Antioxidant activity of plants pdf

Antioxidative activity of a total of 92 phenolic extracts from edible and non-seeded plant materials (berries, fruits, vegetables, herbs, cereals, wood materials, plant sprouts and seeds) has been investigated by automatic methyl zinc poisoning. The content of all phenol in extracts was determined spectrometly in accordance with the Folin-Chokalteu procedure and is calculated as the equivalents of Gallic acid (GAE). Among the edible plant materials, a remarkable high antioxidant activity and a high total content of phenol (GAE zgt; 20 mg/g) were found in berries, especially aronia and crow. Apple extracts (two varieties) also showed strong antioxidant activity, despite the fact that the total content of phenol was low (GAE zlt; 12.1 mg/g). Among the non-winded plant materials, high activities have been found in wood materials, especially in willow bark, spruce needles, pine bark and cork, as well as in some medicinal plants, including heather, marsh rosemary, willow grass and meadow algae. In addition, potato peel extracts and beetroot peels have shown a strong antioxidant effect. To use these significant sources of natural antioxidants, further characteristics of phenolic composition are needed. Keywords: Plant extracts; Natural antioxidants; Total phenolics; antioxidant score Page 2Six phenolic antioxidant compound No. 5-caffeoylquinic acid (chlorogenic acid), 3.5-dikaffeylic acid, %.3-galactoside, browcetin 3-glucoside, browcetin 3-(6-malonylglucoside), and browcetin 3-(6-malonylgalactoside) (preliminary) were identified from the leaves of Corcho olrusius L. (moroheiya) NMR and FAB-MS. The content of these phenolic compounds, ascorbic acid and α-tocoferol in the leaves of C. olitorius was determined, and their antioxidant activity was measured by radical linolic acid peroxidation. The results showed that 5-caffeine acid is the predominant phenolic antioxidant in the leaves of C. olitorius. Keywords: Corchorus olitorius; antioxidants phenolics; caffeoylquinic acid; quercetin glycosides Page 3Li the effect of green catechin tea supplementation on the antioxidant ability of human plasma has been investigated. Eighteen healthy male volunteers who orally swallowed green tea extract (254 mg of total catechine/subjects) showed 267 pmol epigallocatechin-3-gallate (EGCg) per milliliter of plasma at 60 min after administration. Levels of plasma phosphateline hydroperoxide (PCOOH) are reduced from 73.7 pmol/ml in control to 44.6 p.p./ml in catechin-treated subjects, which is back correlated with increased plasma levels of EGCg. Results have shown that drinking green tea helps prevent cardiovascular disease through antioxidant plasma in humans. Keywords: Catechin tea; Antioxidant peroxide oxidation of lipids; hydroperoxide phosphatelcholine; human plasma page 4Resveratrol 4Resveratrol antioxidant from grapes, and five other polyhydroxysylbens were synthesized. Their antioxidant properties were evaluated in two model systems pure lipid oxidation using the Rancimat method and 2.2-diphenyl-1-picridrol (DPPH) free radical cleaning model. 3,3',4,5,5'-pentahydroxystylben, and 3,4,4',5-tetrahydroxysylben were found to be more active than resveratrol in both models. Dimer resveratrol was identified as the main radical reaction product when resveratrol was reacted with DPPH radicals. Keywords: resveratrol derivatives; polyhydroxystilben; Antioxidant 2.2-diephenyl-1-picrigidrazyl; The Free Radical Cleaning Page 5 Concentration of 11 phenols and 5 furans were measured in 12 categories of distilled alcohols according to HPLC methodology, along with the overall antioxidant status (TAS) of the same beverages. Ellagic acid was phenol present in the highest concentration in all beverages. Moderate amounts of siringaldehyde, siriginic acid and gallic acid, as well as smaller amounts of vanilla and vanilla acid were measurable in most samples of whiskey, cognac and rum, but were largely found in gin, vodka, liqueurs, and various spirits. 5-(Hydroxymethyl)furfural was the predominant furan in the former three drinks, notably cognac, with two-furaldehyde following the highest, but these were undetectable in most of the last drinks. The highest TAS values were given to Armagnac, cognac, and bourbon whiskey, all three of which tended to the highest concentration of phenols. Negative TAS values were exhibited with rum, vodka, gin and other alcoholic beverages in accordance with the low or undetectable concentration of phenol in these drinks. Aging wood is the most likely source of phenols and furans in distilled spirits. Those beverages that are exposed to this treatment contain significant antioxidant activity, which is found between the ranges for white and red wines, with the potential to increase antiatherosclerotic functions associated with the ethanol they contain. Keywords: Phenols; Furans; antioxidants Distilled spirits; Gallic acid; gniestic acid; Syrian acid; ellagic acid; syringaldehyde; 5-(hydroxymethyl)furfural; The 2-furaldehyde Page 6Bovine β-lactoglobulin, the genetic variant B, was tagged with 2-(4'-maleimilylanilino)naphthalene-6-sulfon acid through a covalent attachment through The Cys-121 thiol group to study step-by-step denature of this wheeze protein fluorescety. The marking was performed in non-denatured conditions with a factor of 5 excess fluoride in dimethylformamide/water (1:10) to give a whey protein highly labeled after chromatographic separation. Mass spectroscopy MALDI-TOF confirmed the marking. fluorophora, which is sensitive to micro-windowonism, is characterized by a (aqueous pH 7.4 solution, 25 C) and has qem,max 410 nm (qex,max 318 nm) with a life of fluorescence 6.1 ± 0.2 ns. Fluorescence anisotropy increases and the fluorescence of quantum yield (Φf and 0.103 at 320 nm) decreases with an increase in wavelength. To increase hydrostatic pressure, fluorescence of quantum yields showed a minimum of ∼50 MP, which corresponds to the premature pressure of the molten state in which thiol reactivity was previously found to increase to reversible protein unfolding. Keywords: β-lactoglobulin; Fluorescence markings; 2- (4'-maleimidylanilino)naphthalene-6-sulfon acid Page 7Two monoclonal antibodies, 918 (4) and 139 (7) directed against cattle or pork pepsin, respectively, were retained among 365 positive clone hybrids. These monoclonal antibodies were characterized by the use of both indirect and ELISA sandwich. The characteristics of these monoclonal antibodies were additionally performed by analyzing the biospecific interaction (analysis of the BIA-core). They were then used as antigenic probes to study changes in the antigenity of both cattle and pork pepsin caused by pH. The results demonstrated the importance of conforming changes in both catalytic activities and the antigenic determinant availability of bovine and pork pepsin. In addition, our results show that changes in conformation due to pH can be detected by specific monoclonal antibodies. Keywords: Monoclonal antibodies; bovine pepsin; pork pepsin; Anti-genicity; Page 8Milk caseins were phosphorylated by a recombinant protein called CK2 catalytic subunition from Schizosaccharomyces pombe (rspCK2). Phosphate inclusions of stoehyometry in purified caseys and in native phosphosphosphosassinate, a substrate that produces mycellar structure, have been identified. We included 2.01 mole p/mol α-casey, 6.46 mole p/mol β-casein, up .29 mole p/mol q-casein in 4 hours, and more than 1.36 mole p/chein in phosphoxineate in optimized conditions. Phosphocinet has been consistently phosphorylated; β cases are marked on the first; α-caseins time are labeled later; and at a lower size, the-caseins were the last to be phosphorylated. The salt-pleasen phosphoceysinate increased by 1.34 from 65 to 87%, and the time of its rennet was increased by 2.88 times. These results are discussed in terms of the plausible structural organization of micelle caseins and the effect of phosphorylation on their structure. Keywords: CKII; protein kinase CK2; phosphorylation; caseins; Micelles Page 9In this work we study two aspects of low-laxic fermentation: the use of industrial lactic acid bacteria of starting crops in white Sauvignon wine and the effect of bacterial activity on the composition of wines in terms of volatiles from oak during partial fermentation in barrels. Barrels. sensory evaluation was carried out using discriminatory and descriptive methods. Thus, the effects of bacterial development are limited, but, nevertheless, it is possible to make characteristic observations. Carbonyl substances were formed due to more or less rapid bacterial growth and degradation of citric acid. However, the effect of bacterial starter culture is difficult to establish. The concentration of compounds derived from wood was higher in wines after low-lyxic fermentation compared to wine, not exposed to bacterial development. Great difficulty was perceived during sensory analysis, with butter, spicy, fried, vanilla, and smoked notes. On the other hand, the intensity of the handles characteristic of the grape variety has decreased. Keywords: low-acid fermentation; The fragrance; Sensory analysis Page 10Changes lactic acid bacteria were studied in phenols (anthocyanins, flavonols, tartare esters and full phenolics) during the ripening of grapes and phenolics and color during the winery and aging of Cabernet Franc, Merlot and Pinot Noir wines. Anthocyanins in grape skins showed differences in the structure of accumulation, concentration and distribution depending on the variety and to a lesser extent in season. During vinification, colorless phenols increased during alcoholic fermentation, reached maximum values when pressed and remained stable during low-acid fermentation and subsequent storage. Anthocyanins and color density, on the other hand, increased in the early stages of alcoholic fermentation, reached maximum values 2-3 days after the beginning of fermentation, decreased during low-lyxic fermentation and slowly decreased during subsequent storage. Viticultural practices that increased exposure to the sun cluster tended to result in higher phenolics and wine color density, while changes in yeast used for fermentation had minimal effects. Keywords: Colour of wine; polyphenols; flavonoids; flavonols; anthocyanins; tartare esters; Grapes; polymer pigments; HPLC analysis; Page 11B yeast in this paper has studied the use of nitrogen compounds in the garnish, which should be inoculated with active dry wine yeast Saccharomyces cerevisiae subsp. cerevisiae strain Na33. The results are compared to garnacha must ferment with indigenous yeast (control should). In samples dominated by vaccinated yeast, no qualitative differences in the use of amino acids in relation to control samples were assessed, although there were quantitative differences. In the moustache, where the Na33 strain dominated, at the beginning of fermentation less amino acids were consumed than in control samples. For this reason, probably this yeast showed problems in the fight for nitrogen nutrients must; this could make his implantation in one of the grafted samples more At the end of the fermentation, the Na33 strain continued to consume amino acids at high concentrations of ethanol. Its high tolerance to this toxic may be favored by the production and rehydration of dry wine yeast in the presence of air. Keywords: Free amino acids; Dry wine yeast; Saccharomyces cerevisiae strain Na33; Garnacha should Page 12Role squalene in the stability of olive oil has been studied for various concentrations and experimental conditions. No effect was found in the induction periods of olive oil at elevated temperatures using the ranchimat apparatus. Samples were then stored at 40 and 62 degrees Celsius in the dark, and the degree of oxidation was followed by periodic measurements of peroxide and conjugation. Concentration depends on moderate antioxidant activity has been down to evidence that is stronger in the case of olive oil compared to what is found for sunflower oil and lard. If α tocoferol (100 mg/kg) and caffeine (10 mg/kg) were present, the contribution of squalene (7000 mg/kg) was not significant. There was no radical activity of cleaning using DPPH in 2-propanele. The weak antioxidant activity of squalene in olive oil can be explained by the competitive oxidation of the various lipids present, which leads to a decrease in the rate of oxidation. Squalene plays a rather limited role in the stability of olive oil even at low temperatures. Keywords: Squalene; Stability of olive oil; Autooxidation; DPPH; α tocoferol; Page 13 Caffeic acid in fur compounds and reactive lysine were tested in three commercial liquid milk babies for 9 months of storage in 20, 30 and 37 KK. The samples consisted of two ultra-high temperatures (UHT) of processed milk and one conventionally sterilized milk. Jet lysine remained unchanged throughout storage at three temperatures, while in general there was an increase in fur compounds. The thermal treatment used in milk production is an important factor influencing the level of fur compounds, although the composition of milk is also a critical factor. Finally, a study was conducted to find kinetic equations describing changes in fur compounds and predicting the effect of storage time and temperature on these changes. Keywords: HMF; F; Fur joints; reactive lysine; Page 14Pure Valencia orange (64 samples) from Spain, Israel, Belize, Cuba and Florida, collected over two seasons (1996-1997 and 1997-1998), were analyzed for their carotenoid profiles. The detection of sapontinoid pigments was achieved and quantified by the detection of an array of photodiodes controlled by 350, 430 and 486 nm. Carotenoid pigments, usually in the orange variety of Valencia, were divided into a polymer column C-30 using a thorny gradient as an eleuent. Pure juices from Valencia's oranges grown in regions (Israel and Spain) have a high carotenoids content in β-carotene (5-18 and 14-35 mg L-1, respectively), compared to regions grown in tropical and subtropical regions (Cuba, Belize and Florida) (4-10, 2-8 and 5-10 mg L-1, respectively). The quantitative results differentiated the diversity of Valencian geographical origins, particularly the Mediterranean from tropical and subtropical areas, using multidimensional analysis of carotenoids. Keywords: Citrus sinensis; Orange juices of Valencia; Geographical origin; Carotenoids; liquid chromatography; Food analysis The falsification of Page 15Phenolic compounds in 46 Spanish apple cider varieties have been identified by RP-HPLC with direct injection. Several pattern recognition procedures, including core component analysis (PCA), linear discriminator analysis (LDA) and partial least squares (PLS-1), have been applied to the data in an attempt to categorize samples into bitter and nonbitter categories. Both LDA and PLS-1 have obtained robust decision-making rules. For internal and external evaluation, the LDA model achieved 91.3 and 85.7% of the correct classification, respectively. Keywords: Cider Apple; polyphenols; HPLC direct injection; The chemometric Page 16Rabbits were immunized with the peeled almond main protein (AMP), the main storage protein in the almonds. Rabbit anti-AMP polyclonal antibodies (PA) can detect AMP when just 1 y 10 ng/ml have been used to cover microtitre plates in non-competitive enzyme-related-immunosorbent analysis (ELISA). Competitive inhibition ELISA analyses found AMP up to 300 ng/ml. PA recognized AMP in protein extracts from all major marketing varieties of almonds (Mission, Neplus, Peerless, Carmel and Nonpareil) with a specific reactiveness of 52.6-75% compared to AMP only. Immunoreactivity of protein extracts from commercial samples of blanched almonds, roasted almonds and almond paste, respectively, decreased by 50.0%, 56.6% and 68.4% (non-competitive ELISA) compared to AMP immunoreactivity. Wet heat (121 degrees Celsius, 15 min) pre-treatment AMP reduced PA reactivity by 87% (non-competitive ELISA). The impact of AMP on pH extremes (12.5 and 1.5-2.5) reduced PA reactivity by 53% and 57% respectively (non-competitive ELISA). PA has shown some cross-reactivity with cashews of the main globulin, and to a lesser extent, Tepary and Great Northern bean are the main protein storage (7S or phaseolin). The presence of almonds in commercial foods has been detected using PA in a competitive ELISA. Keywords: almonds; polyclonal antibodies; protein, processing, ELISA Page 17Smeystion of starch, which is the main component of the polysaccharide fraction of chestnuts (Castanea sativa), has been studied with understanding of structure and assimilation to understand the changes caused by and, in particular, Mayar's reaction. The study was conducted using the enzyme degradation of kinetics, glucose monitoring released on time, and the solid state of 13C CP MAS NMR, which has the potential to monitor changes in the solid phase of the condition occurring during chemical modification due to the cooking process. The results indicate that large changes are taking place in the macromolecular structure of starchy materials and that these changes correlate with changes in digestibility in terms of resistance to enzymatic degradation. In the system studied, the expansion of the Mayar reaction does not have a significant effect on the structure and/or digestibility of chestnut starch. Keywords: Chestnuts; starch; Starch absorption Structural modifications of Page 18 Analysis of organic acids in strawberry-tree (Arbutus unedo) honey showed the presence of unknown acid as the main component. This compound has been isolated and identified as homogenistic acid (2.5-dihydroxyphenylacic acid) by MS and NMR. Its average content in honey was 378 ± 92 mg/kg. Since this acid has not been found in any of the various monoflor honeys, it can be used as a marker of strawberry tree (A. unedo) honey. Keywords: Homogentisic acid; strawberry tree (Arbutus unedo); Honey; a partial characteristic of oxidase polyphenol activity (PPO) in raspberry fruit is described. Two early varieties harvested in May-June (Heritage and Autumm Bliss) and two late varieties collected in October-November (Ceva and Rubi) were analyzed for PPO activity. Stable and highly active PPO extracts were obtained using insoluble poly (vinylpirrolidone) (PVP) and Triton X-100 in sodium phosphate, pH 7.0 buffer. Polyacrylamide gel electrophoresis raspberry extracts under undenatured conditions are solved in one band (Rf1 and 0.25). Raspberry PPO-up pH optima 8.0 and 5.5, both with catechol (0.1 M). The maximum activity was with d-catechin (cateholase activity) and then p-coumaric acid (cresolase activity). Legacy raspberries also showed PPO activity to 4-methylcatehol. Ceva and Autumm Bliss raspberries showed higher PPO activity using catechol as a substrate. Keywords: Raspberry; polyphenol oxidase; The feature Native-PAGE Page 20The HL-60 differentiation of defiant compounds in bergamot fruits were isolated with a column of chromatography and identified as bergamottin, bergapten, and citropten at 1H and 13C NMR. Their HL-60 differentiation causing activity was measured by studying nitro blue tetrasolius (NBT) reduction, nonspecific acid esterase (NSE), specific esteras (SE), and phagocyte activity, and bergamottin showed strong activity among isolated corinumas isolated fruits of bergamot. Relationship between structure and activity derived from HL-60 HL-60 analysis shows that the hydrophobic furokumarins correlate with their activity. Keywords: Bergamot; furokumarin; Kumarin; Differentiation HL-60 Page 21Three flavonol glycosides were isolated and identified from commercial dark red kidney beans (Phaseolus vulgaris L.) cultivated Montcalm. In order of the highest and lowest concentration these compounds were 3',4',5,7-tetrahydroxyflavonol 3-O-β-d-glucopyranosyl (2→1) O-β-d-xylopyranoside (connection 1), 3-O-O-β-d-glucopyranoside (connection 2), and kaempferol 3-O-β-d-glucopyranoside (connection 3). Compound 1 is flavonol glycoside, which was not previously registered in P. vulgaris L. These three flavonol glycosides were yellow compounds that did not contribute to pomegranate red color Montcalm seed coats. The red compounds that tested positive for proanthocyanidins are most likely responsible for the red color of the Montcalm seed coat. Previous work on the chemistry of compounds produced from the multi-Allion series of C-Cr-cu seed genes has shown that neither anthocyanins nor flavonologlycosides were found from seed coat extracts in the presence of locus ku. However, the genotype color of the Seminal Coat Montcalm is cuJ g B vrkd and three flavonol glycosides have been found. Technological advances such as the current analysis of HPLC seed coat extracts can allow for the detection of small quantities of compounds that previously could not be treated with paper chromatography. In addition, changing the allele rk to rkd can allow the synthesis of flavonol glycosides in the presence of cu. Keywords: Dry beans; highly-liquid chromatography; Page 22Dialyzed flavonoids and freeze-dried egg white (FDEW) were dry heated at 120 degrees Celsius for up to 6 hours. Due to changes in the murky and soluble protein content of the supernatant in various mixtures of 10% of FDEW and DHEW solutions caused by heating (60 degrees Celsius, 5 min), it was found that inhibition capacity increased with increased dry heating time (DHT). FDEW proteins were denatured with mild conformacial change (not secondary but tertiary structure) with an increase in DHT and aggregated partially. However, more transparent DHEW solutions containing soluble DHT units were also obtained after heating. Transparency under DHT is almost independent of naCl concentration and dilution with dilution containing SDS, urea, and 2-mercaptoethanol. These results indicate that the thermal units and coagulations of ovotransferrine and lysozyme in FDEW were inhibited by their bindings with soluble units in DHEW. Keywords: Egg white; Dry heating; heat coagulation; Heat aggregation Page 23 The predominant source of vitamin D is the synthesis of cholalciferol in the skin under the influence of sunlight; however, due to the relative lack of sunlight, vitamin D intake from food is highlighted in winter, especially in northern countries. Only a few foods (fish, eggs, wild mushrooms, meat and milk) are natural sources of vitamin D. In addition, vitamin D content in foods is generally low, and some groups of people get amounts of vitamin D that are too small from their diet. This study was designed to determine whether vitamin D content in the egg yolk can be increased by giving chickens feed containing elevated levels of cholekalciferol. Three levels of cholecalciferol were tested: 26.6 (1064), 62.4 (2496) and 216 micrograms (8640 IU)/kg of feed. Egg yolk samples were taken after 0, 4, 5 and 6 weeks and were analyzed for cholecalciferol and 25-hydroxyholexolxalcyferol using hpLC. According to this study, there is a strong positive correlation between the content of chollekalcyferol in poultry feed and cholekalcyferol (r No. 0.995) and 25-hydroxyholekalciferol (r No. 0.941) in egg yolk. Keywords: Vitamin D; holekalziferol; 25-hydroxycholyxolexolciferol; egg yolk; Chickens Enrichment of feed; HPLC Page 24 The freezing and growth of bacteria on beef discoloration was evaluated by measuring derivatives of myoglobin myoglobin (MB), oxymyoglobin (MBO2) and metmioglobin (METMB) on surfaces of fresh and frozen defrosted beef packets stored at 2 degrees Celsius and analyzed after 0, 3, 6, 9 and 12 days of storage. Concentrations of MB, MBO2 and METMB were measured spectrophototically. Frozen beef samples experienced less blooming (conversion MB into MBO2) and faster bleaching than fresh cuts during storage. By 3-0;20% of METMB was formed in frozen thaws samples, while fresh samples reached this value after the 6th day of storage. MB oxidation rates were similar (P zgt; 0.05) for sterile and frozen thawing vaccinations (Pseudomonas fluorescens at a rate of 1.5 units forming units /cm2'cm2 area) from 0 day to day 6 storage. To store periods of less than a week, bacterial growth is not the main cause of meat discoloration. After the 6th day, high rates of bacterial growth led to a rapid increase in the formation of METMB. It is possible mechanisms of oxidation of MB in frozen unfrozen beef. Keywords: Mioglobin; Beef color; Packaging Microbial Page 25Mentha × piperita shoot tips and the first sheet of steam fed with an aqueous solution of 2H2 - and 2H2/ 18O labeled pulegone. The essential oil was analyzed using solid phase micro-extraction and enantiolectric multi-dimensional gas After feeding experiments with a labeled pulegone racemate as labeled (S)-menthofuran and (R)-menthofuran were discovered along with authentic (R)-menthofuran. It can be shown that both labeled pulegone enantiomers are converted by Mentha × piperita into appropriate labeled menthofuran enantiomas, in favor of a labeled analogue of negenuine (S)-pulegone. Oxygen in menthofuran is injected with enzyme oxidation by pulegone, as withdrawn from feeding experiments with mixed labeled 2H2/18O pulegone. Keywords: Menthofuran; Stable isotope marking Menta × piperite biosynthesis; Solid Phase Microexpression (SPME); Enantioselective multidimensional gas chromatography/mass spectrometry (enantio-MDGC/MS) Page 26A novel, nozotopic microitrathic plate analysis based on the human estrogen receptor has been used to test soy and soy content products for their phytoestrogens content (measured as genistein equivalents). The test of the analysis for use with food extracts was demonstrated by the recovery study after acidic and enzyme hydrolysis, the study of matrix effects and the comparison of the results with the HPLC analysis. Levels of phytoestrogens in the soy products analyzed ranged from 520 to 1872 micrograms of geniein equiv/g of soy flour, 5-282 micrograms/g of soybean concentrate, 503-1292 micrograms/g of soy-protein isolates and 108-226 micrograms/g of infant formulas based on soy. Samples of textured vegetable protein and bread containing soy and flaxseed yielded values of 1114 and 68 micrograms/g respectively. Comparison of the results for 12 samples analyzed by both receptor analysis and HPLC showed a good correlation (r 2 and 0.905). The analysis, which is fast and easy to carry out, is suitable for screening phytoestrogens-containing products to assess the human effects of these biologically active compounds. The sensitivity of the analysis is 3.4 micrograms/g, and 14 samples/plates can be analyzed at 4 h after hydrolysis. Keywords: Phytoestrogens; estrogenic isoflavonoids; The analysis receptor Screening Food-based food-based food antioxidant activity of plants pdf. antioxidant activity of medicinal plants. antioxidant activity of medicinal plants review. in vitro antioxidant activity of medicinal plants. antioxidant activity of medicinal plants thesis pdf. in vitro antioxidant activity of medicinal plants pdf. research papers on antioxidant activity of medicinal plants. antioxidant activity of medicinal plants ppt