DESIGN IMPACT ON BOX-TYPE SOLAR COOKER THERMAL PERFORMANCE

Šmejkalová I., Krepl V., Křečan L., Quiroga Naranjo M.F.

Abstract: This paper evaluates the impact of shape and glazing material on the thermal performance of single reflector box-type solar cooker. Two box-type solar cookers were constructed and simultaneously tested under Czech Republic weather conditions during summer and autumn 2007. Temperature measurements were taken at intervals of 5 minutes with K-type thermocouples connected to a multi-channel digital data-logger. The standardized cooking power P_s (W) was calculated according to ASAE S580 standard and normalized to a standard insolation of 700 W/m^2. The tests demonstrated significant impact of shape and relatively low impact of glazing material on the solar cooker thermal performance.

Key words: design impact on box-type solar cooker thermal performance

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NATURAL RUBBER PRODUCTION AND TRADE IN THE AGE OF SYNTHETIC POLYMERS

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Abstract: Natural and synthetic rubber are one of the most important technical commodities at present. The development of automobile and tyre industry have great importance for rubber production and trade expansion. The bulk (over 70 per cent) of dry natural rubber is used in tyres, especially those which call for high performance, notably aircraft and truck tyres. It is the ability of natural rubber to be able to dissipate the heat generated by the use of such tyres which contributes so much to air and road safety.

Key words: natural rubber, synthetic rubber, production, trade, tyre industry

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ANALYSIS ON DEVELOPMENT OF THE AGRICULTURAL TECHNOLOGIES AND MECHANIZATION IN BIE, ANGOLA

Ciboch H., Havrland B.

Abstract: Province Bié is a typically agricultural region, with widely suitable condition for any kind of crop production, where the majority of population depends directly on the agricultural production. The productivity and the income for farmers are unsatisfactory due to low level of agricultural mechanization. The efficiency of agricultural production is claused by utilization as well as implementation of appropriate technologies. The analysis determines the proportion and representation of particular technology levels such as: hand-tools, animal-draught and mechanization technology on the agricultural land utilization as well as the figures of essential tools, implements and mechanized equipments referred to areas of the province. Demonstrable description of facilities in the province is groundwork for subsequent implementation of further technologies which has to result from current situation and thereby encourage sustainable development.

Key words: agricultural technologies, hand-tools, animal-draught, agricultural mechanization

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ANALYSIS OF THE SOCIAL ENVIRONMENT OF RURAL POPULATION IN THE BIE PROVINCE, ANGOLA

Mazancová J.

Abstract: Angola is nowadays in transition process. Already five peaceful years have brought up many changes associated with leaving emergency status to more development and sustainable approach to all actions. The long-lasting civil war significantly influenced all spheres of daily life at all levels. Regions most affected by long and heavy fights together with the enormous forced migration of population and troops of soldiers are slowly recuperating from economic and social destruction. Agriculture as the main sector of people's living has been deeply influenced by the war consequences. Casualties, disability, loss of schooling, savings, livestock, seed and tools have lead to the current unsatisfactory situation of agriculture. Even though the climate is generally favourable for crop cultivation the soils tend to be of low fertility. Agriculture in the Bie Province is still dependent on the external assistance, especially in terms of knowledge, skills and agricultural inputs supply. 70% of population (MINADER, 2006) is involved in agriculture or related activities. Food insecurity, a low level of health care, HIV/AIDS prevalence and limited agricultural possibilities increase people's vulnerability. All abovementioned factors influence the social environment and livelihood strategies of rural population in the Bie Province.

Key words: social environment, Angola, Bie Province, rural population

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DRYING OF CHILLI PEPPERS USING A DOUBLE-PASS SOLAR DRYER IN CENTRAL VIETNAM

Ehl P., Banout J.

Abstract: Agriculture products are one of most important financial resources for people near Hue city in central Vietnam, but the income for farmers is inadequate due to the lack of suitable processing method. The objective of this study was to construct and install an indirect type solar energy dryer powered by PV module and examine its performance for local climatic conditions. The solar dryer was designed as a medium-scale drying unit adaptable to local farmers needs. The dryer was tested on drying 20 kg of fresh Chilli peppers. The mean solar radiation values, ambient air temperature and relative air humidity over all tests were 567 W/m^2, 32°C and 60%, respectively. The tests have shown the possible use of this design of dryer and better sensory properties of the products dried in this solar dryer compared to open to sun drying.

Key words: solar dryer; solar radiation; tropical crops; chilli pepper; central Vietnam

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MICROFINANCE: LET THEM HELP THEMSELVES

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Abstract: During the past 30 years, microfinance has been proven to be a powerful poverty alleviation tool. It is one of the only development tools with the potential to be financially self-sustaining in providing micro-credit as well as other financial services and advisory. However, even after more than 30 years of industry effort, 80 percent of the working poor (more than 400 million families all over the world) are still without access to microfinance services – to any financial services. At current growth rates, the gap will not be closed for decades. The microfinance is not only the flexible strategy in fight against global poverty in general but also way to betterment of socio-economic situation in (e.g. women status) in developing countries. To fulfil these aims the transformation proceeds in current 6–8 years. It accelerates the transition from non-formal structure of micro-financial institutions to formal. All these changes should be supported and are realizable only by governmental co-operation and increase of economy in target areas.

Key words: microfinance institutions, microfinance, transformation, poverty, socio-economic aspects

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AGRICULTURAL MARKETING INFORMATION SYSTEM (MIS)

Muzikant M., Havrland B.

Abstract: The present paper is on the Agricultural Marketing Information System (MIS) development and establishment in the Republic of Moldova. The system has been formulated and programmed during the year 2006 as a part of the project "Support to Rural Development – Increasing Qualifications of Management and Advisory Capacities" implemented by the Czech University of Life Sciences in Prague. The MIS is destined to play a very important role as an operator offering comprehensive access to the information on agricultural products, marketing services, business environment and trade components. According to the structure and function, the MIS operates as a facilitator system with internal databases. The program is designed on the Microsoft Windows Access D-base. The MIS makes possible for potential clients to download template forms for posting online their supply or demand through the system administrator. The system is already in operation, more than 2000 user have visited the Agricultural Marketing Information System.

Key words: Agricultural Marketing Information System (MIS), Republic of Moldova, rural development

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STARTING OF FIELD-TESTS OF ENERGY CROP GROWING IN MOLDAVIA

Ivanova T.

Abstract: On the basis of the Government Resolution of the Czech Republic No. 302 of 31 March 2004 Moldavia has become one of the priority country supported by the Czech development funding. In terms of energy supply Moldavia does not dispose of any natural energy sources and is completely dependent on oil, natural gas and black coal supply from Russia. As an appropriate alternative it seems to be the utilization of renewable energy sources. Moldavia has a significant hydro-power potential; however, not used nowadays. With respect to the fact that Moldavia is traditionally agricultural country biomass utilization is in a high focus. Within the development project "Support Development of Study Programmes at the Agriculture University in Kishinev and Coordination of its Education System with EU Standards" there were established experimental fields with energy crops in order to monitor the growing process. The experiment covers fast-growing trees as well as energetic grasses. On the basis of the results the most suitable energy crop will be chosen for further implementation.

Key words: field-tests, Moldavia, alternative energy sources, biomass utilization, energy crops, fast-growing trees

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ANALYSIS OF POTENTIAL OF THE KYRGYZ TRADE WITH DEVELOPED COUNTRIES

Kandakov A., Kabát L., Havrland B.

Abstract: Kyrgyzstan is one of the poorest countries in the Central Asia, but in comparison with other post-soviet republics the level of democracy is one of the highest. A foreign trade is and must be a top priority for Kyrgyzstan. The objective of this study is an analysis of the potential of the Kyrgyz trade with developed countries. At the present time Kyrgyzstan maintains trade relations with developed countries, but the foreign trade potential of this central Asian country is much bigger. By means of monitoring, data collection, statistical data study and consequential analysis of obtained information about present situation in the field of Kyrgyz foreign trade a new area for production of (not only) agricultural products and materials will be also examined. Issyk-Kul province and Batken province are concerned. These products and materials could then be exported to developed countries via new or existing business partners.

Key words: foreign trade; agricultural products; analysis; developed countries; Kyrgyzstan

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TEST CLEARING OF DRINKING AND IRRIGATIONAL WATERS IN THE ARAL SEA REGION BY MEANS OF THE CHOSEN TYPES OF THE WATER TREATMENT EQUIPMENT

Surková T.

Abstract: Almost all states of the Middle Asia faced with a deficiency of fresh water. The problem of the fresh water and especially, drinking water has been a major concern in the Aral region, where desiccation of the Aral Sea has become an ecological catastrophe. Deficiency of the quality drinking water is due to the fact of inaccessibility and the poor quality of water from the natural sources, but also due to the poor water treatment technologies in the major cities of the region. Within the framework of the project "Improvement of the quality of drinking and irrigation water in the Aral sea region by cleaning equipment and sorbents produced in the Czech Republic" testing of various types of water treatment technologies has been conducted in order to find the most advantageous method of water treatment, taking into account the quality of the water but also considering the maintenance costs of the equipment. In order to take into account the various seasonal changes of preliminary characters of the water, the testing of the water treatment equipment has been conducted during the winter and summer times of 2006. As a result of these testing and lab analysis the optimal water treatment method has been found, which can be used in the region.

Key words: water treatment technologies; reverse osmosis; drinking and irrigation water; Aral Sea region

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OPTIMALIZATION OF PRODUCING LAMB MEAT OF LOCAL BREED AWASSI AND ITS CROSSBREEDS WITH IMPORTED RAMS OF MUTTON BREED CHAROLLAIS AND SUFFOLK AND BEAR BREED ROMANOVSKA IN LOCAL CONDITIONS

Malinová M.

Abstract: The objective of this study was to evaluate the effect of crossing on body weight and growth ability of lambs from birth to weaning, including the effect of litter size, sex, dam age, dam weight at mating, dam weight at lambing and year of rearing. The second objective of this study is focused on Establishing a permanent Research, Training & Extension Centre in Sikhra-Ajlun. Over the past few years' interest in sheep meat production, particularly mutton lamb with lower fat content is raising. Two alternative indicators of development of production exist, like using knowledge of genetics and improvement of environmental conditions. Many authors reported that it is relatively easy and quick to increase fertility and growth ability of lambs to an optimum level by means of crossing domestic breeds with prolific and mutton breeds (Romanov, Finland sheep, Charollais, Texel, etc.), as well as forming synthetic breeds (lines). The real growth and development of lambs in the period after birth is a prerequisite for satisfactory efficiency in further phases of rearing and breeding. These authors indicated that the development of lambs' weight during the period of rearing is affected mainly by the lamb sex, litter size and dam age.

Key words: lamb, sheep meat, growth, mutton breed, weight

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IS ELAND DIURNAL OR NOCTURNAL ANIMAL?

Tomášová K., Kotrba R., Mojžíšová L., Panamá J.L.A.

Abstract: The behaviour can be stimulated from external environment. Different animal species formed specific ways of behaviour to meet their own requirements, e.g food intake, rest, offspring's protection etc. Thus the state of physiologic functions of the organism can be an indicator of the external environment changes. There the heart rate was previously confirmed as a good indicator of physiological state of an animal, e.g. the level of metabolism, motion or stress. A lot of literature is describing eland (*Taurotragus oryx*) as nocturnal in feeding and diurnal in resting and ruminating. We expected that this behaviour is influenced mostly by climatic conditions. The aim of this study was to find out whether the eland is a species with diurnal or nocturnal behaviour under condition with uniform external condition (the same temperature and length of day and night).

Moreover we were curious if its behaviour depend on the age and sex of animal. We predicted, behavioural activities of eland i.e. movement, feeding, ruminating or sleeping, should be described by different level of heart rate (HR). We supposed (H1) the animals will spend more time by lying and sleeping at night in comparison to less motion and feeding during a day. The young animals should also spend more time by sleeping and lying than the adults (H2). The HR will be lower during appointed activities of male rather than of female (H3), because male's size is twice as bigger than of female and the HR should decline with body size. The HR should increase (H4) during activities connected with motion (walking, feeding) compared to activities related with rest (rumination during standing or lying). Each activity should be reflected in different levels of HR (H5). The observed group of captive elands consisted of one adult male (11 years old), four adult females (7 years old) and three calves (less than 1 year old). A non-invasive device Polar S610 (Polar, Finland) was fixed to one adult female's (350 kg) and an adult male's (660 kg) chest by an elastic belt and the activities were monitored and recorded during four, 24 hour observations during winter stabling of animals. In total we observed 7 activities (standing and ruminating; lying and ruminating; standing; standing and feeding; motion; sleeping; stress stimulation). Animals spent more time by lying and sleeping at night (H1) contrary to a day time. The influence of age on the length of activity "sleeping" was confirmed (H2). Calves slept longer during a day (average ± SE; 10.25 ± 6.04 min) vs. at night (37.50 ± 24.87 min) contrary to adult females (5.50 ± 6.45 min) vs. (14.66 ± 7.87 min). Lower mean HR was confirmed during all activities of the male (H3) than of the female. Activities related with movement (H4) demonstrated higher mean HR of the male and also of the female. Every appointed activity corresponded to different level of HR (H5) of male and female. The diurnal pattern of behaviour of eland was confirmed in feeding, motion and nocturnal in lying with ruminating, resting and sleeping. The effect of animal's age on the length of activities connected to motion and rest during a day was also supported. Every appointed activity corresponded to different level of HR.

Key words: diurnal, nocturnal, heart rate, common eland (*Taurotragus oryx*) behaviour, activity, POLAR S610

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USE OF GIS TECHNOLOGIES IN BIODIVERSITY CONSERVATION: CASE STUDY OF VEGETATION AND SOIL MAPPING IN NECH SAR NATIONAL PARK, ETHIOPIA

Svitálek J., Vymyslická P., Antonínová M., Hejcmanová P.

Abstract: Sustainable development of rural areas in developing countries goes often hand in hand with the conservation activities. Many protected areas over the world are potentially resourceful for the local inhabitants, whose interests though clash with the intent to conserve the precious environments. To find the possible symbiosis is a difficult task that requires as much information as possible on the environmental situation in the areas of focus. Though, using GIS technologies is a useful tool to help. Nech Sar national park, Ethiopia is one of the areas, that are under the instant pressure from densely populated surroundings. None the less, it is still a place that features many important species of plants, birds, reptiles and large mammals. The most endangered species of Nech Sar national park is the population of last 35 Swaynes's hartebeest (*Alcelaphus buselaphus swayneii*). These survivors stay in the Nech Sar plains that had been constantly used also by local pastoral community that is dependent on their herds counting up to estimated three thousands of cattle. The Nech Sar plains, savannah, essential to survival of hartebeest population now suffers from spreading of plant invasive species, bush encroachment, overgrazing and constant soil erosion. This might be depleting feeding potential for both, wildlife and cattle. During the study held between July and august 2007 we have collected data for to analyze the spatial distribution of changing vegetation, vegetation land cover including the soil degradation and grazing impact of game and cattle on Nech Sar plains. We confirmed that vegetation cover is being changed mostly in the areas with higher cattle and human concentrations. The overgrazing is followed by herbaceous invasive species, bush and trees encroachment and soil degradation in the plains. Nevertheless spreading of some invasive species may not be directly connected with cattle presence. This will be further examined in future analysis of vegetation structure and floristic composition on the plots.

Key words: GIS, biodiversity, Nech Sar National Park, Ethiopia, invasive species, bush encroachment, overgrazing

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MATERNAL BEHAVIOUR OF BACTRIAN CAMELS (*Camelus bactrianus*) – FOCUSED ON SUCKING FREQUENCY OF CAMEL CALVES

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Abstract: Frequency of successful sucking bouts and sucking attempts is a simply observable indicator of mother-calf relationships. Although the sucking frequency itself does not reflect the milk intake in calves, we expect that it is relatively constant for the specified age categories and decreases with the age of the calf. Thus, the average values should be taken into account when preparing an artificial rearing programme of orphan calves or when assessing the behaviour of calves. To determine the average sucking frequencies, we have observed 7 (5,2) Bactrian camel calves (*Camelus bactrianus*) in 5 zoological gardens in Czech Republic (Praha, Brno, Ostrava, Liberec, Ústí nad Labem) during the year 2007. The observations were done in the interval of one month 6 times for each calf. Till now, we have observed 317 sucking bouts and 260 sucking attempts during 300 hours of observations. The preliminary results showed that the sucking frequency decreased from 15 sucking bouts per 8 hours in the first month of calves'lives to 6 sucking bouts per 8 hours in 6-month-old calves (correlation coefficient –0.6186, $p < 0.0001$). The frequency of sucking attempts also strongly decreased with age, from 15 sucking attempts per 8 hours in the first month of calves' lives to 4 sucking attempts per 8 hours in 6-month-old calves (correlation coefficient –0.5433, $p < 0.0001$). Despite the strong correlation between the age of calf and number of sucking bouts/attempts per day, our preliminary results showed high individual variability in sucking frequencies.

Key words: maternal behaviour, *Camelus bactrianus*, sucking frequency

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STUDY OF LANDRACES AND UTILIZATION OF *Smallanthus sonchifolius* (POEPP. ET ENDL.) H. ROBINSON

Zámečníková J., Eloy Fernández C., Viehmannová I., Horajsová Z., Škarková L.

Abstract: Yacon (*Smallanthus sonchifolius), Asteraceae* family, is a plant which is native to the Andes and is cultivated mainly for its tuberous roots which are rich in fructooligosaccharides (FOS) and leaves with high antioxidant content. Newly established Peruvian landraces in the Czech Republic were studied for yield, saccharides content in tuberous roots and ploidy level. Also content of FOS in commercial products – syrupes of Peru was measured. Flow cytometric analysis determinated different ploidy level in yacon landraces. Landraces L5, L10, L15/20, L40, L50, L60, L65 have the same level of ploidy and according to the caryological analyses have $2n = 58$ chromosomes (octoploides). Landraces L30, L65, L70, L75, L90 have approximately 50% higher content of DNA in nucleus than octoploid clones. Field studies for the years 2005–07 measured in average the highest saccharides content in octapoides clones L35 (13.0 °Brix) and highest yield of tuberous roots for L15/20 (1.6 ± 0.6 kg/plant). According to landrace the saccharides content was in range 7 to 15 °Brix and yield 0.5 to 2.5 kg/plant. Results determinated that higher level of ploidy had no influence to yield and saccharides content in tuberous root. Genotype is principle factor for yield and saccharides content. The highest content of FOS (45 g/100 g) was found at syrup 1.

Key words: flow cytometry, chromosome number, landraces, ploidy level, saccharides content, syrup, yacon, yield.

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THE INFLUENCES OF AGRICULTURAL PRACTICES ON OCCURRENCE OF SOME WEED SPECIES IN THE PERUVIAN AMAZON

Preininger D., Bechyně M.,; Lojka B., Polesný Z., Banout J.

Abstract: *Inga edulis* Mart. is popular with agroforesters for its rapid growth, tolerance of acid soils and high production of leafy biomass to control weeds and erosion. The objective of this research was to determine if is possible to reduce growth of some weed species (e.g. *Imperata brasiliensis*) through the cultivation of *Inga*

edulis. The impact of some agricultural practices on weed occurrence was also analyzed. The treatment was established on experimental plot 19 km from Pucallpa. Four fallow systems were evaluated during the study: (1) natural fallow; (2) planted fallow with cassava; (3) planted fallow with inga (*Inga edulis*); (4) inga + cudzu (*Pueraria phaseoloides*), replicated four times in a completely randomized block design in 12 m × 12 m subplots. On each subplot were collected three biomass samples (1 m²) of weed species. Most spread species were identified and number of individuals was counted. First results shows, that utilization of inga could be promising step for suppression of *Imperata brasiliensis*. These results were processed and then could be useful for the next utilization of *Inga edulis* in the region.

Key words: *Inga edulis*, weed control, *Imperata brasiliensis*, Peruvian Amazon

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EFFECTIVENESS OF SELECTED ANTIMITOTIC AGENTS FOR EMBRYOGENESIS IN *Brassica carinata* MICROSPORE CULTURE

Eyasu A., Klíma M., Vyvadilová M., Bechyně M.

Abstract: The effect of antimitotic agents colchicine, trifluralin and oryzalin on isolated microspore culture Brassica carinata was evaluated in order to combine a positive effect of antimitotic agents on the induction of embryogenesis with the possibility to induce chromosome doubling at early developmental stage. The highest frequency of cell division and embryo yield was obtained when microspores were cultivated in the liquid NLN medium with 0.05 mg/l colchicine for 24 hours. Similarly, all tested concentrations of trifluralin and oryzalin significantly increased embryo yield in comparison with control variants.

Key words: antimitotic agents, *Brassica carinata*, embryogenesis, microspores

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POTENTIAL OF SACHA INCHI (*Plukenetia volubilis, Euphorbiaceae*) FOR CULTIVATION IN AGRO-FORESTRY SYSTEMS IN THE PERUVIAN AMAZON

Křivánková B., Polesný Z., Bechyně M.

Abstract: The area of Peruvian Amazon is one of the world's primary genetic centers of plant species diversity. Several important crops for world agriculture were first domesticated in this area and a numerous underexploited Amazonian plant species can be found here. Peruvian Amazon is highly affected by deforestation. The diversity of plant species is rapidly decreasing. One of the ways how to cultivate these lands and slow down the diminution of plant species and degradation of the lands is an application of agroforestry systems. Within these systems is good to use species giving some benefits and making the systems sustainable. There's need to choose valuable species of different use and different properties (e.g. rich in nutrients, valuable on the market, helping to avoid the soil degradation, to improve soil fertility, etc.), making a good and sustainable complex all together. One of the little-known indigenous oilseed crops with certain potential to be cultivated in agroforestry systems in this region is Sacha inchi (*Plukenetia volubilis, Euphorbiaceae*). It is a semi-perennial, semi-woody twining vine, yielding mostly tetra-lobular capsules, with 4 lenticular oleaginous seeds inside. The seeds are rich in oil (35–60%) and protein (27%) content. The oil contains high levels of unsaturated fatty acids (linoleic, linolenic) and vitamins A and E. It is an ideal component for improving children and aged persons alimentation with promising economic value on the market. Implementation of Sacha inchi in agroforestry systems in this region may not be only good contribution to raise the level of alimentation, but also a good alternative crop, with potential to reduce local farmers' dependence on cultivation of coca as well.

Key words: agroforestry systems, cultivation potential, oilseed crop, Peruvian Amazon, *Plukenetia volubilis*

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THE CONTENT OF SELECTED ELEMENTS IN THE INFUSION OF CERTAIN PLANT STIMULANTS

Malík J., Száková J., Drábek O., Balík J., Kokoška L.

Abstract: The content of 14 selected micro and macroelements in the hot watery infusion of certain tropical and subtropical plant stimulants namely tea (*Camellia sinensis*) coffee (*Coffea arabica*, *C. liberica*), mate (*Ilex paraguariensis*), rooibos (*Aspalathus linearis*), honeybush (*Cyclopia intermedia*) and chamomile (*Matricaria recutita*). All the samples were collected in the market in Czech Republic has been analysed in this study. The infusion was prepared by 15 minutes leaching of 1g of plant material in 50 ml of boiled distilled water. The inductively coupled plasma optical emission spectrometry (ICP-OES) and atomic absorption spectrometry (AAS) have been used for determination of Al, B, Co, Cr, Cu, Fe, Mn, Ni, P, Ti, Zn and Ca, K, Mg, respectively. The results in all of the samples of tea are closely similar and are corresponding with the data found in literature (all tea types black, green, oolong and yellow were comprehended) and they have been used as comparative data for all the other plant species. The amounts detected in coffee, rooibos and honeybush were in comparison to tea similar or lower in the infusion. In contrary the great levels of B, Ca, Cu, Mn, Mg and Zn were determined in mate (mainly green type) as well as in the chamomile, which was abundant in B, Ca, Cu, Fe and P. The enhanced contents of these elements suggest that the chamomile and mate could be an interesting source of B, Ca (mate and chamomile) and Mg, Mn (mate), because its contents vary around the recommended daily allowance (RDA). In contrast to tea, other stimulants seemed to be not important source of potentially harmful amounts of Al for the human diet.

Key words: plant stimulants, infusion, elements, human diet, ICP-OES, AAS

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ANTIOXIDANT ACTIVITY PROFILE OF SOME MEDICINAL PLANTS FROM PERU

Svobodová B., Orsák M., Kutíková L., Lachman J., Kokoška L.

Abstract: Fourteen medicinal plants selected based on their traditional use in folk medicine among the Shipibo-Conibo ethnic group in Calleria District, Peru were studied for antioxidant activity. The ethanol extracts were tested for their potential *in vitro* radical scavenging activity using 1.1-diphenyl-2-picrylhydrazyl (DPPH) in microplate assay with ascorbic acid as standard pure compound and *Rosmarinus officinalis* L. as a reference plant with well documented antioxidant activity. Total phenolic and flavonoid content was also determined by a colorimetric metod. A correlation between radical scavenging capacities of extracts with total phenolic compound content was observed. *Calycophyllum spruceanum* (Benth.) Hook. f. ex K. Schum., *Naucleopsis glabra* Spruce ex Pittier, *Triplaris* sp., *Phyllanthus ninuri* L., *Uncaria tomentosa* (Willd.) DC. and *Maytenus macrocarpa* (Ruiz & Pav.) Briq. possessed the strongest activity.

Key words: antioxidant activity, phenolic compounds, medicinal plants, Peru

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BIOCHEMICAL AND HAEMATOLOGICAL BLOOD SERUM VALUES OF FARMED ELAND (*Taurotragus oryx*)

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Abstract: One of the major constraints to raise game in captivity is to balance their nutrition. To evaluate the use of biochemical analysis for this purposes we made screening of 20 blood serum samples of farmed eland collected by a veterinary surgeon on a farm. Blood samples were collected when elands were immobilized and were analyzed by IDEXX Laboratoires mobile machines, with cooperation of Cymedica comp. Blood serum samples (collected in Lithium Heparin) were analyzed for 13 biochemical parameters using VetTest analyzers, 10 haematological parameters by QBC VetAutoread and 8 blood gasses and electrolytes by VetStat. We analysed the effect of eland's age and sex on all parameters values by General Linear Mixed Model using the SAS System V 9.1. We found only the effect of age on creatinine to be lower in young animals ($F_{(4,13)}$= 5.1, P <

0.01; range = 100–165 μmol/l, mean = 142 μmol/l). It follows from results obtained that elands were under stress
before immobilisation as demonstrated by high levels of creatine kinase, pH, K^+ or glucose and, on the other hand, very low pCO_2 levels. Our results will be used as reference values for further studies. This project was supported by grant No. 51120/1161/1603 FRVŠ.

Key words: eland, blood serum, biochemical parameters, metabolic profile

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THE EFFECT OF OXY-ANIOS 5TC CONCENTRATION AS CCP LIMIT ON SELECTED MICROBES IN MILK

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Abstract: Hazards analysis critical control point (HACCP) programmes are considered to be the industry standard for minimizing risks associated with the food production. When the cleaning solution is prepared the first CCP to be identified is the concentration. A too low concentration will result in insufficient cleaning and will have an additional negative impact of the disinfection step afterwards (Van der Sande and Smeulders, 1997).
To determinate the effect of disinfectant's concentration in the resistance of selected microbes (Total germs, E. coli, Streptococcus group D, Staphylococcus aureus, Proteus vulgaris) in the milk industry: in the first step samples from: raw and pasteurized milk, water (before and after rinsing) were taken and bacteriological examined. Than the effect of disinfectant Oxy – Anios 5 TC on the above microbes was used in following concentrations 1:1000, 1:10, 1%, 2%. Diameters of inhibition zones were measured and as positive more than 1 cm were considered. The preliminary results showed that the E.coli and Streptococcus group D obtained from dairy factory were resistant to the concentration usually used in practice (0.3% in 1% of acid). It means that CCP limits set up by disinfection producer must be as to concentration, thoroughly observed .E.coli and Streptococci
of group D are very significant contaminants and it is of utmost importance to prevent their resistance.

Key words: disinfection, HACCP, dairy microbiology, cleaning

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