A new distribution of Caucasian wingnut (Pterocarya fraxinifolia (Poiret) Spach) in the Kahramanmaras region, Turkey

Caucasian wingnut (Pterocarya fraxinifolia (Poiret) Spach) is a relict tree species having limited natural distribution in Turkey. In this study, a new distribution of this species in the Kahramanmaras region was explained. This distribution occurs in Onsenhopuru and Yavuzlar villages and Yesilyore town of Turkoglu district, at elevations between 600 and 640 m along Orcan stream, and continues about 4 km. In this area, Caucasian wingnut had about 100 trees. This distribution area of the species, quite important for biodiversity, should be protected and the existing individuals should be evaluated as a gene resource. Especially vegetative reproduction of the species should be started and the seedlings obtained should be used at the margins of lakes and streams, parks and large gardens, avenues, boulevards, and streets in the region.

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The response of a mixed microbial culture to different feed compositions, that is, containing benzoate and pyruvate as sole carbon sources at different levels, was studied in a chemostat with a 48-h hydraulic residence time under cyclic aerobic and anoxic (denitrifying) conditions. The cyclic bacterial culture was well adapted to different feed compositions as evidenced by the lack of accumulation of benzoate or pyruvate in the chemostat. Both the benzoate-degrading capabilities and the in vitro catechol 2,3-dioxygenase (C23DO) activities of the cyclic bacterial cultures were in direct proportion to the flux through the chemostat of the substrate degraded by the pathway containing C23DO, with some exceptions. The quantity of C23DO showed a transient decrease during the initial portion of the aerobic period before returning to the level present during the anoxic period. That decrease was most likely caused by the production of H2O2 by the cells upon being returned to aerobic conditions. (C) 2003 Federation of European Microbiological Societies. Published by Elsevier B.V. All rights reserved.
The effects of different priming treatments on final germination percentage (FGP), rate (G(50)), and synchrony (G(10-90)) of the seeds of two lettuce (Lactuca sativa L.) cultivars before and after storage were investigated. Seeds of 'Cortina' and 'Greenlakes' were osmotically primed in K3PO4, KH2PO4 or NH4H2PO4 and PEG 8000, having a water potential of -0.49 or -1.5 MPa for 10 or 20 hours at 15 degreesC in darkness. Following priming, the seeds were subjected to germination tests at 20 degreesC from which FGP, G(50), and G(10-90) values were calculated. Among all the priming agents, only priming with KH2PO4 (-1.5 MPa) for 20 hours improved the germination synchrony of low vigour cultivar, 'Greenlakes' and therefore KH2PO4 was selected to be the priming agent for subsequent experiments. Primed (-1.5 MPa KH2PO4, for 20 hours) 'Cortina' and 'Greenlakes' seeds were either surface dried for 2 h at 21 degreesC and 58 %
Relative humidity or dried back at 20 degreesC and 20 % RH for 2 h, then they were stored at 4 degreesC (refrigerator) or 20 degreesC (incubator) for one month. Following storage, germination tests were performed and it was seen that storing the primed seeds of both cultivars for one month had little or no effect on the viability (FGP) and germination rate (G(50)), but slightly reduced the germination synchrony (G(10-90)).

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PT J
AU Kanat, M
Alma, MH

TI Insecticidal effects of essential oils from various plants. against larvae of pine processionary moth (Thaumetopoea pityocampa Schiff) (Lepidoptera : Thaumetopoeidae)
SO PEST MANAGEMENT SCIENCE
Along with sulfate turpentine, the essential oils obtained by steam distillation from nine plant species naturally grown in Turkish forests were tested at three different concentrations to evaluate their effectiveness against the larvae of pine processionary moth (Thaumetopoea pityocampa Schiff). The results indicated that the essential oils from the nine species and sulfate turpentine were effective against the larvae of T pityocampa. The most effective essential oil in the control of the larvae was steam-distilled wood turpentine, followed by thyme herb oil, juniper berry oil, laurel leaf oil, lavender flower oil, eucalyptus leaf oil, lavender leaf oil, cypress berry oil, essential oil of styrax and sulfate turpentine, respectively, in terms of mean mortality time. It is therefore feasible to use these essential oils as environment-friendly insecticides in the control of T pityocampa. (C) 2003 Society of Chemical Industry.

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Effectiveness of short exposures of propylene oxide alone and in combination with low pressure or carbon dioxide against Tribolium castaneum (Herbst) (Coleoptera : Tenebrionidae)

AB Toxicity of the fumigant propylene oxide (PPO) alone and in combination with low pressure (100 mm Hg) or 92% CO2 to all life stages of Tribolium castaneum using short exposure times (4 and 8 h) at 30 degrees C was studied. Results indicated that PPO was moderately toxic with Ct products ranging from 120 to 608 mg h/l required to obtain complete mortality of the different life stages. A marked difference in susceptibility between life stages was recorded. Eggs were the most sensitive with a LD99 value of 30.1 mg/l for 4 h, whereas pupae were the most tolerant with a LD99 value of 146.5 mg/l. It was shown that an increase in exposure time from 4 to 8 h resulted in 23%, 42%, 48% and 47% reductions of LD99 values for eggs, larvae, pupae and adults, respectively. There was no or very limited mortality of all stages except the egg (53% to 62%), when exposed to either 100 mm Hg or 92% CO2 for 4 h. However, when 100 mm Hg or 92% CO2 were combined with PPO, the LD50 and LD99 values for PPO in all stages except the egg were significantly reduced. Combinations of PPO with 100 mm Hg or 92% CO2 produced equal reductions in the LD99 value from 146.5 to about 22 mg/l for the most tolerant pupal stage. Both combinations also produced significant reductions in the LD99 values for larvae and adults (6.3- to 6.6-fold) compared with those exposed to PPO alone. These results indicated that 100 mm Hg and 92% CO2 each had a synergistic effect on the toxicity of PPO to T castaneum. The combination of PPO with vacuum or CO2 can thus provide a potential alternative to methyl bromide. (C) 2003 Elsevier Science Ltd. All rights reserved.
Simultaneous micrografting, rooting and acclimatization of micropropagated American chestnut, grapevine and hybrid hazelnut

SO EUROPEAN JOURNAL OF HORTICULTURAL SCIENCE

LA English

DE chestnut, grapevine, hazelnut, micrografting, micropropagation, rooting, acclimatization

AB American chestnut, hybrid hazelnut and grapevine were cultured in
vitro on Nas and Read Culture Medium. Micropropagated scions (shoots) were micrografted in vitro-propagated unrooted rootstocks by hand. The scions (2-4 cm) and rootstocks (23 cm) were fixed using an elastic electric-wire tube or alginate gel beads. After grafting, the bases of rootstocks were dipped in 1000 ppm indole-3-butyric acid (IBA) solution for 5 s (grapevine) or 10 s (American chestnut and hybrid hazelnut). Grafted plantlets were then cultured in jiffy peat plugs in vitro or placed in jiffy peat plugs ex vitro and were gradually acclimatized. Scions of in vitro cultured grafts developed aerial roots and the grafting was unsuccessful. Two months after grafting, the survival of successful ex vitro grafts was ca. 50% for grapevine, 70% for hazelnut, and 80% for American chestnut. The results indicate that, when grafted plants are preferred to own-rooted plants, micropropagated scion and rootstocks can simultaneously be grafted, rooted and acclimatized ex vitro.

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PT J
AU Gundogan, R
   Acemioglu, B
   Alma, MH
TI Copper(II) adsorption from aqueous solution by herbaceous peat
SO JOURNAL OF COLLOID AND INTERFACE SCIENCE
LA English
DT Article
In this research, the herbaceous peat collected from Gavurgolu peatlands, one of the biggest Turkish peatlands, was utilized as an adsorbent for the removal of copper (II) ions from aqueous solution. Adsorption experiments were conducted under various conditions, i.e., initial concentration, temperature, and pH. While the amount of Cu (II) adsorbed on the peat increased with increasing concentration of Cu (II) ions, it was not markedly affected by temperature and pH. Percentage removal was higher at lower concentration. For example, the maximum percentage removal of Cu (II) ions for initial concentration of $3 \times 10^{-4}$ M was 97.04% at 21 degreesC and pH 5.5. The adsorption capacity ($Q(0)$) of the peat was 4.84 mg g$^{-1}$ from Langmuir adsorption isotherm for the concentration range of $3 \times 10^{-4}$ to $6 \times 10^{-4}$ M at 21 degreesC and pH 5.5. The equilibrium time of adsorption of Cu (II) ions was 150 min and independent of concentration and temperature. The amount of Cu (II) adsorbed at equilibrium time did not considerably change with temperature and pH. It was also determined that adsorption isotherm followed both Freundlich and Langmuir. Uptake mechanism of Cu (II) ions by the peat occurs via cation exchange (especially by means of Ca$^{2+}$ and Mg$^{2+}$) as well as copper/peat complexation. Adsorption kinetic was consistent with the pseudo-second-order model. (C) 2003 Elsevier Inc. All rights reserved.
Comparison of the echocardiographic and pulmonary function test findings in orderly treated and untreated essential hypertensive patients

SO BLOOD PRESSURE
LA English

DE diastolic dysfunction, dyspnea, hypertension, pulmonary function
ID LEFT-VENTRICULAR HYPERTROPHY; CORONARY-HEART-DISEASE; DIASTOLIC DYSFUNCTION; BLOOD-PRESSURE; LUNG-FUNCTION; VITAL CAPACITY; RISK FACTOR; MORTALITY; EXERCISE; FAILURE

AB Objective: Although it has been well established that hypertension effects pulmonary functions negatively, the effect of regular antihypertensive therapy on pulmonary functions is not known. In this study, we aimed to compare the pulmonary function tests of the hypertensive patients taking regular antihypertensive therapy with those of the ones not taking any antihypertensive medicine, to document the differences in pulmonary functions of both hypertensive groups. Materials and Methods: Patients who had received antihypertensive treatment (Group I: 29 males, 24 females, mean age 42.3 +/- 8.2 years), and untreated cases (Group II: 28 males, 22 females, mean age 43.4 +/- 6.4 years) were included in the study.
Patients with a history of coronary heart disease, respiratory diseases, smokers and those who were obese were excluded from the study. Results: Forced vital capacity (FVC) and forced expiratory volume at the first second (FEV1) levels were found significantly lower in Group II (p < 0.05). In echocardiographic evaluation, the mitral E/A ratio of Group II was lower than that of Group I (p < 0.05). Isovolumetric relaxation time and deceleration time was higher in Group II than in Group I (p < 0.05). There was a significant association between pulmonary function tests and impaired left ventricular diastolic parameters; especially, mitral E/A ratio was significantly associated with decreased FVC and FEV1 in Group II (respectively r = -0.695, p = 0.01 and r = -0.591, p = 0.03).

Conclusion: FVC and FEV1 levels in untreated hypertensive cases were lower than in those of treated hypertensive cases, and this may be caused by diastolic function rather than the systolic function. In the evaluation of dyspnea in hypertensive patients, it would be useful to examine respiratory function in addition to echocardiographic investigation.

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 Effects of the sibutramine therapy on pulmonary artery pressure in obese patients

AB Aim: Obesity is a major global public health problem. Previous drugs (dexfenfluramine and fenfluramine) used for the treatment of obesity have been withdrawn due to various cardiac side effects. Sibutramine is an anti-obesity agent. The purpose of this study was to assess cardiac valve disease and pulmonary artery pressure (PAP) of the patients who used once daily doses of sibutramine.

Methods: One hundred and six obese patients (51 men and 55 women) determined to have minimal tricuspid regurgitation (TR) on echocardiographic examination were included in the study. All patients had a complete physical examination, complete blood count and measurement of lipid parameters, and echocardiography was performed by which cardiac valves and PAP were evaluated. After the mean duration of 24-week of follow up, all examinations were repeated for each patient.

Results: The drug was well tolerated by all patients for the follow-up period. A significant weight loss was recorded in all patients compared to the baseline values (93.1 +/- 9.6 kg vs. 85.8 +/- 7.7 kg, p < 0.001). Blood pressures and heart rate of the patients increased compared to
the baseline measurements (systolic 122.3 +/- 8.5 vs. 124 +/- 10.2 mmHg, p = 0.128, diastolic 79.3 +/- 4.7 vs. 80 +/- 5.7 mmHg, p = 0.42 and heart rate 79.5 +/- 6.5 vs. 85 +/- 5.7 beats/min, p < 0.001).

Echocardiographically determined aortic or mitral valve dysfunction appeared in none of the patients. PAP lightly increased after the treatment but the difference between pre and post-treatment values was not found statistically significant (14.7 +/- 1.8 vs. 16.3 +/- 1.6 mmHg, p = 0.06).

Conclusions: A 24-week treatment with sibutramine does not affect heart valves and pulmonary artery pressure.

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Conclusions: A 24-week treatment with sibutramine does not affect heart valves and pulmonary artery pressure.

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In the present study, essential oil from the leaves of Syrian oregano [Origanum syriacum L. (Lauraceae)] grown in Turkish state forests of the Dortyol district, Turkey, was obtained by steam distillation. The chemical composition of oil was analysed by GC and GC-MS, and was found to contain 49.02% monoterpenes, 36.60% oxygenated monoterpenes and 12.59% sesquiterpenes. The major components are as follows: gamma-terpinene, carvacrol, p-eymene and beta-caryophyllene. Subsequently, the reducing power, antioxidant and 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical-scavenging activities of the essential oil were studied. The reducing power was compared with ascorbic acid, and the other activities were compared with 2,6-di-tert-butyl-4-methyl phenol (BHT, butylated hydroxytoluene). The results showed that the activities were concentration dependent. The antioxidant activities of the oil were slightly lower than those of ascorbic acid or BHT, so the oil can be considered an effective natural antioxidant. Antimicrobial activities of the essential oil from the leaves of Origanum syriacum was also determined on 16 microorganisms tested using the agar-disc diffusion method, and showed antimicrobial activity against 13 of these.
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PT J
AU Yildirim, I
Okur, E
TI The prevalence of nasal septal deviation in children from Kahramanmaras, Turkey
SO INTERNATIONAL JOURNAL OF PEDIATRIC OTORHINOLARYNGOLOGY
LA English
DT Article
DE nasal septal deformity, prevalence, children
Objective: The aim of this study was to determine the prevalence of nasal septal deformities among Turkish school children, in the city of Kahramanmaras in Turkey. Methods: Study included 1234 Caucasian children attending pre-school, primary and secondary schools. All of the children underwent nasal examinations. Pathological septal deformities were grouped into seven types by using Mladina's classification. The differences among the types of nasal septal deformity (NSD) and between sexes were tested by chi (2)-test for independent samples. Results: The overall prevalence of NSD has been found to be 34.9%. For the age groups, the prevalence of NSD was 16.5% in pre-school children, 38.7% in primary school children and 39.9% in secondary school children. Type 1 NSD was the most commonly seen deformity among all age groups. Anterior deformities (types 1 and 2) were the most commonly encountered types in pre-school children, but the occurrences of the posterior deformities (types 3-5) was relatively increased as the age increased. Neither the distribution of NSD types nor the overall prevalence showed any statistically significant difference between both sexes. Conclusion: We found that the prevalence of NSD and the occurrence of the posterior deformities was relatively increased as the age increased. Our study may reflect the prevalence of septal deviation in Turkish children in Kahramanmaras, an eastern Mediterranean city of Turkey. However, further studies throughout the country are needed. (C) 2003 Elsevier Ireland Ltd. All rights reserved.

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JI Int. J. Pediatr. Otorhinolaryngol.
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First description of the disease by Conidiobolus osmodes on Tipula paludosa larvae with the report of a natural epizootic

TI First description of the disease by Conidiobolus osmodes on Tipula paludosa larvae with the report of a natural epizootic

SO JOURNAL OF INVERTEBRATE PATHOLOGY

AB A new fungal pathogen of Tipula paludosa (Tipulidae: Diptera) larvae, Conidiobolus osmodes (Ancylistaceae: Entomophthorales), was found during a survey of tipulid larval pathogens in Northumbria and Cumbria in England in 1997-1999. The fungus caused an epizootic in a population at Close House during autumn 1999 and spring 2000 with prevalence rising fourfold reaching about 40% in April 2000. The disease development was presented and the fungus was described from naturally infected larvae and artificial cultures. (C) 2003 Elsevier Inc. All rights reserved.

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Reproductive biology of brown trout, Salmo trutta macrostigma Dumeril 1858, in a tributary of the Ceyhan River which flows into the eastern Mediterranean Sea
diameter of the native brown trout, Salmo trutta macrostigma, in a
tributary of the Ceyhan River. A total of 197 brown trout (118
females and 79 males) were captured in 2000-2001 by electric fishing.
In observations on monthly changes, the gonadosomatic index (GSI) and
the monthly frequency distribution of egg diameter confirmed that
spawning lasted from November to January. Some 27.7% of the females
and 62.5% of the males attained sexual maturity in their second year.
The smallest fork length (FL) of brown trout attaining sexual
maturity was 17.4 cm for males and 17.8 cm for females. Mean
fecundity in age groups II, III, IV and V were 360, 452, 693 and 1283
eggs per female, respectively. One 9-year-old female had a unique
3232 egg count. The mean fecundity of the sampled population was 554
eggs per fish, positively correlated with the FL (mm) (R = 0.8227 )
and body weight (R = 0.8130). The diameter of mature eggs in the
spawning season ranged from 3.250 to 5.930 mm, with a 4.146 mm
average. Mean egg diameter in age groups II, III, IV and V in the
spawning season were 0.813, 3.799, 4.663 and 5.243 mm, respectively.
Fecundity, egg weight and diameter were statistically different in
all age groups.

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NR 24
TC 0
PU BLACKWELL VERLAG GMBH
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SN 0175-8659
J9 J APPL ICHTHYOL
JI J. Appl. IchthyoI.
PY 2003
Rectifying pyronine-B/p-type silicon junctions formed by sublimation of pyronine-B

The rectifying junction characteristics of the organic compound pyronine-B film on a p-type Si substrate have been studied. The pyronine-B has been sublimed onto the top of p-Si surface. The barrier height and ideality factor values of 0.79 eV and 1.125 for this structure have been obtained from the forward-bias current-voltage characteristics. The density distribution of the interface states in the inorganic semiconductor bandgap and their relaxation time have been determined from the low-capacitance-frequency characteristics by the Schottky capacitance spectroscopy method. The measurement frequency varies from 90 Hz to 10 MHz. The interface state density N_{ss} ranges from 2.10 \times 10^{10} \text{ cm}^{-2} \text{ eV}^{-1} \text{ in (0.79 - E-V) eV to 1.16 \times 10^{12} \text{ cm}^{-2} \text{ eV}^{-1} \text{ in (0.53 - E-V) eV. Furthermore, the relaxation time ranges from 1.38 \times 10^{(-3)} s in (0.53-F-V)eV to 7.50 \times 10^{(-3)} s in (0.79-E-V)eV.}

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Crystallization studies of Al85Y10Fe5-xNix (x=0, 2.5, 5) alloys

The crystallization behavior of melt-spun Al85Y10Fe5-xNix (x = 0, 2.5, 5) amorphous alloys has been investigated by a combination of differential scanning calorimetry (DSC) and x-ray diffractometry (XRD). XRD traces of these alloys consisted of a single broad peak corresponding to fully amorphous structure. Continuous DSC results showed that, the first crystallization peak temperature of Al85Y10Fe5 amorphous alloy was about 60 K higher than that of Al85Y10Ni5. The activation energies for the first crystallization peak increased from 210 kJ/mol for Al85Y10Ni5 to 280 for Al85Y10Fe5. These results indicate that 5 at.% substitutions Ni by Fe increases the stability of the amorphous phase.


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Inoue A, 1988, JPN J APPL PHYS, V27, P479

Kim YH, 1990, MATER T JIM, V31, P747
Huge cystic mandibular mass

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The aim of this study was to determine the incidence of bacteraemia during tonsillectomy and investigate the effect of the timing of culture sampling on the incidence of bacteraemia associated with it. Sixty-four consecutive patients who had been admitted for elective tonsillectomy were included in the study. Patients were randomly classified into two groups. Blood cultures as well as tonsillar surface and deep tissue cultures were obtained from all patients before tonsillectomy and 60 minutes after tonsillectomy. In addition, blood cultures were taken within two minutes following tonsillectomy for group 1 and 15 minutes after tonsillectomy for group 2. In group 1, the cultures obtained within two minutes were positive in nine patients, while only two of the blood cultures taken post-operatively were positive in group 2. The difference between the two groups was statistically significant (p<0.05). The results of this study suggest that a transient bacteraemia occurs frequently in association with tonsillectomy, but the timing of culture sampling for its detection is important.
Biosolids accumulation and biodegradation of domestic wastewater treatment plant sludge by developed liquid state bioconversion process using a batch fermenter

The biosolids accumulation and biodegradation of domestic wastewater treatment plant (DWTP) sludge by filamentous fungi have been investigated in a batch fermenter. The filamentous fungi Aspergillus niger and Penicillium corylophilum isolated from wastewater and DWTP sludge was used to evaluate the treatment performance. The optimized mixed inoculum (A. niger and P. corylophilum) and developed process conditions (co-substrate and its concentration, temperature, initial pH, inoculum size, and aeration and agitation rate) were incorporated to accelerate the DWTP sludge treatment process. The results showed that microbial treatment of higher strength of DWTP sludge (4% w/w of TSS) was highly influenced by the liquid state bioconversion (LSB) process. In developed bioconversion processes, 93.8 g/kg of biosolids was enriched with fungal biomass protein of 30 g/kg. Enrichment of nutrients such as nitrogen (N'j), phosphorous (P), potassium (K) in biosolids was recorded in 6.2% (w/w), 3.1 % (w/w) and 0.15 % (w/w) from its initial values of 4.8% (w/w), 2.0% (w/w) and 0.08% (w/w) respectively after 10 days of fungal treatment. The biodegradation results revealed that 98.8% of TSS, 98.2% of TDS, 97.3% of turbidity, 80.2% of soluble protein, 98.8% of reducing sugar and 92.7% of COD in treated DWTP sludge supernatant were removed after 8 days of microbial treatment. The specific resistance to filtration (SRF) in treated sludge (1.4 x
10(12) m/kg) was decreased tremendously by the microbial treatment of DWTP sludge after 6 days of fermentation compared to untreated sample (85 x 1012 m/kg). (C) 2003 Elsevier Science Ltd. All rights reserved.

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 Serum inhibin B levels reflect contralateral testicular damage following unilateral testicular trauma

**Introduction:** The aim of this study was to evaluate contralateral testicular damage (CTD) following unilateral blunt testicular trauma (BTT) and testicular capsule laceration (TCL) by the serum inhibin B level which is an accepted marker of spermatogenesis. Methods: Fifty peripubertal male Wistar albino rats were divided into 5 groups each containing 10 rats. Group 1 was the control group. Group 2 was the BTT group in which the right testicle was placed on a firm surface and a metal rod weighing 215 g was dropped onto the testicle from a height of 5.5 cm. Group 3 was the TCL group in which right testicular tunica albuginea was lacerated using the needle of 4/0 silk suture. Group 4 had right orchiectomy initially. Group 5 was the sham group. In all groups, 3-ml blood samples were taken and bilateral orchiectomies were performed 6 weeks after initial manipulations. Results: Groups 2 and 3 had decreased inhibin B levels (p < 0.001), although the orchiectomy group had normal levels. Histological analyses showed lower Johnsen scores for both trauma groups in the ipsilateral and contralateral testes (p < 0.05). Conclusions: Serum inhibin B levels decrease following unilateral testicular trauma reflecting CTD. Copyright (C) 2003 S. Karger AG, Basel.

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Reliability of venous diameter in the diagnosis of subclinical varicocele

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TI Reliability of venous diameter in the diagnosis of subclinical varicocele
SO UROLOGIA INTERNATIONALIS
LA English
DT Article
DE varicocele, venous diameter, scrotal ultrasonography, color Doppler ultrasonography
Objective: The diameters of the veins in the pampiniform plexus have been used to diagnose subclinical varicocele. But there are many cutoff points and some controversies about the diagnosis. These cause difficulty in the evaluation of the results of epidemiological and clinical studies. Our aim is to establish the reliability of vein diameters in the pampiniform plexus in the diagnosis of subclinical varicocele. Methods: Physical examination, scrotal gray scale ultrasonography (SU) and color Doppler ultrasonography (CDU) were performed to assess varicocele in 100 infertile patients without clinical varicocele (group I), 100 infertile patients with clinical left varicocele (group II), and 50 fertile men without clinical varicocele (group III) as a control group. The diameter of the veins in the pampiniform plexus was measured with SU. According to various cutoff points of venous diameter and CDU criteria, the diagnosis of varicocele was made. The highest mean venous diameters were calculated with and without varicocele in men whose diagnoses had been made with CDU. The results were correlated with each other and the control group. Results: According to venous diameter cutoff points, the varicocele ratio did not correlate with the CDU results (p < 0.05) except for the left side of patients with clinical left-sided varicocele. The highest mean diameters of the veins in group III (control group) did not show a significant difference to the other groups (p > 0.05) except for the left side of group II patients. We did not find an exact relation between the highest venous diameter in the men who have and those who do not have subclinical varicocele with CDU. The highest mean diameter was 2.17 +/- 0.34 (SD) mm for men who have subclinical varicocele and 2.00 +/- 0.31 mm for men who do not have subclinical varicocele by CDU (p < 0.05). Conclusion: Our results indicate that venous diameters should not be used as diagnostic criteria for subclinical varicocele. Only the evaluation of venous diameter in varicocele should be used to document and quantify pathology, but it should not be used to establish the diagnosis. Copyright (C) 2003 S. Karger AG, Basel.

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In this study the removal of Cu(II) ions from aqueous solution was performed at different concentrations, temperatures, and pHs using ethanol-based organosolv lignin as the adsorbent. The results indicated that the amount of Cu(II) ions adsorbed onto the lignin increased with increasing concentration and pH; however, it decreased with an increase in temperature. It was possible to remove 40.74% (maximum removal) of Cu(II) ions from aqueous solution by using organosolv lignin within 10 min under certain conditions (3 x 10^{-4} M and 20 degrees C). The adsorption process was determined to be consistent with the Freundlich isotherm. Furthermore, it was found that 40% (maximum recovery) of the Cu(II) ions adsorbed on the organosolv lignin could be recovered using HCl with an initial concentration of 3 x 10^{-4} M and a contact time of 10 min. (C) 2003 Wiley Periodicals, Inc.

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ALI AAH, 1997, J CHEM TECHNOL BIOT, V69, P27
Conductance and capacitance-frequency characteristics of polypyrrole/p-type silicon structures

We formed a polypyrrole/p-type silicon device by an anodization process. An aluminum electrode was used as an ohmic contact. From the current-voltage characteristics of the device, barrier height and
ideality factor values of 0.662 eV and 1.734, respectively, were obtained from a forward-bias current-voltage plot. Low capacitance-frequency and conductance-frequency measurements from 0.00 to 0.30 V with steps of 0.02 V were made. At each frequency, the measured capacitance decreased with increasing frequency because of a continuous distribution of the interface states in the frequency range of 5.0 Hz to 2.0 MHz. (C) 2003 Wiley Periodicals, Inc.

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Pepper (Capsicum annuum L.) regenerants obtained by direct somatic embryogenesis fail to develop a shoot

**SO IN VITRO CELLULAR & DEVELOPMENTAL BIOLOGY-PLANT**

**LA English**

**DT Article**

DE aberrant somatic embryos, apical shoot meristem, Capsicum annuum L., centrophenoxine, deformed cotyledon, quinclorac

**ID PLANT-REGENERATION; SEEDLING EXPLANTS; SWEET-PEPPER; EMBRYOS; ORGANOGENESIS; TRANSPORT; MEDIA; CARBOHYDRATE; CONVERSION; PATTERNS**

**AB Three auxin-type herbicides, namely 2,4-dichlorophenoxyacetic acid (2,4-D), (4-chlorophenoxy)acetic acid 2-(dimethylamino)ethyl ester (centrophenoxine), and quinolinecarboxylic acid (quinclorac) induced direct somatic embryogenesis in seed-derived zygotic embryo explants of sweet pepper (Capsicum annuum L.) when added to Murashige and Skoog medium with 200 mM sucrose. Optimum concentrations for embryogenesis induction were 0.40-0.45 mM and 1.15-1.30 mM for 2,4-D and centrophenoxine, respectively (in the presence of 5.0 g l(−1) activated charcoal), or 40 μM for quinclorac (in medium without activated charcoal). Somatic embryos emerged from the epidermal and subepidermal tissues and developed on the surface of the explant. Centrophenoxine- or 2,4-D-mediated embryogenesis was accomplished from 95% of the explants in about 3 wk and, on average, six embryos were formed per explant. Induction efficiency was lower for quinclorac. Centrophenoxine-mediated embryogenesis was possible in 10 pepper cultivars, the extent of the response being genotype-dependent. Embryos detached from the explant and transplanted onto a growth regulator-free medium germinated; however, the recovered regenerants were without a shoot, and some of them bore a single deformed cotyledon while others had no cotyledons. Regenerants lacking a shoot were generated irrespective of the auxin type applied and across all responsive genotypes investigated. Absence of a shoot, resulting from a failure in the establishment of a normal functioning apical shoot meristem, was the principal developmental disorder that precluded regeneration of normal plants via direct somatic embryogenesis. Since stem cells of the shoot meristem become established in globular and heart-stage embryos, we deduce that the absence of a shoot in germinating embryos could originate from deviant differentiation at these early stages of embryogeny.**

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TC 0
PU C A B I PUBLISHING
PI WALLINGFORD
PA C/O PUBLISHING DIVISION, WALLINGFORD OX10 8DE, OXON, ENGLAND
SN 1054-5476
J9 IN VITRO CELL DEV BIOL-PLANT
JI In Vitro Cell. Dev. Biol.-Plant
PY 2003
PD MAY
VL 39
IS 3
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EP 303
PG 8
GA 684QJ
UT ISI:000183217800007
Objective: A 17-year-old previously unreported patient with Pai syndrome is described. The boy had median cleft of upper lip, a polypoid skin mass over the columella, a minimal cleft of the upper central incisors, frontal alopecia of the anterior hairline, and bifid nose. Magnetic resonance imaging showed pericallosal lipoma. No mental retardation was present, and a chromosomal study showed normal male 46, XY karyotype.

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RP Coban, YK, Kahramanmaras Sutcu Imam Univ, Dept Plast & Reconstruct Surg, Sch Med, TR-46050 Kahramanmaras, Turkey
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NR 20
TC 0
PU ALLIANCE COMMUNICATIONS GROUP DIVISION ALLEN PRESS
PI LAWRENCE
PA 810 EAST 10TH STREET, LAWRENCE, KS 66044 USA
SN 1055-6656
The microbiology of ethmoid and maxillary sinuses in patients with chronic sinusitis

Purpose: To investigate aerob-anaerob microorganisms growth in maxillary and ethmoid sinuses by evaluating aspiration materials from patients with chronic sinusitis.

Patients and Methods: The study was performed prospectively, and there were 31 patients (23 men, 8 women; mean age, 31.4 +/- 14.15, between 18-65 years) who had endoscopic sinus surgery because of chronic sinusitis. During the operation, when the maxillary sinus ostium and ethmoid sinus were opened, readily aspirated materials from sinuses were evaluated regarding aerob and anaerob bacteria. Nose and throat swap samples were collected preoperatively to determine the upper respiratory tract flora and also to understand the relationship between the flora and the microorganisms aspirated from sinuses.

Results: Total aerob bacteria count, which was isolated from preoperative nasal swab cultures, was 36, and aerob-anaerob bacteria count that included cultures taken from maxillary and ethmoid sinuses during the functional endoscopic sinus surgery was 42. For each 2 samples, the most common isolated aerob bacteria were coagulase (-) staphyloccoci. Microorganisms were isolated in 87.0% of 27 patients, in which cultures taken from maxillary and ethmoid sinuses during the functional endoscopic sinus surgery were included. It is determined that the isolated aerob bacteria rate was 90.4%, and the isolated anaerob bacteria rate was 14.2%. All of the 6 samples in which anaerob bacteria isolated were all maxillary sinus aspiration materials. Microorganisms that isolated from the nose and the sinuses were similar with the rate of 25.8%, and microorganisms that isolated from the throat cultures and sinuses were similar with the rate of 22.5%.

Conclusions: This study reveals the aerob and anaerob microbiology of the maxillary and ethmoid sinuses so the treatment of chronic sinusitis will be easier.


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INFLUENCE OF SITE ON SAPWOOD AND HEARTWOOD RATIOS OF TURKISH CALABRIAN PINE

Bektas, I
Alma, MH
Yuksel, A
Gundogar, R

TI Influence of site on sapwood and heartwood ratios of Turkish calabrian pine
SO FOREST PRODUCTS JOURNAL
LA English
In this study, the influence of site factor on the sapwood and heartwood ratios of Turkish calabrian pine (Pinus brutia Ten.) species was determined. The wood in this study was grown on four different sites in Turkey: Sucati-Kahramanmaras, Melli-Burdur, Yilanli-Mugla, and Kemalpasa-Izmir. The results indicated that the sapwood and heartwood ratios of the calabrian pine wood grown on these four sites averaged 93.81 percent and 6.13 percent, respectively. The highest heartwood ratio (8.33%) was determined for Sucati, followed by Yilanli, Melli, and Kemalpasa. Based on the results of the analysis of variance and the Scheffe test, it was found that differences in sapwood and heartwood ratios among the sites were quite significant (P < 0.01). These differences in sapwood and heartwood ratios might be attributed to ecological factors such as altitude, lime and organic material content of the soil, and soil type.
AU Sogut, O
TI Measurement of atomic L-subshell Coster-Kronig transition (f(12))
for some elements in the atomic range 52 <= Z <= 92
SO INSTRUMENTATION SCIENCE & TECHNOLOGY
LA English
DT Article
DE atomic L-subshell, Coster-Kronig transition, inner electron vacancy
ID X-RAY-FLUORESCENCE; CROSS-SECTIONS; YIELDS; PROBABILITIES; PHOTONS; PB
AB Coster-Kronig transitions are a special class of radiationless transitions in which an atomic inner-shell vacancy is filled by an electron from a higher subshell of the same principal shell (same quantum number, n). In order to investigate the physical quantities relevant to the L lines affected by the nonradiative transitions, experimental measurements were carried out using a Si(Li) x-ray spectrometer. Atomic L shell Coster-Kronig yields, f(12), for some elements in the atomic number 52 less than or equal to Z less than or equal to 92, were determined. The results in the present paper are found to be in good agreement with the theoretical values.
C1 Kahramanmaras Sutcu Imam Univ, Fac Arts & Sci, Dept Phys, TR-46100 Kahramanmaras, Turkey.
RP Sogut, O, Kahramanmaras Sutcu Imam Univ, Fac Arts & Sci, Dept Phys, TR-46100 Kahramanmaras, Turkey
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NR 26
TC 0
PU MARCEL DEKKER INC
PI NEW YORK
PA 270 MADISON AVE, NEW YORK, NY 10016 USA
SN 1073-9149
J9 INSTRUM SCI TECHNOL
In this study, the mechanical properties (e.g., compressive, bending (modulus of rupture [MOR]), izod impact, and tensile strengths) of calabrian pine (Pinus brutia Ten.) wood naturally grown in the K.Maras province of Turkey were investigated as a function of site index. The tests of the mechanical properties were performed on the clear small specimens of calabrian pine selected from the most suitable stands in the province and prepared as described in Turkish Standards. The results of statistical analyses revealed that the site index was an important factor influencing the mechanical properties of calabrian pine wood. Significant differences among all the types of site indexes (1, 11, and 111) studied were found for compressive strength parallel to the grain and tensile strength perpendicular to the grain. However, significant differences were found between only two site indexes for MOR and izod impact strength. Site index should be taken into account as an important parameter when using calabrian pine lumber.

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Measurement of X-ray production cross-sections of Ti, V, Cr, Mn, Fe, Co, Ni and Cu molecules

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The dynamic behaviour of the modified Pople-Karasz model is studied by the direct relaxation method and the path probability method. First the equilibrium behaviour of the model is given briefly in order to understand the dynamic behaviour. Then the direct relaxation method, which is based on the detailed balance conditions, and the path probability method are applied to the model and the dynamic equations or the rate equations are obtained. Dynamic equations are solved either by means of the flow diagram or by using the Runge-Kutta method, or both. The stable, metastable and unstable solutions are shown in the flow diagrams explicitly, and the role of the unstable state as separators between the stable and metastable is described. Moreover, the "flatness" property of the metastable state and the "overshooting" phenomenon are seen explicitly from the relaxation curves of the order parameters. (C) 2003 Elsevier Science B.V. All rights reserved.
Kahramanmaras Sutcu Imam Univ, Dept Phys, TR-46100 Kahramanmaras, Turkey.

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NR 45
TC 0
PU ELSEVIER SCIENCE BV
PI AMSTERDAM
PA PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS
SN 0378-4371
J9 PHYSICA A
JI Physica A
PY 2003
PD JAN 15
In this study, the seed lipids of Austrian pine (Pinus nigra Arnold.), Ehrami pine (Pinus nigra var. pyramidalis), Caucasian fir (Abies nordmanniana (Stev.) Spach), Eastern red (Thuja orientalis L.) and Scots pine (Pinus sylvestris L.) grown in Turkey were extracted with a mixture of methanol and chloroform. The bacterial and antifungal activities of the seed lipids were tested against various pathogenic bacteria and fungi by applying the disc-diffusion method. The seed lipids of A. nordmanniana were found to be most effective against the tested microorganisms, except for Pseudomonas aeruginosa and Micrococcus luteus bacteria, followed by T. orientalis and P. sylvestris, respectively. However, the seed lipids of P. nigra var. pyramidalis were not effective on the growth of any microorganism. Bacillus subtilis and Listeria monocytogenes bacteria were found as the most resistant bacteria in the study. Furthermore, the seed lipids of A. nordmanniana and, somewhat, T. orientalis, were generally comparable to two reference antibiotics.
Objective: Although adenoidectomy is one of the most commonly performed surgical procedures in children, there is no satisfactory information about the risk of bacteremia during adenoidectomy and necessity of antibiotic use. The aim of this study was to determine the incidence of bacteremia during adenoidectomy and identify the organisms leading to bacteremia. Methods: Thirty two patients who had undergone adenoidectomy at ENT Clinic of Sutcu Imam University were included in the study. They had received no antimicrobial therapy for at least 20 days before surgery. Adenoidal surface and deep tissue cultures were taken and venous blood samples were obtained for cultures before and immediately after adenoidectomy in which adenoid was removed with a curette. Results: While none of the blood cultures taken preoperatively was positive for any organisms, the cultures obtained postoperatively were positive in only two of 32 patients included in the study. Conclusion: The results of this study suggest that there is an extremely low incidence of bacteremia during adenoidectomy. As a result, it may be concluded that the use of prophylactic antibiotics to prevent bacteremia or its complications is unnecessary unless the patient has a predisposing factor for cardiac infection like prosthetic valve replacement. (C) 2002 Published by Elsevier Science Ireland Ltd.
The antibacterial activities of ethyl acetate, methanol, chloroform, and acetone extracts of four plant species were studied. The dried extracts of the whole plant of Artemisia absinthium (Compositae/Asteraceae) and Urtica dioica (Urticaceae), flowering plants of Fumaria officinalis (Papaveraceae/Fumariaceae) and the leaves of Rosmarinus officinalis (Labiatea/Lamiaceae) were tested in vitro against 12 bacterial species and strains by the agar diffusion method. Bacillus brevis FM3, Bacillus megaterium DSM32, Bacillus subtilis IMG22, Bacillus subtilis var. niger ATCC 10, Micrococcus luteus LA 2971, Mycobacterium smegmatus RUT, Escherichia coli DM, Listeria monocytogenes SCOTT A, Staphylococcus aureus ATCC 25923,
Streptococcus thermophilus, Pseudomonas fluorescens, and Yersinia enterocolitica O:3 P 41797 were used in this investigation. The results indicated that neither the whole plant extracts of Urtica dioica nor Fumaria officinalis showed antibacterial activity against the test micro-organisms. All the extracts of the leaves of Rosmarinus officinalis showed various inhibitory effects (7-16 mm/20 mull inhibition zone), except the acetone extract against Yersinia enterocolitica. The whole plant ethyl acetate and chloroform extracts of Artemisia absinthium inhibited some of the test micro-organisms (8-16 mm/20 mull inhibition zone).

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TC 1
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PA P O BOX 825, 2160 SZ LISSE, NETHERLANDS
SN 1388-0209
J9 PHARM BIOL
JI Pharm. Biol.
PY 2002
VL 40
IS 4
BP 269
EP 273
PG 5
GA 593PB
UT ISI:000178000200005
ER
Organophosphate intoxication as a consequence of mouth-to-mouth breathing from an affected case

We report three cases of organophosphate (OP) poisoning. One patient was a 19-year-old woman who drank OP compounds in an attempt at suicide. The other two patients became intoxicated on the way to the hospital during mouth-to-mouth breathing. The first patient died in the emergency department, and the other two were taken to the ICU. There, they were treated with atropine and pralidoxime. Three days later, all symptoms and signs had disappeared, and they were discharged from the hospital satisfactorily.

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The chemical effects on the L-beta/L-alpha, L-l/L-alpha, and L-gamma/L-alpha X-ray intensity ratios of U and Th were investigated. Vacancies were produced by heavily filtered Am-241 gamma rays. A high-resolution Si(Li) detector system was used in the experiments. The experimental values are given with the theoretical values of the pure U and Th elements.

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Resinification of NaOH-catalyzed phenolated wood-phenol mixture with formalin for making molding materials

NaOH-catalyzed phenolated wood-phenol-formalin co-condensed novolak type resin was prepared in two stages. Birch wood meal was first phenolated by using NaOH as a catalyst at an elevated temperature (i.e. 250°C), and then formalin solution together with oxalic acid was added to the phenolated wood-phenol mixture obtained. The relationships among reaction parameters and phenolation/resinification yields, flow properties of the resinified phenolated wood, and the physico-mechanical properties of the resinified phenolated wood-based molding materials were studied. The yields obtained due to resinification of the phenolated wood were found to depend, greatly, on the phenol-formalin molar ratio. Moreover, the melt flow properties (i.e. flow properties and viscosity) of the resinified NaOH-catalyzed phenolated wood reached or slightly exceeded those of commercial novolak resin and was greatly improved in comparison to the NaOH-catalyzed phenolated wood-based molding materials alone. Furthermore, the flexural properties of the resinified phenolated wood-based molding materials were determined to be much similar to or better than those of commercial novolak resin-based molding materials and much greater than those of NaOH-catalyzed phenolated wood-based molding materials alone. On the other hand, the resinified phenolated wood-based molding materials were more hydrophobic and biodegradable than those of commercial...
novolak resin-based molding materials and less hydrophobic and biodegradable than NaOH-catalyzed phenolated wood-based molding materials alone.

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YAMADA T, 1996, MOKUZAI GAKKAISHI, V42, P1098

Cutaneous anthrax of the hand and its reconstruction with a reverse-flow radial forearm flap

SO ANNALS OF PLASTIC SURGERY
LA English
DT Article
ID LESION

AB Bacillus anthracis infection can lead to necrosis in tissues and may manifest as a fatal disease in human beings. The authors present a patient with a large area of skin necrosis on the dorsum of the hand that was reconstructed with a reverse flow-through radial forearm flap, and they discuss the relevant literature. To the authors' knowledge, this is the first published report of such extensive necrosis resulting from anthrax limited to the extensor retinaculum of the hand.

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RP Coban, YK, Kahramanmaras Sutcu Imam Univ, Sch Med, Dept Plast &
Monarch birch wood (Betula maximowiczina Regel) wastes were phenolated in the presence of HCl as a catalyst at 60-150\textdegree\text{C} for various reaction times. Typical kinetic parameters along with percent reacted wood and phenol were determined by using kinetic models. In addition, according to the transition-state theory the activation parameters of wood phenolysis was determined. The percent reacted wood wastes depicted that about 90\% of the wood could be liquefied into phenol at a temperature of 150\textdegree\text{C}. However, about 30\% of phenol was found to react with wood components. The kinetic studies showed that wood phenolysis with HCl catalyst at 60-150\textdegree\text{C} obviously followed a bimolecular type of second-order reaction. Activation energy was found to be 13.438 kJ mol\(^{-1}\) from an Arrhenius...
plot. Furthermore, the findings related with activation enthalpy showed that the wood phenolysis had dominantly endothermic reaction nature. (C) 2002 Wiley Periodicals, Inc.

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J9 J APPL POLYM SCI
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GA 558TQ
UT ISI:000175983000025
ER

PT J
AU Sogut, O
Buyukkasap, E
Ertugrul, M
Kucukonder, A

TI Chemical effect on enhancement of Coster-Kronig transition of L-3 X-rays
SO JOURNAL OF QUANTITATIVE SPECTROSCOPY & RADIATIVE TRANSFER
LA English
DT Article
DE X-ray spectra, cross-section, chemical effect
ID SYNCHROTRON PHOTOIONIZATION METHOD; SHELL FLUORESCENCE YIELDS;
AB Chemical effects on enhancement of Coster-Kronig transition of L-3 X-rays of Hg, Pb and Bi compounds were investigated for these elements and their compounds. The samples were excited by gamma rays with energy 59.5 keV from an Am-241 radioisotope source. L X-rays emitted by samples were counted by a Si(Li) detector with resolution 155 eV at 5.9 keV. The data were carefully analysed and chemical effects on enhancement of Coster-Kronig transition of L3 X-rays were determined.

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AB Barks From Four common Mediterranean trees subjected to phenolysis under acidic conditions at moderate temperature (130\textdegree C or 150\textdegree C) were evaluated with pyrolysis-molecular beam mass spectrometer (py-MBMS). The results indicated that both concentration of acid catalyst and the phenolysis temperature have an impact on the chemical composition of both the isolated oils and the solid residue, with the acid concentration having the greatest influence. The primary phenolysis reaction products included phenolics and Furans. As expected, at higher acid concentrations the phenolysis products contained less carbohydrate and included more phenolic fragments. These phenolysis oils should be useful as feedstocks for the production of phenol formaldehyde resins. The py-MBMS method was found to be an effective and convenient method to understand bark phenolysis. Published by Elsevier Science Ltd.

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JI Biomass Bioenerg.
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Syntheses and characterization of 4-(11-chloro-3,6,9-trioxaoctadecyloxy)phenylamino-glyoxime and its complexes with copper (II), nickel(II), and cobalt(II)

A novel vic-dioxime ligand containing ethyleneoxy groups, 4-(11-chloro-3,6,9-trioxaoctadecyloxy)phenylamino-glyoxime (LH2) has been prepared from 1-amino-4-(11-chloro-3,6,9-trioxaoctadecyloxy)benzene and monochloro, anti-glyoxime. Its complexes, Ni(LH)(2), Cu(LH)(2) and Co (LH)(2), have been synthesized. The analytical data show that the metal to ligand ratio in the complexes is 1:2. The complexes are formed by coordination of N,N atoms of the ligand. The structures of the oxime ligand (LH2) and its complexes were elucidated by H-1 NMR, IR, UV.-Visible and elemental analyses techniques.

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Expression of a cellulase gene, celA, from the rumen fungus Neocallimastix patriciarum in Streptococcus bovis by means of promoter fusions

AB The aerotolerant rumen bacterium, Streptococcus bovis, has been used as a host for expression of genes of eukaryotic origin. The coding regions of the celA cellulase gene from the rumen fungus, Neocallimastix patriciarum, were fused with bacterial promoter/signal peptide regions from the Ruminococcus flavefaciens xynD and S. bovis beta-(1,3-1,4)-glucanase genes. Fusion cassettes were built into shuttle vector constructs based on pIL253 or pTRW10 and constructs carrying celA were transformed into S. bovis JB1. Active N. patriciarum cellulase was produced in S. bovis with either promoter, although better expression levels were obtained with the native S. bovis beta-glucanase promoter fragment.

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Transformation and stability of cloned polysaccharidase genes in gram-positive bacteria

Polysaccharidase genes from rumen bacteria were transferred to and expressed in ruminal and non-ruminal Gram-positive bacteria. The transformation efficiency and genetic stability of polysaccharidase genes in bacteria from different habitats were investigated. PCR amplification of cloned polysaccharidase genes from Escherichia coli, Lactococcus lactis, Enterococcus faecalis, Streptococcus sanguis and S. bovis strain 26 showed that rearrangement of plasmid and the gene fragment did not occur. The DNA band sizes from all primers agreed with the expectations of some transformants of S. bovis JB1 being rearranged. In spite of the rearrangement in S-bovis JB1 polysaccharidase activities were conserved. Growing in the continuous culture proved the plasmid survival and gene stability of the recombinant microorganisms.
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PT J
AU Erdogrul, OT
Ozkan, N
Cakiroglu, E
TI Salmonella enteritidis in quail eggs
SO TURKISH JOURNAL OF VETERINARY & ANIMAL SCIENCES
LA English
DT Article
DE quail egg, Salmonella enteritidis, phage-typing
ID THERMAL-RESISTANCE; SHELL; YOLK; HENS
AB The presence of Salmonella enteritidis was investigated in 123 liquid whole quail eggs. Salmonella strains were identified and sero-grouped by coagglutination test and slide agglutination test. Seven (5.69%) of 123 whole quail eggs were in group D1 and were sero-typed as Salmonella enteritidis. It was found that in phage-typing of Salmonella enteritidis, three of 7 strains were Salmonella enteritidis PT4, two of them were PT1, one of them was PT7, and one of them was indefinite.
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FU SCIENTIFIC TECHNICAL RESEARCH COUNCIL TURKEY
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PA PO BOX 605 YENISEHIR, 06445 ANKARA, TURKEY
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J9 TURK J VET ANIM SCI
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UT ISI:000174792400020
ER
PT J
AU Karabiber, H
Sasmaz, S
Turanli, G
Yakinci, C
TI Prevalence of hypopigmented maculae and cafe-au-lait spots in idiopathic epileptic and healthy children
SO JOURNAL OF CHILD NEUROLOGY
LA English
DT Article
The cutaneous lesions and findings related to the central nervous system are frequently seen concomitantly in many patients. Neurocutaneous syndromes are the most typical examples supporting this observation. The prevalences of hypopigmented maculae and cafe-au-lait spots were investigated in 210 idiopathic epileptic children between the ages of 2 and 17 years and 2754 healthy children between the ages of 5 and 15 years. In the group of epileptic children, hypopigmented maculae and cafe-au-lait spots were observed in 30 (14.3%) and 63 (30%) children, respectively. In the group of healthy children, the prevalence of hypopigmented maculae was 1.6% (44 children) and of cafe-au-lait spots was 2.8% (78 children). The difference between the two groups was very significant statistically (P <.0001).

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PU B C DECKER INC
PI HAMILTON
PA 20 HUGHSON ST SOUTH, PO BOX 620, L C D 1, HAMILTON, ONTARIO L8N 3K7, CANADA
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JI J. Child Neurol.
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GA 524DH
UT ISI:000173996500015
ER
PT J
Determination of Coster-Kronig transition probabilities (L-1 -> L-2, L-1 -> L-3 and L-2 -> L-3) for Hg and Bi in molecules

SO X-RAY SPECTROMETRY

The f(12), f(13) and f(23) Coster-Kronig (CK) transitions (that is L-1 --> L-2, L-1 --> L-3 and L-2 --> L-3 transitions) in Hg and Bi in molecules were studied at 59.5 keV excitation energy using an Si(Li) detector. A change in the CK transition probabilities was observed for different molecules. The change in the values for Hg compounds were greater than those for Bi compounds. Because we did not have pure Bi in the laboratory and also were not able to have specimen preparation conditions for pure Hg, we did not obtain experimental values for elemental Bi and Hg. Copyright (C) 2002 John Wiley Sons, Ltd.
We describe prostaglandin (PG) biosynthesis by microsomal-enriched fractions of fat body prepared from larvae of the tenebrionid beetle, Zophobas atratus. PG biosynthesis was sensitive to incubation time, temperature, pH, substrate and protein concentration. Optimal PG biosynthesis conditions of those we examined included 2 mg of microsomal-enriched protein, incubated at 22°C for 2 min at pH 6. These preparations yielded four major PGs: PGA(2), PGE(2), PGD(2) and PGF(2alpha). PGA(2) and PGF(2alpha) were the predominant eicosanoids produced under these conditions. Two non-steroidal anti-inflammatory drugs, indomethacin and naproxen, effectively inhibited PG biosynthesis in low concentrations. In vitro PG biosynthetic reaction conditions, using vertebrate or invertebrate enzyme sources, usually include a cocktail of reaction co-factors. The Z. atratus preparation similarly performs better in the presence of co-factors. Arch. Insect Biochem. Physiol. 49:80–93, 2002. (C) 2002 Wiley-Liss, Inc.
The X-ray fluorescence cross-section for bromide and iodide compounds

The K-alpha and K-beta X-ray fluorescence cross-sections for the
bromide and the iodide compounds were measured by a high-resolution Si(Li) X-ray detector. The vacancies were produced by heavily filtered Am-241 gamma rays. We found that K-alpha and K-beta X-ray fluorescence cross-sections are changed by chemical effect for different Br and I compounds. Experimental results were compared with the calculated values of Br and I elements.

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WATSON RL, 1978, ADV XRAY ANAL, V105, P21

NR 21
TC 1
PU SPRINGER-VERLAG
PI NEW YORK
PA 175 FIFTH AVE, NEW YORK, NY 10010 USA
SN 1434-6060
J9 EUR PHYS J D
JI Eur. Phys. J. D
PY 2001
PD DEC
VL 17
IS 3
BP 293
EP 296
PG 4
GA 509GG
UT ISI:000173137500003
ER

PT J
AU Bektas, I
   Alma, MH
   As, N
TI Determination of the relationships between Brinell and Janka hardness of eastern beech (Fagus orientalis Lipsky)
SO FOREST PRODUCTS JOURNAL
LA English
In this study, the hardnesses (Brinell and Janka) and air-dry densities of eastern beech (Fagus orientalis Lipsky) grown in Kahramanmaras forests located in the Eastern Mediterranean region of Turkey were determined. The relationships between the two hardness methods for all three wood sections (cross, radial, and tangential) were studied using linear regression methods. The results showed that the mean values of Janka and Brinell hardnesses of the specimens ranged from 4,810 N to 6,903 N and from 2.8 to 5.8, respectively. In addition, regardless of the sections of the wood specimens, almost all the relationships between Brinell and Janka hardnesses determined for all three sections of the wood specimens were significant. The strongest linear relationship between Brinell and Janka hardnesses was found for the total of the three sections. Through these findings, the Janka hardness of the wood specimens of eastern beech species could be converted into Brinell hardness and vice versa.

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CR *TURK STAND, 1976, 2472 TS
*TURK STAND, 1984, 4176 TS
AKBULUT T, 1989, J FACULTY FORESTY B, V39, P98
ANSM N R, 1993, ANGIOSPERMAES, P19
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FOREST PRODUCTS SOC
MADISON
2801 MARSHALL COURT, MADISON, WI 53705-2295 USA
0015-7473
FOREST PROD J
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2001
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ISI:000172945100019
Digrak, M
In this study, the antibacterial and antifungal activities of Rhus coriaria L. (Anacardiaceae), Stachys annua (L.) subsp. annua Ic., Stachys pumilia Banks & Sol., Laurus nobilis L. (Lauraceae), Allium neapolitanum Lyr. (Liliaceae), Salvia viridis L. (Lamiaceae), and Nicotina rustica (Solanaceae) species were investigated. The microbial effects of these plants were tested by a disk diffusion method using Bacillus megaterium DSM 32, Bacillus brevis FMC 3, Bacillus subtilis IMG 22, Bacillus cereus FMC 19, Escherichia coli DM, Enterobacter aerogenes CCM 2531, Pseudomonas aeruginosa DSM 50071, Staphylococcus aureus Cowan 1, Listeria monocytogenes Scott A and Micrococcus luteus LA 2971, Candida tropicalis and Candida albicans CCM 314. The results showed that the fruit extract of R. coriaria had the strongest antimicrobial effect with an inhibition zone of 35-51 mm against all the bacteria used, while S. viridis demonstrated the weakest antibacterial effect, inhibiting only the development of S. aureus, with an inhibition zone of 11 mm. A. neapolitanum, L. nobilis and N. rustica extracts were effective only with some yeasts. The growth of S. aureus was inhibited by all the plant extracts except for S. annua subsp. annua, having an inhibition zone ranging from 7-8 mm. With the exception of B. subtilis IMG 22, L. monocytogenes Scott A and M. luteus LA 2971, the growth of the other bacteria was inhibited by all the extracts. Except for the fruit extracts of R. coriaria and A. neapolitanum, all additional extracts of generated inhibition zones smaller than those generated by several reference antibiotics.

Kahramanmaras Sutcu Iman Univ, Fac Forestry, Dept Ind Engn Forestry, Kahramanmaras, Turkey.
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Acemioglu, B, Alma, MH

TI Equilibrium studies on adsorption of Cu(II) from aqueous solution onto cellulose

SO JOURNAL OF COLLOID AND INTERFACE SCIENCE

LA English

DE adsorption, cellulose, Cu(II) ions, kinetics, adsorption isotherms, thermodynamic parameters

AB Cellulose, a natural polymer, was used as an adsorbent for the adsorption of Cu(II) ions from the aqueous solutions of copper sulfate pentahydrate (CuSO4 . 5H2O) at different temperatures and a fixed pH. The amount adsorbed increased with increasing concentration of Cu(II) ions; however, it did not differ significantly with temperature. The equilibrium times of adsorptions of Cu(II) ions at various temperatures were the same. Kinetics studies showed that the adsorption process obeyed the first-order reversible kinetic model. It was also determined that adsorption isotherms followed both Freundlich and Langmuir models. Furthermore, the thermodynamic parameters, i.e., standard free energy (ΔG), standard enthalpy (ΔH), and standard entropy (ΔS), of the adsorption process were calculated. The results obtained are discussed in detail. (C) 2001 Academic Press.

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CR ASFOUR HM, 1985, J CHEM TECHNOL BIOT, V35, P21
Crystallinity of cellulose residue remaining after the phenolation of cellulose

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Alma, MH, Sutcu Imam Univ, Fac Forestry, Dept Ind Engn Forestry, K Maras, Turkey

Recent Res Wood Wood

Alexander LE, 1969, Xray Diffraction Met, P137

Shiraishi N, 1993, Recent Res Wood Wood

NR 2
TC 0
PU SPRINGER-VERLAG
PI NEW YORK
PA 175 FIFTH AVE, NEW YORK, NY 10010 USA
SN 0018-3768
J9 HOLZ ROH WERKST
JI Holz Als Roh-und Werkst.
PY 2001
PD OCT
VL 59
IS 5
BP 363
EP 363
PG 1
GA 486RR
In this study, wood (Betula maximowiczina Regel) wastes were liquefied with phenol in the presence of NaOH at an elevated temperature of 250 degreesC. The liquefied wood was then resinified with formaldehyde, and the resulting resol-type resin adhesives were applied for the production of plywood. The results indicated that almost all of the resol-type resin adhesives prepared met the Japanese Industrial Standard as far as dry shear adhesive strengths of plywood were concerned. Furthermore, boiling water-resistant resol-type adhesives could be prepared from the resinification of NaOH-catalyzed liquefied wood with formaldehyde at a formaldehyde/phenol ratio of at least 2.0 and from the addition of an appropriate cross-linking agent such as polymeric diphenylmethane diisocyanate to the resol.
In this study, EEG signals were analyzed using autoregressive (AR) method. Parameters in AR method were realized by using maximum likelihood estimation (MLE). Results were compared with fast Fourier transform (FFT) method. It is observed that AR method gives better results in the analysis of EEG signals. On the other hand, the results have also showed that AR method can also be used for some other researches and diagnosis of diseases. (C) 2001 Elsevier Science Ltd. All rights reserved.
Prevalence of epilepsy in 3637 children of primary school age in the province of Malatya, Turkey

SO JOURNAL OF TROPICAL PEDIATRICS
LA English

A study on cellulolytic and hemicellulolytic enzymes of anaerobic rumen bacterium Ruminococcus flavefaciens strain 17

SO TURKISH JOURNAL OF VETERINARY & ANIMAL SCIENCES
Polysaccharide-degrading enzymes of the anaerobic rumen bacterium Ruminococcus flavefaciens strain 17 were examined. This work demonstrated that R. flavefaciens strain 17 produces a complex array of enzymes active against cellulose, hemicellulose (xylan) and lignin. These enzymes are xylanase, avicellase, acid-swollen cellulase, carboxymethyl cellulase (CMCase), pNP-cellobiosidase (pNPC), pNP-glucopyranosidase (pNPG), pNP-xylopyranosidase (pNPX) and pNP-arabinofuranosidase (pNPA). Although R. flavefaciens, is an anaerobic bacterium, its enzymes worked optimally under aerobic conditions and with dithiothreitol (DTT), except in the case of pNP-xylopyranosidase. pNP-xylopyranosidase exhibited a higher level of activity under anaerobic conditions with DTT. It was demonstrated that the cross-links between arabinose side chains, which esterified via ferulic acid and p-coumaric acid, were cleaved by R. flavefaciens esterase and alpha -arabinofuranosidase.

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Expression of bifunctional genes encoding xylanase and beta(1,3-1,4)-glucanase in Gram-positive bacteria

The xylanase and beta(1,3-1,4)-glucanase activities encoding gene from the cellulolytic rumen anaerobe bacterium was cloned into Escherichia/Streptococcus shuttle vector for introduction into Gram-positive bacteria, including the rumen facultative anaerobe bacterium Streptococcus bovis. Activities due to the cloned gene decreased in the stationary phase in batch cultures of S. bovis, reflecting the sensitivity of the cloned enzymes to inactivation in the presence of accumulated lactic acid. Cloned gene activity was detected in the culture supernatant, indicating recognition of the cloned gene signal peptide by Gram-positive bacteria.
Dimensional changes in Corsican and Scots pine sapwood due to reaction with crotonic anhydride

The effects of the reaction temperature and varying level of weight gain on the dimensional stabilisation of crotonic anhydride modified Corsican and Scots pine sapwood were investigated. With Corsican pine at low levels of substitution, the reagent occupied larger molar volumes in the cell wall than at higher weight gains. With Scots pine the molar volume occupied by reagent was found to be temperature dependent at low levels of substitution. Dimensional stabilisation was determined by the water-soak/oven-dry method through a total of ten cycles in order to determine the stability of the ester bond to hydrolysis at neutral pH. It was found that the reaction temperature has no significant effect on dimensional stability provided the same weight gain level is obtained. At weight gain levels in excess of 30%, values of anti-shrink efficiency of 90% were obtained.

C1 Univ Kahramanmaras Sutcu Imam, Fac Forestry, TR-46060
The prevalence of epilepsy in 3637 children of primary school age in the province of Malatya, Turkey

Karabiber, H, Yakinci, C, Durmaz, Y, Kutlu, O, Soylu, H

SO JOURNAL OF TROPICAL PEDIATRICS
LA English
DT Letter
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Inonu Univ, Sch Med, Dept Pediat, Malatya, Turkey.
RP Karabiber, H, Kahramanmaras Sutcu Imam Univ, Tip Fak, Cocuk Hastaliklari Anabilim Dali, TR-46050 Kahramanmaras, Turkey
CR DURKIN MS, 1992, PAEDIATR PERINAT EP, V6, P166
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MURPHY CC, 1995, EPILEPSIA, V36, P866
Antibacterial and antifungal activity of the essential oils of Thymus revolutus Celak from Turkey

The chemical composition of the volatile constituent from flowering parts of Thymus revolutus C., an endemic plant of Turkey, were analysed by GC/MS. Twenty-two components were identified, and carvacrol was found as a predominant compound in the oil. Furthermore, the essential oil was tested against 11 bacteria and four fungi at different concentrations. Results showed that the oil exhibited a significant antibacterial and antifungal activity. (C) 2001 Elsevier Science Ireland Ltd. All rights reserved.

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C1 Karaman, S, Kahramanmaras Sutcu Imam Univ, Fac Sci, Dept Biol, K Maras, Turkey.
RP Karaman, S, Kahramanmaras Sutcu Imam Univ, Fac Sci, Dept Biol, K Maras, Turkey

EU 000169477700016
ER

PT J
AU Karaman, S
   Digrak, M
   Ravid, U
   Ilcim, A
TI Antibacterial and antifungal activity of the essential oils of Thymus revolutus Celak from Turkey
SO JOURNAL OF ETHNOPHARMACOLOGY
LA English
DT Article
DE antifungal activity, antimicrobial activity, carvacrol, essential oils, lamiaceae, Thymus revolutus C
AB The chemical composition of the volatile constituent from flowering parts of Thymus revolutus C., an endemic plant of Turkey, were analysed by GC/MS. Twenty-two components were identified, and carvacrol was found as a predominant compound in the oil. Furthermore, the essential oil was tested against 11 bacteria and four fungi at different concentrations. Results showed that the oil exhibited a significant antibacterial and antifungal activity. (C) 2001 Elsevier Science Ireland Ltd. All rights reserved.

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RP Karaman, S, Kahramanmaras Sutcu Imam Univ, Fac Sci, Dept Biol, K Maras, Turkey

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Molecular cloning of an α-amylase gene from Bacillus subtilis RSKK246 and its expression in Escherichia coli and in Bacillus subtilis

SO TURKISH JOURNAL OF VETERINARY & ANIMAL SCIENCES
LA English
DT Article
DE amylase, Bacillus subtilis, gene
ID STREPTOCOCCUS-BOVIS; PURIFICATION; SECRETION; BACTERIA; ENZYMES; RUMEN
AB Bacillus subtilis RSKK246 was found to produce approximately a 65-kDa α-amylase enzyme. A gene was isolated encoding α-amylase activity that corresponded to this size and was inserted into pUC18 plasmid which was transferred to Escherichia coli. An approximately 1.7kbp fragment, which contains a whole α-amylase gene, was excised and inserted into pUB110 and then transferred into the different B. subtilis strains including RSKK246, RSKK243, RSKK244, YB886 and DREAM. The α-amylase gene was cloned into the plasmids and expressed with its own promoter, and this promoter sequence seemed to function in the E. coli and in all B. subtilis strains. Specific activity of the cloned enzyme was found to be higher than
the native enzyme and molecular weight of the gene product remained the same in all other strains suggesting that it is resistant to the proteolytic attacks of these organisms.

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CR BARATGUERIDE M, 1987, REPLICATION TRANSCRI, P247
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NR 27
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PU SCIENTIFIC TECHNICAL RESEARCH COUNCIL TURKEY
PI ANKARA
PA PO BOX 605 YENISEHIR, 06445 ANKARA, TURKEY
SN 1300-0128
J9 TURK J VET ANIM SCI
PY 2001
VL 25
BP 197
EP 201
PG 5
GA 420CU
UT ISI:000167987000011
ER

PT J
AU Alma, MH
Kelley, SS
TI Conversion of barks of several tree species into bakelite-like thermosetting materials by their phenolysis
SO JOURNAL OF POLYMER ENGINEERING
In this study, barks of several tree species, such as Calabrian pine, cedar, eucalyptus, acacia, Anatolia chestnut and Turk oak, were phenolated by using sulfuric acid as a catalyst at a temperature of 130 degreesC for 1 h. The phenolated barks obtained were cured with hexamethylenetetramine (HMTA). Then, the mechanical properties (static flexural strength) of the phenolated bark-based molding materials were evaluated. The results showed that the barks of various tree species were easily phenolated in the presence of sulfuric acid, and the phenolated bark could be molded like a commercial novolak resin. It was also found that barks with small amounts of ash were effectively phenolated in comparison to barks with large amounts of ash. On the other hand, the reaction type of the bark phenolysis could be classified as exothermic as in the production of phenol-formaldehyde resin. Eventually, it was determined that the flexural strength of the whole phenolated bark-based moldings studied, excluding phenolated acacia bark, was similar to that of the commercial novolak resin-based moldings.

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RP Alma, MH, Kahramanmaras Sutcu Imam Univ, Dept Ind Engn Forestry, TR-46060 K Maras, Turkey
CR ALMA MH, 1997, J POLYM ENG, V17, P311
ALMA MH, 1998, J POLYM ENG, V18, P161
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KNOP A, 1979, CHEM APPL PHENOLIC R, P104
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WHITEHOUSE AAK, 1967, PHENOLIC RESIN, P115
NR 15
TC 1
PU FREUND PUBLISHING HOUSE LTD
PI LONDON
PA STE 500, CESHAM HOUSE, 150 REGENT ST, LONDON W1R 5FA, ENGLAND
SN 0334-6447
J9 J POLYM ENG
PY 2000
PD SEP-OCT
VL 20
IS 5
BP 365
EP 379
PG 15
GA 381HC
An accessory muscle (flexor digitorum longus accessorius) was encountered in the deep posterior compartment of both legs of a 57-year-old male cadaver. The muscle originated with two heads from the medial margin of the tibia, lateral margin of the fibula, posterior intermuscular septum and the deep fascia at the distal part of the leg. Both heads came together just posterior and superficial to the tibial nerve, and converged into a slender tendon which traversed the tarsal tunnel in the vicinity of the neurovascular bundle to reach the sole of the foot. It terminated by merging into the tendon of the quadratus plantae muscle. The potential of such an anomalous muscle to lead to misinterpretations of the radiodiagnostic examinations and the fact that it can be one of the causes of tarsal tunnel syndrome should be borne in mind.

C1 Kahramanmaras Sutcu Imam Univ, Sch Med, Dept Anat, TR-46050 Kahramanmaras, Turkey.
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YUKSEL M, 1993, ACTA ANAT, V148, P62

NR 20

TC 1

PU URBAN & FISCHER VERLAG
PI JENA
PA BRANCH OFFICE JENA, P O BOX 100537, D-07705 JENA, GERMANY
SN 0940-9602
J9 ANN ANATOMY
The tensile properties of molding products obtained by the condensation of various tree barks and phenol by using sulfuric acid as a catalyst.
Deterioration of wood wastes-based molding materials by using several fungi

AU Alma, MH
Digrak, M
Bektas, I

TI JOURNAL OF MATERIALS SCIENCE LETTERS
LA English
DT Article
C1 Kahrmanmaras Sutcu Imam Univ, Dept Ind Engn Forestry, TR-46060 K Maras, Turkey.
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CR ALMA MH, 1995, MOKUZAI GAKKAISHI, V30, P1121
ALMA MH, 1998, J POLYM ENG, V18, P197
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AB Nematicidal activity of essential oils extracted from 27 spices and aromatic plants were evaluated in vitro and in pot experiments. Twelve of the twenty-seven essential oils immobilized more than 80%
of juveniles of the root-knot nematode Meloidogyne javanica at a concentration of 1,000 μl/liter. At this concentration, most of these oils also inhibited nematode hatching. Essential oils of Carum carvi, Foeniculum vulgare, Mentha rotundifolia, and Mentha spicata showed the highest nematicidal activity among the in vitro tested oils. These oils and those from Origanum vulgare, O. syriacum, and Coridothymus capitatus mixed in sandy soil at concentrations of 100 and 200 mg/kg reduced the root galling of cucumber seedlings in pot experiments. The main components of these essential oils were tested for their nematicidal activity. Carvacrol, t-anethole, thymol, and (+)-carvone immobilized the juveniles and inhibited hatching at >125 μl/liter in vitro. Most of these components mixed in sandy soil at concentrations of 75 and 150 mg/kg reduced root galling of cucumber seedlings. In 3-liter pot experiments, nematicidal activity of the essential oils and their components was confirmed at 200 and 150 mg/kg, respectively. The results suggest that the essential oils and their main components may serve as nematicides.
The barks of calabrian pine (Pinus brutia) and Anatolia chestnut (Cestanea sativa) tree species have been condensed with phenol in the presence of sulfuric acid as a catalyst at a temperature of 130 degrees C for 1 h. The phenolated bark species obtained was cured with hexamethylenetetramine (HMTA) at 190 degrees C for 5 min and then, some thermal properties [thermogravimetric weight changes and glass transition point (T-g) of the cured phenolated barks were investigated by using thermal gravimetric analysis (TGA) and differential scanning calorimetric (DSC) methods as a function of the catalyst concentrations. The results showed that thermogravimetric weight losses and glass transition points (T-g) of the cured phenolated bark decreased with increasing catalyst concentration. The thermogravimetric weight loss of the cured phenolated barks was found to be comparable to those of cured commercial novolak resin and phenolated wood. Furthermore, the T(g)s of the phenolated bark samples were found to increase with increasing catalyst concentration and to be obviously lower than those of commercial novolak resin. (C) 2000 Elsevier Science Ltd. All rights reserved.

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Synthesis and characterisation of some novel Schiff base metal complexes with polyoxyethylene glycols as substituents

Two novel Schiff base ligands containing oxyethylene glycol chains, \( N-(4\text{-pentaoxyethyleneglycolphenyl})\text{salicylaldimine}, \) HL1, and \( N-(4\text{-nonaoxy ethyleneglycolphenyl})\text{salicylaldimine}, \) HL2, were synthesized by reacting salicylaldehyde with 4-aminophenylpentaoxyethylene glycol or S-amino phenylnonaoxyethylene glycol, respectively. Their nickel(II), copper(II) and cobalt(II) complexes were synthesised. The novel Schiff base ligands and their complexes were characterized by elemental analyses, H-1 NMR, infrared and UV-Visible spectra. The analytical data show that the metal to ligand ratio in the complexes is 1:2.

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Antimicrobial activities of several parts of Pinus brutia, Juniperus oxycedrus, Abies cilicia, Cedrus libani and Pinus nigra

In this study, the antimicrobial activities of several parts of various trees grown in the Kahramanmaras region of Turkey were investigated by the disc diffusion method. Chloroform, acetone and methanol extracts of leaves, resins, barks, cones and fruits of Pinus brutia Ten., Juniperus oxycedrus L., Abies cilicia Ant. & Kotschy Carr., Cedrus libani A. Rich. and Pinus nigra Am. were prepared and tested against Bacillus megaterium DSM 32, Bacillus subtilis IMG 22, Bacillus cereus FMC 19, Escherichia coli DM, Klebsiella pneumoniae EMC 3, Enterobacter aerogenes CCM 2531, Staphylococcus aureus Cowan 1, Mycobacterium smegmatis RUT, Proteus vulgaris FMC 1, Listeria monocytogenes Scoot A, Pseudomonas aeruginosa DSM 5007, Candida albicans CCM 314, Candida tropicalis MDC 86 and Penicillium italicum.
The results showed that antifungal effects were not observed for the whole extracts, E. coli was not inhibited by any of the plant extracts except by the chloroform and acetone extracts of the leaves of A. ciliaris, which showed inhibition zones of 16-18 mm, respectively. All the plant extracts used in this study inhibited the development of the other bacteria studied. When the results of this study were compared with an ampicillin standard, it was found that the microorganisms studied were generally susceptible, intermediate or resistant to the extracts of species when compared with the ampicillin standard. On the other hand, the acetone and methanol extracts of Juniperus fruits were found to be quite resistant.
The antimicrobial activities of valex (the extract of valonia), the extracts of mimosa bark, gallnut powders, Salvia aucheri Bentham var aucheri and Phlomis bourgei Boiss were studied. The antimicrobial activity of the above plants was evaluated by the disk diffusion method using Bacillus brevis TMC 3, Bacillus subtilis IMG 22, Bacillus cereus EU, Escherichia coli DM, Pseudomonas aeruginosa DSM 50071, Staphylococcus aureus Cowan 1, Listeria monocytogenes A. Micrococcus luteus LA 2971, Klebsiella pneumoniae FMC 5, Mycobacterium smegmatus RUT, Proteus vulgaris FMC 1 bacteria, and Alternaria alternata MDC 97 Penicillium italicum MDC 101, Fusarium equiseti C, Candida albicans CCM 314 fungi. The results indicated that mimosa bark extracts had the greatest antibacterial activity, followed by the valex, gallnut powders, Salvia aucheri var. aucheri and Phlomis bourgei extracts, respectively. Furthermore, it was found that gallnut powders and the extracts of mimosa bark contained high amounts of tannins and showed antifungal activity.


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PU SWETS ZEITLINGER PUBLISHERS
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J9 PHARM BIOL
JI Pharm. Biol.
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Genetics of milk protein polymorphism and its relation to milk yield traits in Holstein cows

The distribution and types of alpha-s(1)-casein, beta-lactoglobulin, beta-casein and kappa-casein in Holstein cattle were identified. It was determined that the frequencies of alpha-s(1)-casein were 0.958 and 0.042 for alpha-s(1)-Ka(B) and alpha-s(1)-Ka (C); beta-lactoglobulin, 0.516 and 0.484 for beta-lgn(A) and beta-lgn (B); beta-casein, 0.995 and 0.005 for beta-Ka(A) and beta-Ka(B); and kappa-casein, 0.677 and 0.323 for kappa-Ka(A) and kappa-Ka(B), respectively. The differences between the empirical and theoretical distributions of the alpha-s(1)-casein, beta-lactoglobulin, beta-casein and kappa-casein genotypes were not significant. The effects of the alpha-s(1)-casein, beta-casein and kappa-casein types on milk yield traits were not significant, while the effects of the beta-lactoglobulin types were significant (p<0.05). Beta-Lgn(AB) type cows produced the highest 2x-ME-305 daily milk yields. The effects of alpha-s(1)-casein types on the length of the lactation period were not significant, while the effects of the beta-lactoglobulin, beta-casein and kappa-casein types were significant (P<0.05).

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Two new azo dye ligands, 2-(2'-hydroxyphenylazo)-4-nonylphenylnonaoxy ethylene glycol (Hnpn) and 2-(2'-hydroxyphenylazo)-4-nonylphenyltriacontaoxy ethylene glycol (Hnpt), were synthesised by reacting a diazonium salt solution of o-aminophenol with 4-nonylphenylnonaoxyethylene glycol or 4-nonylphenyltriacontaoxyethylene glycol, respectively. Nickel(II), copper(II) and cobalt(II) complexes of these azo ligands were synthesised. The analytical data show that the metal to ligand ratio in the complexes is 1:1. The structures of these azo ligands and the complexes were elucidated by H-1 NMR, TR, UV-Visible, mass spectra and elemental analysis techniques.
In this study, lactation curves traits of Simmental cows in raised at regional in Experimental Farm of Kazova were determined the shape and type of lactation curve were described by Gamma curve parameters.
of $Y_t = A.t(b) e(-ct)$. The 42% percent of lactation curve were atypical, the distribution of typical and atypical lactation curves were depended upon the calving season ($P<0.01$), and weren't significant ($P>0.05$) depended upon the lactation number. Effect of calving year on $B$ and $C$ values was highly significant ($P<0.01$) or significant ($P<0.05$). Effect of carving season on the $B$ values was significant ($P<0.05$). Effect of breeding type was highly significant ($P<0.01$) for the $A$, $S$ (persistency) and $Y_{max}$ (maximum daily peak yield). Least squares means were found to be $13.00 \pm 0.9$ kg, $0.154 \pm 0.022$, $0.00345 \pm 0.00042$, $6.628 \pm 0.105, 19.95 \pm 1.4$ kg and $36.55 \pm 4.4$ days for $A$ (beginning yield), $B$ (coefficient of rising), $C$ (coefficient of decreasing), $S$ (persistency). $Y_{max}$ (Average of maximum daily peak yield), $T_{max}$ (Average of daily peak yield length).

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J9 TURK J VET ANIM SCI
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In this study, effects of milk protein polymorphism on milk yield traits were investigated in Brown Swiss cattle. Starch Cel Elektroforesis methods were used for milk protein typing. The data were evaluated by least squares and Maximum Likelihood Computer Program. Least squares means were found to be 4029.46 +/- 251.73 kg for 305 days milk yield, 301.41 +/- 14.84 days for lactation length. Effects of proportional to-(s1), -cazein, beta-Lactoglobulin and kappa-cazein types on milk yield traits were non-significant (p>0.05), while effect of beta-Casein types were significant (p<0.05). beta-Ca-BB types cows having both shortest lactation periods and lowest 305 da milk yields.

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GA 218UD
A study of the thermodynamic properties of poly[2-(3-mesityl-3-methylcyclobutyl)-2-hydroxyethyl methacrylate] at infinite dilution using inverse gas chromatography

Some thermodynamic quantities were obtained for the interactions of poly [2-(3-mesityl-3-methylcyclobutyl)-2-hydroxyethyl methacrylate] with alcohols, ketones, acetates, aromatics and alkanes by inverse gas chromatography in the temperature range 160-200 degrees C. The specific retention volumes, V-g(o), weight fraction activity coefficients of solute probes at infinite dilution, Omega(1) (infinity), Flory-Huggins thermodynamic interaction parameters, chi (12) (infinity) between polymer and solvents were determined. The partial molar free energy, Delta (G) over bar(1) (infinity), the partial molar heat of mixing, Delta (H) over bar(1) (infinity) at infinite dilution and the solubility parameters of the polymer, delta (2) were calculated.

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Immunologic and biochemical factors in hyperemesis gravidarum with or without hyperthyroxinemia

Objective: This study was set up to investigate the relationship between immune process and high levels of human chorionic gonadotropin-beta (beta hCG) in hyperemesis patients with or without hyperthyroxinemia. Methods: beta hCG, immune parameters and thyroid related hormones were assayed in hyperemesis patients and in controls. Results: Mean serum beta hCG, fT4 and TSH levels were significantly higher in hyperemesis patients than in controls (p < 0.01, p < 0.01, p < 0.05, respectively). Further, immune parameters regarding IgG, IgM, C3 C4 and lymphocyte count were significantly higher in patients than in controls (p < 0.05, p < 0.01, p < 0.01, p < 0.05, p < 0.01, respectively). In hyperemesis patients with hyperthyroxinemia, mean serum beta hCG, IgG and IgM were significantly higher than in hyperemesis women without hyperthyroxinemia (p < 0.001, p < 0.05, p < 0.05, respectively). beta hCG was positively correlated with fT4 (r = 0.45, p < 0.05), with lymphocyte count (r = 0.47, p < 0.01), with IgM (r = 0.38, p < 0.05) and with C3 (r = 0.40, P < 0.05) in hyperemesis patients. A negative correlation between beta hCG and ISH (r = -0.43, p < 0.05) was noted in the hyperemesis group. Free T-4 showed a positive association to IgM (r = 0.49, p < 0.01), to IgG (r = 0.40, p < 0.05), to lymphocyte...
count (r = 0.45, p < 0.05). Conclusion: Immunologic activity in pregnancy may have an effect or role on the stimulatory mechanism of beta hCG in hyperemesis patients with or without hyperthyroxinemia.

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J9 GYNECOL OBSTET INVEST
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PT J
In this study, 10(-4) M acetonitrile solutions of 15 azo dyes synthesized by coupling hydroxyl containing compounds such as phenol, 1-naphthol and 2-naphthol with diazonium salts obtained by the diazotisation of aniline and aniline derivatives were determined by potentiometric titration with perchloric acid in acetonitrile at room temperature. The turning points and the half neutralization potentials of these compounds were determined using the potentiometric titration curves obtained in order to calculate their pKa values. (C) 1999 Elsevier Science Ltd. All rights reserved.

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In this study, several biomass wastes, e.g., mainly birch (Betula maximowicziana Regel) wood meal and so on, were liquefied into phenol by using various alkalis (e.g., mainly sodium hydroxide [NaOH] and so on) and various alkaline/acidic salts. The effects of a variety of reaction parameters on the liquefaction yield (i.e., the amounts of unreacted biomass residue and combined phenol) flow properties of the liquefied biomass, and flexural properties of the liquefied biomass molding materials were investigated. The results showed that various alkalis and metallic salts (acidic or basic) were effective catalysts in the liquefaction of wood into phenol at an elevated temperature (250 degrees C) in sufficiently low amounts of unreacted biomass residue. These compounds were not effective catalysts, however, from the standpoint of a sufficiently high amount of combined phenol. Among the alkalis and acidic salts, NaOH was found to be the most efficient catalyst in the dissolution of biomass into phenol. The lowest amount of residue and combined phenol was obtained for birch wood meal, but the highest amounts of combined phenol and the lowest unreacted phenol were obtained for bleached Kraft lignin. Moreover, other biomass, such as aspen wood meal, unbleached TMP, cotton, jute fiber, and kenaf plant, were determined as convenient biomass for liquefaction into phenol by using NaOH as a catalyst. The flow properties of NaOH-catalyzed liquefied wood were quite close to those of commercial novolak resin. Furthermore, NaOH-catalyzed liquefied wood mixed with HMTA was easily formed into molding materials, and the flexural properties of the materials were determined to be lower than those of commercial novolak resin.

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RP Alma, MH, Univ Kahramanmaras Sutcu Imam, Fac Forestry, Dept Ind Engn Forestry, Kahramanmaras, Turkey.
Preparation of sulfuric acid-catalyzed phenolated wood resin

Birch wood meal was phenolated in the presence of sulfuric acid as catalyst, by changing several reaction conditions, such as the phenol-to-wood ratio, temperature, time, catalyst concentration, and certain wood-related factors to make a novolak-type resin. A 2-5 phenol-to-wood ratio, a reaction temperature from 60 degrees C to 150 degrees C, a reaction time from 60-20 min: and a 1% to 3% acid concentration were optimal values for obtaining satisfactory amounts of combined phenol and smaller amounts of unreacted wood residue. The flow properties (flow temperature and apparent melt viscosity) of the phenolated wood thus obtained increased with increasing amounts of combined phenol, but decreased with increased moisture content and the amount of free phenol in the phenolated wood. Furthermore, the solubility of phenolated wood powders in organic solvents depended greatly on the hydrogen-bonding strength of the solvents.

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RP Alma, MH, Univ Kahramanmaras Sutcu Imam, Fac Forestry, Dept Ind Engn Forestry, Kahramanmaras, Turkey
CR SHIRAISHI N, 1988, 1456560, JP
Novolak resin-type moldings prepared from phenolated wood in the presence of sulfuric acid as catalyst

Birch wood meals, phenolated in the presence of sulfuric acid as catalyst, were compression-molded by using hexamethylenetetramine (HTMA) as a curing agent. The effect of combined phenol on the flexural strength and modulus of elasticity (MOE), Brinell hardness, and water resistance of the phenolated-wood-based moldings was studied. Moreover, on the basis of several factors, we examined the dynamic mechanical behaviour of the moldings using a dynamic mechanical thermal analyzer (DMTA). The flexural strength, MOE,
hardness, and water resistance of the moldings were found to be controlled by the amount of combined phenol and at sufficient combined phenol levels were comparable to those of a commercial novolak-resin-based molding. Additionally, the DMTA studies showed that the temperature dependence of the dynamic elastic modulus (E') of phenolated-wood-based moldings depends greatly on the amount of combined phenol, filler content, HMTA content, molding temperature, moisture content, water-immersion test, heat-aging time, and frequency, and at sufficient combined phenol levels was comparable to that of the commercial novolak-resin-based material. It could also be stated that phenolated-wood-based moldings could be used safely within a temperature range of 75 degrees C-165 degrees C, depending upon the amount of combined phenol. Furthermore, the biodegradability of the phenolated-wood-based moldings was greater than that of a commercial novolak-resin-based molding.

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RP Alma, MH, Univ Kahramanmara Sutcu Imam, Fac Forestry, Dept Ind Engn Forestry, Kahramanmara, Turkey
CR ALMA MH, 1995, MOKUZAI GAKKAISHI, V41, P741
ALMA MH, 1996, HOLZFORSCHUNG, V50, P85
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SETA Y, 1993, 43TH ANN M JAP WOOD, P183

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J9 J POLYM ENG
PY 1998
VL 18
IS 3
BP 197
EP 220
PG 24
GA 131JR
UT ISI:000076572900003
ER

PT J
AU Alma, MH
Yoshioka, M
Yao, Y
Shiraishi, N
TI Preparation of sulfuric acid-catalyzed phenolated wood resin
SO WOOD SCIENCE AND TECHNOLOGY
LA English
Birch wood meal was phenolated in the presence of sulfuric acid used as a catalyst by changing several reaction conditions, such as, phenol-to-wood ratio, temperature, time, and catalyst concentration to make novolak-type resin. A phenol-to-wood ratio of 2-5, reaction temperature of 60-150 degrees C, time of 60-120 min, and acid concentration of 1-3% were found to be usable values for obtaining good enough amounts of combined phenol and less amounts of unreacted wood residue. The flow properties (flow temperature and apparent melt-viscosity) of the phenolated wood obtained increased with the increase in the amount of combined phenol, however, decreased with the increase in the moisture content and free phenol in the phenolated wood. Furthermore, it was found that the solubility of the phenolated wood in the organic solvents depended, greatly, on the hydrogen bonding strength of the solvents.

C1 Univ Kahramanmaras Sutcu Imam, Fac Forestry, Dept Ind Engn & Forestry, Kahramanmaras, Turkey.
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RP Alma, MH, Univ Kahramanmaras Sutcu Imam, Fac Forestry, Dept Ind Engn & Forestry, Kahramanmaras, Turkey.

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YASUMASA Y, 1973, B GOV FOR EXP STA, V253, P55
Preparation of polyurethane-like foams from NaOH-catalyzed liquefied wood

Polyurethane-like foams were prepared by the liquefaction of wood in poly(ethylene glycol) (PEG)-400 in the presence of sodium hydroxide (NaOH) as an original catalyst.

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Cr: ALMA MH, 1996, WOOD SCI TECHNOL, V30, P39

YAO YG, 1995, MOKUZAI GAKKAISHI, V41, P659

YAO Y, 1993, MOKUZAI GAKKAISHI, V39, P930

The use of wheat straw phenol condensation products as molded materials

In this study, wheat straw (Triticum aestivum L.) was successfully phenolated using hydrochloric acid (HCl) as a catalyst under atmospheric pressure in order to make novolak resin-type molded materials. The relationship between phenolation parameters (i.e., conversion ratio and the amount of reacted phenol) and some reaction
factors was investigated. In addition, the flow properties and molecular weight of the phenolated straw as well as some static and dynamic mechanical properties of the phenolated straw-based molded materials were studied. It was found that the straw could be thermoplasticized after phenolation and its molecular weight could be considerably reduced. Moreover, it was determined that the phenolated straw could be cured with hexamethylenetetramine (HMTA), and the mechanical properties of the resulting molded materials were comparable to those of commercial Novolak resin-based materials.

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RP Alma, MH, Kahramanmarus Sutcu Imam Univ, Fac Forestry, Dept Ind Engn Forestry, K Maras, Turkey
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PT J
AU Kaygisiz, A
TI Estimates of trends components of milk yield traits of Sari Alaca cattle raised at Kazova (Tokat) State Farm
SO TURKISH JOURNAL OF VETERINARY & ANIMAL SCIENCES
LA Turkish
DT Article
DE Sari Alaca cattle, milk yield, genetic trends
AB The purpose of this study is to determine the trends components of 305 day milk yield and lactation length of San Alaca cattle raised at Kazova (Tokat) State Farm were studied. The environmental effect of the phenotypic trend was estimated by using corrected milk records of cows for 2 consecutive years. The environmental change for 305 days milk yield and lactation length per year was estimated as 100.91 kg/year and -1.58 days/year. The regressions of the corrected milk yield averages on years for were found to be 115.75 kg/year and -5.88 days/year. Considering this value, the genetic change was calculated to be 14.84 kg/year and -4.30 days/year.
RP Kaygisiz, A, KAHRAMANMARAS SU MCU IMAM UNIV, ZIRAAT FAK, ZOOTEK
Ultrasound imaging based on multiple beamforming with coded excitation

Phased-array ultrasound imaging employing multiple receive beamforming with coded excitation is investigated. The approach is based on simultaneous excitation of transducer array elements with coded signals, and multiple receive beamforming. It involves only a single transmit-receive step for reconstruction of each image frame. The excitation signals are chosen as decorrelated binary pseudo-noise.
sequences. Performance of the coded excitation imaging is tested through simulations for code sequences with various lengths and different decoding filters. The simulation results show that the ultrasound scanner with the coded excitation can produce up to -15 dB side lobe level at the transmit beam profile with sufficiently long codes, whereas very short codes result in about -7 dB side lobe level. The coded excitation imaging improves the signal-to-noise ratio and minimizes the signal firings, and hence provides increased penetration depth and frame rates. (C) 1997 Elsevier Science B.V.

RP Kiymik, MK, KAHRAMANMARAS SUTCU INAM UNIV, INST SCI & TECHNOL, TR-46100 KAHRAMANMARAS, TURKEY

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PA PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS
SN 0165-1684
J9 SIGNAL PROCESS
JI Signal Process.
PY 1997
PD APR
VL 58
IS 1
BP 107
EP 113
PG 7
GA XF248
UT ISI:A1997XF24800007
ER

PT J
AU Alma, MH
Maldas, D
Hafizoglu, H
TI Water repellency of several wood species impregnated with vinyl monomers
SO INTERNATIONAL JOURNAL OF POLYMERIC MATERIALS
LA English
DT Review
DE wood species, styrene, methylmethacrylate, wood plastic composites, water repellent effectiveness
AB Several hard and soft wood species (e.g., poplar, beech, alder, pine, fir and spruce), originated from Turkey, were prepared to wood plastic composites (WPC) with styrene (St) and a mixture of styrene and methylmethacrylate (St-MMA) monomers by using capillary uptake
method. The average water uptake of the monomers-treated wood specimens was approximately between 43 to 64% due to water soaking for 72 h. The average water repellent effectiveness (WRE) of WPC was 54% and 55% for St and St-MMA, respectively. As far as water uptake is concerned, poplar gave the highest WRE values, whereas beech had the lowest one.

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SN 0091-4037
J9 INT J POLYM MATER
PY 1995
VL 30
IS 3-4
BP 159
EP 165
PG 7
GA VR906
UT ISI:A1995VR90600006
ER

PT J
AU Alma, MH
Hafizoglu, H
Maldas, D
TI Dimensional stability of several wood species treated with vinyl monomers and polyethylene glycol-1000
SO INTERNATIONAL JOURNAL OF POLYMERIC MATERIALS
LA English
DT Article
DE wood, St and St-MMA, PEG-1000, polymerization, ASE
AB Several wood species (e.g., poplar, beech, alder, pine, fir and spruce) were successfully treated with three agents (e.g., styrene (St), a St and methylmethacrylate mixture (St-MMA), and polyethylene glycol (PEG)-1000). The polymerization of St and St-MMA monomers in situ was performed using 2,2'-azobisisobutyronitrile (AIBN) as an initiator. The maximum weight percent gain (WPG), 64.17%, was obtained for a lowest density wood species, e.g., poplar in the case of St-MMA copolymer. On the other hand, lowest value in WPG (about 15%) was obtained for beech with highest density. PEG-1000 treatment gave the highest antishrink efficiency (ASE) (about 84%) for poplar, followed by St and MMA mixture and St ones, respectively. However,
maximum increase in density was achieved with St-MMA treatment. In general, the lower density, the better performance in dimensional stability.

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RP Alma, MH, KYOTO UNIV, DEPT WOOD SCI & TECHNOL, KYOTO 606, JAPAN
CR ALMA MH, IN PRESS INT J POLYM

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PY 1996
VL 32
IS 1-4
BP 93
EP 99
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GA VJ022
UT ISI:A1996VJ02200006
ER

PT J
AU Alma, MH
Yoshioka, M
Yao, Y
Shiraishi, N
TI Phenolation of wood using oxalic acid as a catalyst: Effects of temperature and hydrochloric acid addition
SO JOURNAL OF APPLIED POLYMER SCIENCE
LA English
DT Article

AB Birch wood meal has been phenolated in the presence of oxalic acid alone or its mixture with hydrochloric acid (HCl) at various temperatures ranging from 150 to 250 degrees C under high pressure. The effects of high temperature, high pressure, and the addition of HCl in conjunction with oxalic acid on the amounts of wood residue and combined phenol have been investigated. In the case of the oxalic acid-catalyzed process, by increasing reaction temperature from 180 to 250 degrees C, the amounts of wood residue could be considerably reduced, but the amount of combined phenol decreased. In comparison to a noncatalyzed process in the absence of water, the catalyzed one offered a relatively lower amount of wood residue and a higher amount of combined phenol. However, compared to a noncatalyzed process with water, particularly at a high temperature of 250 degrees C, the catalyzed process gave significantly larger amounts of wood residue. In addition, with a small addition of HCl to an oxalic acid catalyzed system, the amount of wood residue was remarkably reduced compared to that of oxalic acid alone, and the amount of combined phenol could be
increased significantly. Furthermore, the mechanical properties of the moldings prepared from the phenolated wood were sufficiently improved by the addition of a small amount of HCl to the oxalic acid-catalyzed system. (C) 1996 John Wiley & Sons, Inc.

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PI NEW YORK
PA 605 THIRD AVE, NEW YORK, NY 10158-0012
SN 0021-8995
J9 J APPL POLYM SCI
PY 1996
PD JUL 25
VL 61
IS 4
BP 675
EP 683
PG 9
GA UU473
UT ISI:A1996UU47300011
ER
PT J
AU Ozgan, S
Keskin, M
TI A theory of melting of molecular crystals .2. Phase diagrams and relations with solid state transitions
SO MOLECULAR CRYSTALS AND LIQUID CRYSTALS SCIENCE AND TECHNOLOGY
SECTION A-MOLECULAR CRYSTALS AND LIQUID CRYSTALS
LA English
DT Article
DE modified Pople and Karasz theory, molecular crystals, order parameters, theoretical isotherms, solid-solid and melting transitions
AB The Pople and Karasz theory of melting of molecular crystals is extended to include the third energy parameter mentioned in our previous paper. (1) The modified form of the Pople and Karasz theory is used to study solid-solid transitions and to obtain complete phase diagrams for transitions under pressure. It is found that solid-solid and melting transitions become second-order under certain conditions. The entropy of melting as a function of the ratio of the solid
transition to boiling temperature, the theoretical phase diagrams as well as the melting entropy versus the solid transition entropy are compared with available experimental data and as well as the Pople and Karasz theory.

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SN 1058-725X
J9 MOL CRYST LIQ CRYST SCI TEC A
PY 1995
VL 270
BP 135
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UT ISI:A1995UH89400015
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PT J
AU Ozgan, S
Keskin, M
TI A theory of melting of molecular crystals .3. The liquid crystalline phase
SO MOLECULAR CRYSTALS AND LIQUID CRYSTALS SCIENCE AND TECHNOLOGY
SECTION A-MOLECULAR CRYSTALS AND LIQUID CRYSTALS
LA English
DT Article
DE modified Pople and Karasz theory, liquid crystals, solid-nematic and nematic-isotropic liquid transitions
AB The Pople and Karasz theory of melting of molecular crystals was modified using the third repulsive energy parameter in our previous paper. The new modified model is applied to study thermodynamics of solid-nematic and nematic-isotropic liquid transitions. The thermodynamic properties are evaluated by the Bragg-Williams approximation. The results are compared with the predictions of the
The Pople and Karasz theory of melting of molecular crystals, which is based on the theory of melting of inert gas crystals by Lennard-Jones and Devonshire, is extended using a third energy parameter, \( W'' \). The extension is done as follows: the previous repulsive energy parameter \( W \) is divided into two parts. The first part is the interaction between molecules which are on different
sites with the same orientations, called again $W$. The second is the interaction between molecules on different sites and also different orientations, namely $W''$. $W''$ is combined with the previous $W'$ and the new $W$ energy parameters by the arithmetic mean including an adjustable parameter. The thermodynamic properties are evaluated by the Bragg-Williams approximation. The theory is applied to plastic crystals and compared with the Pople and Karasz theory. By introducing a physical realistic coupling between orientational and positional order, $v$, the theory gives a solid state rotational transition and melting transition. For values of $v$ less than or equal to 0.331 the two transitions are separate, while for values of $v$ greater than or equal to 0.331 they coalesce. The quantitative predictions of the theory is compared with experimental results for plastic crystals by plotting entropy and volume changes versus melting/boiling temperature ratios. The agreement between our theory and the experimental data is better than the calculations of the Pople and Karasz theory, as result of the introduction of the parameter $W''$ in the present theory.

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UBBELOHDE AR, 1965, MELTING CRYSTAL STRU
UBBELOHDE AR, 1978, MOLten STATE MATTER
WENTORF RH, 1950, J CHEM PHYS, V18, P1484
The preparation and flow properties of HCl catalyzed phenolated wood and its blends with commercial novolak resin

Phenolation of birch wood meal was carried out in the presence of HCl catalyst by using a reflux condenser system. The effects of reaction time, HCl catalyst concentration, and phenol/wood ratio on the phenolation extents were determined as a function of liquefaction temperatures covering 60, 90, 120, and 150 degrees C. It was revealed that among the reaction parameters, the reaction temperature had the greatest influence on the residual rate and the amounts of combined phenol. Although the optimum reaction temperature which gave sufficient amounts of combined phenol was found to be 120 degrees C, the residual rates obtained at 150 degrees C were however lower than those for 120 degrees C. It was also found that the flow temperature of the phenolated wood increased with an increase in the amount of combined phenol. In order to improve the thermoflowability, as one of the trials, commercial novolak resin was mixed with the phenolated woods in several different ratios. By this blending with novolak resin, the flow temperatures of the phenolated woods could be reduced to a certain extent.

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Shiraishi N, 1993, RECENT RES WOOD WOOD, P155

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TC 21
PU WALTER DE GRUYTER & CO
PI BERLIN
PA GENTHINER STRASSE 13, D-10785 BERLIN, GERMANY
SN 0018-3830
J9 HOLZFORSCHUNG
JI Holzforschung
PY 1996
VL 50
IS 1
BP 85
EP 90
PG 6
GA TY723
Application of autoregressive and fast Fourier transform spectral analysis to tricuspid and mitral valve stenosis

TI Application of autoregressive and fast Fourier transform spectral analysis to tricuspid and mitral valve stenosis
SO COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE
LA English
DT Article
DE ultrasound Doppler, mitral valve, tricuspid valve, autoregressive modeling, fast Fourier transform analysis
ID DOPPLER ULTRASOUND; SIGNALS
AB Tricuspid and mitral valve flow area was determined from an epical four-chamber view. Doppler signals were recorded from normal subjects and patients with tricuspid and mitral valve stenosis by using a pulsed Doppler unit. The location of sample volume was chosen at the ventricular side of the valve orifice and within the right ventricular tract. This was done with the aid of an integrated cardiac imaging facility. The analog signal at the output of the Doppler unit was sampled and digitized using an analog/digital interface board and transferred to a personal computer. The data were then analyzed using the Fast Fourier Transform (FFT) and autoregressive (AR) modeling methods of spectral analysis and all the sonograms were obtained. Statistical comparison between the FFT and AR methods was made. The results show that the AR method offers a superior performance over the FFT method as regards the assessment of tricuspid and mitral valve stenosis.

C1 ERCIYES UNIV, DEPT ELECTR ENGN, KAYSERI 38090, TURKEY.
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A mixture of phenolated wood, unreacted wood parts, and free phenol, prepared by using oxalic acid as a catalyst, was subjected further to a phenol-formaldehyde condensation reaction in situ, catalyzed by oxalic acid. The effects of the formaldehyde-to-phenol (F/Ph) ratios and the concentrations of the catalyst on the resinification reaction as well as the flow properties of the resulting resins were investigated. The flow properties (that is, flow temperature and melt viscosity) of the resinified phenolated wood were considerably superior to those of pure phenolated wood, regardless of F/Ph ratios and acid concentrations in the studied range. Also, they were somewhat better than those of commercial novolak resin. The number-average molecular weight ((M) over bar n) of the resinified phenolated wood changed with the variations in F/Ph ratios. The modulus of rupture and flexural toughness of the resinified phenolated wood-based moldings were slightly greater than those of the commercial novolak resin-based one, and remarkably superior to phenolated wood-based ones.
Preparation and Characterization of the Phenolated Wood Using Hydrochloric Acid (HCl) as a Catalyst

Birch (Betula maximowicziana Regel) wood meal was liquefied in the presence of phenol using hydrochloric acid (HCl) as a catalyst at a temperature of 150 degrees C for 2 h in an autoclave. It was found out that HCl acid could be used as an effective catalyst for the hydroxy phenylation of wood under the experimental conditions. In this study the effect of the concentration of the acid catalyst and the phenol-to-wood ratio on the liquefaction were investigated. The results showed that the phenol-to-wood ratio and the concentration should be increased to a certain degree in order to achieve a less residual rate and sufficient amount of combined phenol. The phenolated woods had apparent flow temperatures in the range of 134.4 to 199.8 degrees C, being higher than that of a commercial novolak resin. Furthermore, increases in the HCl concentration during liquefaction reaction led to increase in the apparent flow temperature of the resulting phenolated woods. However, the changes in the liquid ratio did not bring about evident changes. The relationship between shear stress (tau) and shear rate (gamma) showed that the phenolated wood resin melts were shear thinning fluids. The dependences of the apparent melt-viscosities (eta) of the phenolated woods and a commercial novolak resin on the shear rates (gamma) have the similar tendencies, however, it was found the viscosities of the phenolated woods are about one order higher than that of commercial novolak resin.

ALMA, MH, KYOTO UNIV, FAC AGR, DEPT WOOD SCI & TECHNOL, KYOTO 60601, JAPAN

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Phenolated wood, prepared by using hydrochloric (HCl) acid as a catalyst, was formed into molded materials using hexamethylenetetramine (HMTA) as a curing agent, and other conventional components, which are generally used for making commercial novolak resin-based molded materials. The effects of the amounts of combined phenol (that is, reacted phenol with wood components) on the curing behavior, mechanical properties, water resistance, and biodegradability of the phenolated wood molded materials were studied. The curing behavior was examined in a differential scanning calorimeter (DSC). The DSC results indicated that the curing behavior was dependent on the amount of combined phenol. Moreover, the phenolated wood with a large amount of combined phenol (about 80%) was almost comparable to commercial novolak resin. The mechanical properties of the phenolated wood-based materials increased with increases in the amount of combined phenol. However, when the level of combined phenol was more than 100%, the materials showed the same modulus of rupture (MOR) as those of commercial novolak-based one. The water-absorption of the molded materials from the phenolated wood was larger than that of commercial novolak one. Furthermore, the water-absorptions, weight losses, thickness swellings, and apparent diffusion coefficients of the phenolated wood-based materials during the soakings in water decreased with increases in the amounts of combined phenol. In addition, biodegradabilities of the phenolated wood-based molded materials were significantly more than those of commercial novolak resin-based one.
Autoregressive-based sonogram outputs of 20 MHz pulsed Doppler data

The sonogram outputs of autoregressive (AR) based spectral analysis of a 20 MHz pulsed ultrasonic Doppler blood flowmeter are presented. The data obtained from coronary and iliac arteries were processed using AR-based spectral analysis technique, and then the interpretable sonograms by the surgeons were constructed. When the sonogram outputs were compared to other sonograms which were analysed using the other techniques such as fast Fourier transform (FFT), it was observed that AR-based sonograms for 20 MHz pulsed Doppler data have provided better results. Therefore, the technique is strongly recommended in the examining of small vessels which are 1 to 2 mm in diameter.

Guler, NF, Kahramanmaras Sutcu Imam Univ, Inst Sci & Technol, Biomed Engn Grp, Kahramanmaras 46100, Turkey

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TI INSULIN-LIKE GROWTH-FACTOR-I INHIBITS INSULIN AND AMYLIN SECRETION IN CONSCIOUS RATS
SO ENDOCRINOLOGY
LA English
DT Article
ID ISLET AMYLOID POLYPEPTIDE; SKELETAL-MUSCLE; IGF-I; DIABETIC RATS; BETA-CELLS; GLUCOSE; RESISTANCE; METABOLISM; PANCREAS; HUMANS
AB Human recombinant insulin-like growth factor-I (IGF-I) exerts insulin-like antidiabetic properties in vitro and in vivo. To determine the effects of IGF-I infusion on insulin and amylin release, plasma glucose of freely moving undisturbed rats was constantly maintained at 13.9 mmol/liter by variable glucose infusion for 120 min in three groups of fasted Sprague-Dawley rats (hyperglycemic clamp technique). Group A, vehicle infusion (control group); group B, bolus 0.39 nmol plus 0.39 nmol/h IGF-I continuously; and group C, bolus 1.96 nmol plus 1.96 nmol/h IGF-I continuously. During the steady-state phase of the experiment, IGF-I dose dependently reduced plasma insulin (pmol/liter: A, 718 +/- 58; B, 613 +/- 35, NS vs. A; C, 408 +/- 21, P < 0.01 vs. A; dose-response effect: P < 0.0001), plasma amylin (pmol/liter: A, 10.2 +/- 0.6; B, 8.8 +/- 0.5, NS vs. A; C, 5.8 +/- 0.4, P < 0.01 vs. A; dose-response effect: P < 0.0001), and net glucose uptake (mu mol/kg min: A, 188 +/- 12; B, 160 +/- 12, NS us. A; C, 134 +/- 7, P < 0.01 vs. A; dose-response effect: P< 0.0025). At the same time, the ratio of plasma insulin/plasma amylin (mol/mol: A, 72 +/- 6; B, 71 +/- 5; C, 74 +/- 9; NS), the ratio of net glucose uptake/plasma insulin (mu mol/kg min per pmol/liter: A, 0.28 +/- 0.03; B, 0.27 +/- 0.02; C, 0.36 +/- 0.04; NS), and glycogen content of liver, heart, and various hindlimb muscles remained unaffected. The results demonstrate that IGF-I is a potent inhibitor of insulin and amylin release in healthy rats exposed to hyperglycemia and suggest that IGF-I infusion inhibits hormone secretion from pancreatic P cells at infusion rates that do not affect insulin-stimulated glucose uptake by peripheral tissues.
INSULIN-LIKE GROWTH-FACTOR-I INHIBITS INSULIN AMYLIN SECRETION IN CONSCIOUS RATS

AU FURNISINN, C
ALMA, M
RODEN, M
PIEBER, T
WALDHAUSL, W

TI INSULIN-LIKE GROWTH-FACTOR-I INHIBITS INSULIN AMYLIN SECRETION IN CONSCIOUS RATS

SO DIABETOLOGIA
LA English
DT Meeting Abstract
C1 GRAZ UNIV, DEPT INTERNAL MED, GRAZ, AUSTRIA.
   UNIV VIENNA, DEPT MED 3, DIV ENDOCRINOL & METAB, VIENNA, AUSTRIA.

NR 0
NEW NOVOLAK-RESIN TYPE MOLDING MATERIALS FROM PHENOLATED WOOD USING HYDROCHLORIC-ACID CATALYST

TI IMPROVEMENT OF WOOD PROPERTIES BY IMPREGNATION WITH MACROMONOMERIC INITIATORS (MACROINIMERS)

AB Scotch pine, eastern spruce, and eastern beech samples sawed longitudinally were impregnated with a new type of polymerization
mixture (macroinimer and styrene), leading to crosslinked block copolymers of styrene and poly (ethylene glycol). Weight gains of 36.37-91.13% were obtained after polymerization for 2 h. Water uptake of the polymerized wood was found to be 35.13-72.07% after a water soak test of 144 h. While spruce gave the highest uptake (72.07%), beech showed the lowest value (35.13%). The specimens impregnated with the mixture of macroinimer and styrene showed a water-repellent effectiveness of 35.14-58.15% after a water soaking test of 144 h. The highest values of water-repellent effectiveness were found for spruce, while the lowest values were obtained for pine. A maximum antiswell efficiency (ASE) of 42.43% was obtained for spruce, followed in order by beech and pine, respectively. The ASE value increases with an increase in wt % gain. Improvements of 19.12% in longitudinal compression and 25% in bending strength were also achieved for spruce samples with low weight percent gain. IR spectroscopy was used for chemical characterization of the wood-polymer composite.

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PT J
AU DEANGELIS, G
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The significance of Carcinoembryonic antigen (CEA), tissue polypeptide antigens (TPA), neuron specific enolase (NSE) and thymidine kinase (TK) in monitoring and prognosis of primitive pulmonary carcinoma.

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SN 0392-0208
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