the body mass index. It turned out that the employees' diet did not completely meet the characteristics of a healthy diet. Sometimes some of them skip breakfast and the number of their daily meals might be too small. Furthermore, they do not eat enough vegetables and fruit. Employees in BC Naklo are aware of the importance of sufficient fluid intake in the organism as most of them drink do drink 1.5 to 2 litres of fluid per day.

I think that each and every individual can (at least slightly) improve his/her dietary habits.

Key words: nutritional habits, employees, Biotechnical Centre Naklo, poll

Zeleni kašasti sokovi

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Izveleček

V svojem prispevku bom predstavila zelene kašaste sokove. Sama sem se prepričala v njihove pozitivne učinke na zdravje, zato bi rada svoje znanje in izkušnje delila tudi z vami. Zelene kašaste sokove je odkrila ruska zdravnica Viktorija Boutenko. Potem ko se je s svojo družino preselila v Združene države Amerike, so zaradi preobilja hrane, ki je bila predvsem nezdrava, vsi zboleli. Najprej je poizkusila s presno hrano, a le-ta ni prinesla dolgotrajnih pozitivnih učinkov, kot jih je pričakovala. Ugotovila je, da imajo šimpanzi zelo podoben genski zapis kot človek in da jih kljub temu ne pestijo bolezni, ki pestijo človeško raso. Ugotovila je, da uživajo predvsem zeleno hrano, torej polno klorofila. Trudila se je, da bi tudi zase in za svojo družino pripravila podobne obroke, vendar takšni obroki niso bili najbolj okusni. Ko je zelenju dodala banano, je postal obrok užiten. Ugotovila je, da mora zeleno utekočiniti, da ima boljši učinek. Izbrala je mešalnik z veliko vrtljaji, ki razbije trde celulozne stene rastlinskih celic.

Za uporabo so najboljše ekološko pridelane rastline, ki pa jih je težko kupiti. Zato je najbolje, da jih pridelujemo sami.

S pitjem zelenih kašastih sokov si nedvomno izboljšamo zdravje. To sem preizkusila na sebi, saj sem bila pod zdravniškim nadzorom. Krvna slika se je izjemno izboljšala, kar pa je osnova za delovanje celega telesa. Pitje zelenih kašastih sokov priporočam prav vsakomur za preprečevanje bolezni in ohranjanje zdravja. V kolikor bodo zeleni kašasti sokovi postali vsakdanji obrok čim več osveščenih ljudi, so lahko dobra poslovna priložnost za gostince.

Ključne besede: zeleni kašasti sokovi, zdravje, zeleno, poslovna priložnost

Green smoothies

Abstract

In my contribution, I will present green smoothies. I am convinced about positive effects on health and that is why I would like to share my knowledge and experience with you. Green smoothies were discovered by Russian doctor Viktorija Boutenko. After she moved to United States of America, the whole family, got ill, mainly because of too much food and more importantly, unhealthy food. Firstly she tried with raw food, but it didn't have long lasting and just positive effects. She found out, that chimpanzees have very similar genes as humans, but don't have the same diseases as human race. She found out, that they eat mainly green food, which is full of chlorophyll. She tried to prepare similar meals to herself and her family. When she added a banana to the greens, the meals became eatable. She found out, that she has to liquefy the greens, to have better effect. She chose a high-speed blender, which brakes hard cellulose walls of vegetable cells.

The best to use are ecologically grown plants, which are hard to buy. That is why, it is best to grow them you self.

With drinking green smoothies, I definitely improved my health. I can say that about myself, because I was under doctors' supervision. Blood count improved extremely and blood count is the basics for the entire body functioning. I recommend drinking of green smoothies to everyone for preventing sickness and improving health. If green smoothies will become everyday meal for many conscious people, they can also become good business opportunity for restaurants or pubs.

Key words: green smoothies, health, greens, business opportunity

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