

Guar Gum Vs Gum Arabic

Taylor C. Wallace

ABSTRACT BOOK of I. INTERNATIONAL CONGRESS ON MEDICINAL AND AROMATIC PLANTS , Dear Academicians, Readers and Educators, We are pleased to present the issue of the International Journal of Secondary Metabolite as a special issue entitled 'I. International Congress on Medicinal and Aromatic Plants - "Natural And Healthy Life"'. This special issue contains some of scientific studies presented in the congress. Hosting the I. International Medical and Aromatic Plant Congress, held in Konya on 9-12 May 2017, by the cooperation T.R. Ministry of Forestry and Water Affairs, General Directorate of Forestry and Necmettin Erbakan University was a great honor for us. The total number of abstract submission for the congress was 1923. After the scientific evaluation, 85 abstracts were rejected and 244 abstracts were withdrawn. As a result, a total of 1594 abstracts were accepted for presentation: 280 of them as oral presentation and 1314 as poster presentation. 2604 authors were contributed and 1543 participants were participated to the congress. The studies presented in the congress was electronically shared in terms of accessibility. The authors of 220 papers, presented in the congress, submitted to the International Journal of Secondary Metabolite for publication. 70 of them were published and 150 full papers were rejected due to revision deadline, reviewing process etc. after reviewing process. I would like to special thank to the Journal founder for publishing and also to the editor, editorial board and authors for contributing this issue. Best regards. Dr. Muzaffer ŞEKER Rector of Necmettin Erbakan University TC Orman ve Su İşleri Bakanlığı, Orman Genel Müdürlüğü ve Necmettin Erbakan Üniversitesi paydaşlığında, Necmettin Erbakan Üniversitesi ev sahipliğinde 9-12 Mayıs 2017 tarihlerinde Konya'da gerçekleştirilen I. Uluslararası Tıbbi ve Aromatik Bitkiler Kongresi'nin açılış programı, Orman ve Su İşleri Bakanı Sayın Prof. Dr. Veysel Eroğlu, Sağlık Bakanı Prof. Dr. Recep Akdağ, Milletvekilleri, Konya Valisi Yakup Canbolat, Konya Büyükşehir Belediye Başkanı Tahir Akyürek, Afyon Kocatepe Üniversitesi Rektörü Prof. Dr. Mustafa Solak, Necmettin Erbakan Üniversitesi Rektörü Prof. Dr. Muzaffer Şeker, Orman Genel Müdürü, Dekanlar, Akademisyenler, Daire Başkanları, öğrenciler ve sektörde faaliyet gösteren işadamlarının katılımıyla gerçekleştirilmiştir. Kongre, son yıllarda yapılan en geniş katılımlı bilimsel organizasyon olma özelliği taşımaktadır. Kongreye tıbbi ve aromatik bitkilerin dahil olduğu pek çok alandan tanınmış ve seçkin akademisyenler katılmıştır. Davetli Konuşmacı olarak kongreye katılan Mauritius Üniversitesi'nden Vidushi Neergheen-Bhujun, Handong Global Üniversitesi'nden Jong Bae Kim, Malezya'dan ve Ege Üniversitesi'nden emekli Prof. Dr. Münir Öztürk, Yeditepe Üniversitesi'nden Prof. Dr. Erdem Yeşilada, Sebahattin Zaim

Üniversitesi'nden Prof. Dr. Adem ELGÜN, TÜBİTAK Marmara Araştırma Merkezi'nden Prof. Dr. Cesarettin Alaşalvar, Hacettepe Üniversitesi'nden Prof. Dr. İrem Tatlı Çankaya ve Cumhurbaşkanı başkanışmanı Prof. Dr. İbrahim Adnan Saraçoğlu bunlar arasında sayılabilir. Kongrede üç gün boyunca yedi ayrı salonda aşağıdaki başlıklar altında sözlü ve poster bildiriler sunulmuş ve yoğun katılım gözlenmiştir. □ Tıbbi Bitki, Aromatik Bitki ve Mantar Üretimi □ Tıbbi ve Aromatik Bitkisel Ürün Sanayii □ Fonksiyonel Gıdalar, Bitkisel Çaylar ve Nutrasötikler □ Tabii Kozmetik Ürünler □ Aromatik Bitkiler ve Uçucu Yağlar □ Farmakoloji, Farmakognozi (Toksikoloji, Farmakovijilans) □ Tabii Bitki Örtüsünün Korunması ve Etnobotanik □ Tıbbi ve Aromatik Bitkilerde Antropoloji, Sosyo-Ekonomi, Kültür ve Etik □ Tıbbi ve Aromatik Bitkilerin Akılcı Kullanımı Kongrede sözlü sunular Lokman Hekim, Farabi, İbn-i Sina, Akşemsettin, Mevlâna ve Balo Salonlarında, poster sunular ise Poster Salonunda gerçekleştirilmiştir. Kongre süresince; Selva Redoks, Tales Analitik, Dr. Mustafa Mücahit Yılmaz, Sem, Yapılcan, Biosan firmaları ile Orman Su İşleri Bakanlığı, Konya Büyükşehir Belediyesi Park ve Bahçeler Daire Başkanlığı, NEÜ Gıda Mühendisliği Bölümü, NEÜ Sağlık Bilimleri Fakültesine ait stantlarda tıbbi ve aromatik bitkilerle ilgili ürün ve yayın tanıtımları gerçekleştirilmiştir. Orman Genel Müdürlüğü kongreye ödüllü fotoğraflar sergisi ile renk katmıştır. Kongremizin düzenlenmesinde 12 Yürütme Kurulu, 24 yerli 25 yabancı olmak üzere 49 Bilim Kurulu ve 11 Danışma Kurulu üyesi görev yapmıştır. Kongremize toplam 1543 katılımcı başvurmuş olup, katılımcılar içerisinde 520 öğretim elemanı, 483 öğretim üyesi, 429 öğrenci ve 111 sektör temsilcisi/dinleyici yer almıştır. Kongremize 524 bay katılımcı, 1019 bayan katılımcı başvurmuştur. Kongreye bildiri gönderen 2604 yazardan; 382 adeti ziraat, 321 adeti gıda, 311 adeti orman, 270 adeti mühendislik, 225 adeti sağlık, 161 adeti diyetisyenlik, 157 adeti veterinerlik, 145 adeti farmakoloji, 104 adeti eczacılık, 37 adeti diş hekimliği ve 491 adeti kozmetik, peyzaj, sosyal, kültürel vb. diğer alanlarda çalıştığı belirlenmiştir. Kongreye toplam bildiri başvurusu 1923 adet olup, bilimsel değerlendirme sonucu 85 adeti reddedilmiş, 244 adet bildiri geri çekilmiştir. Sonuç olarak 280 bildiri sözlü bildiri olarak ve 1314 bildiri poster bildiri olmak üzere toplam 1594 bildiri kabul edilmiştir. Sözlü bildiriler konularına uygun olarak 48 oturumda, poster bildiriler ise 14 oturumda sunulmuşlardır. Bu bildiriler içerisinde yazarlar tarafından bildiri kitabında basılmak üzere 159 tam metin gönderimi gerçekleştirilmiş, aynı zamanda uluslararası alan indeksli International Journal of Secondary Metabolite dergisine de 173 tam metin makale gönderilmiş olup toplam 332 adet tam metin hazırlanmıştır. Kongre web sayfamıza 45 bin tekil ziyaretçi girmiş ve 4 milyondan fazla hit oluşturmuşlardır. Kongre duyuruları ve hatırlatmaları için 150 binden fazla mail gönderilmiş olup, yaklaşık 15 bin mail alınmıştır. Kongre ile ilgili sekreteryaya üzerinden yaklaşık 6000 görüşme yapılmıştır. Yukarda ifade edilen konferans, bildiri oturumları ve toplantılarda; tıbbi ve aromatik bitkiler sektöründe ortaya çıkan reform ihtiyaçları, mevzuat, ulaşım ve kalite sorunları vb. konular tartışılmıştır. Ortaya çıkan sonuçlar, kongre düzenleme kurulu tarafından sonuç bildirgesi haline getirilmiştir. Sonuç Bildirgesi ile tam metin kongre kitabı e-kongre kitap olarak kongre paydaşlarına ait web siteleri ile kongre web sitesinden (www.tabkon.org) kamuoyu ile paylaşılacaktır. SONUÇ ve DEĞERLENDİRME RAPORU Kongre değerlendirme oturumu soru-

cevap kısmından elde edilen sonuçlar ile değerlendirmelerini gönderen bilim insanların görüşleri, aşağıda yer aldığı gibi özetlenebilir: 1- Bitkisel ürünlerin sağlık üzerine olumlu etkilerinin olduğu bilinmektedir. Ancak bu ürünlerin yanlış kullanımı nedeniyle karaciğer nakline kadar gidebilen hayati ve ciddi sağlık sorunlarına yol açabildiği görülmektedir. Sektörün ve vatandaşın sorunlarına yönelik çözüm üretmek amacıyla Bakanlıklar (Orman ve Su İşleri Bakanlığı, Sağlık Bakanlığı, Gıda, Tarım ve Hayvancılık Bakanlığı ve Gümrük ve Ticaret Bakanlığı) arasında bir TIBBİ VE AROMATİK BİTKİLER KOORDİNASYON ÜST KURULU oluşturulmalıdır. 2- Bölgemizin tıbbi ve aromatik bitkiler sektöründe; ilk olarak bölgelere göre tıbbi-aromatik bitki üretim planlama çalışmaları yapılmalıdır. Bölgelere göre ekonomik değeri ve üretim potansiyeli yüksek bir veya birkaç bitki türü belirlenmelidir. Bu bitki türünün doğadan toplama ve kültüre alınarak üretilebilecek türleri ayrı ayrı belirlenmelidir. Gerekli ürünün belirlenmesi, üretim planlaması ve fiyatlandırma çalışmalarını yapmak için yerelden; STK, kamu ve özel sektör uzmanlarının yer aldığı farklı disiplinlerden müteşekkil bir komite kurulmalıdır. Bu belirlenen bitkilerin gerek toplanması gerekse kültüre alınarak üretilmesi için gerekli organizasyonlar ve destekler sağlanmalıdır. 3- Ülkemiz çok zengin doğasına rağmen, hala işlenmemiş bir bitki ihracatçısı olmaya devam etmektedir. Ülkemizde bitkisel ilaç sanayinin gelişmemesi, bunun yanında parfümeride kullanılan sentetik ürünlerin daha ucuz olması gibi nedenlerle, doğal uçucu yağların ikinci planda kalması, tıbbi ve aromatik bitkilerin üretim olanaklarını kısıtlamıştır. 6 4- Tıbbi ve aromatik bitkilerin mevcut durumunu korumak ve artan pazarda yer almasını sağlamak için piyasanın istediği ürünleri istediği miktar ve kalitede sunmamız önem arz etmektedir. Doğal zenginliklerimizin sürekliliği ve gelecekteki araştırmalar için gen kaynaklarının korunması (insitu ve ex-situ) önemlidir. Ancak tıbbi ve aromatik bitki üretimini doğadan toplayarak karşılamamız mümkün değildir. Yeterli miktarda, standart ve kaliteli ürün üretmek için bu bitkilerin kültüre alınması ve ıslahı önem arz etmektedir. Tıbbi aromatik bitkilerde ülkemiz endemik bitkilerinin isimlendirilmesinde terminoloji birlikteliği ve bölgesel coğrafi farklılıkları tanımlayıcı temel bilgilerin netleştirilmesi gerekmektedir. Ayrıca ülkemiz florasına uygun çeşit ıslahına yönelik proje çalışmaları yaptırılması gerekmektedir. (kültüre alma, adaptasyon, ıslah vb.) 5- Tıbbi ve aromatik bitkilere ait düzenli istatistiksel veriler bulunmamaktadır. Bu arz-talep ilişkisi dikkate alınarak üretim yapmayı zorlaştırmaktadır. Bu nedenle bitkilerle ilgili bilgilerin toplanacağı ve ulaşılabileceği veri bankaları oluşturulmalıdır. Yurt içi ve yurt dışında ticareti yapılan doğal bitkilerin tam bir listesi, toplayıcı, aracı, ihraç eden firma ve ilgili devlet kurumlarıyla birlikte hazırlanmalı ve bir veri tabanı oluşturulmalıdır. Tıbbi ve aromatik bitkilerin doğadan toplanmaları kontrol altına alınmalı, nesli tehlikede olanlar koruma altına alınmalı, öncelikle tarımına geçilmeli, tüm bu bilgiler oluşturulacak veri tabanında yer almalıdır. 6- En çok ihracatı yapılanlar dışındaki bitkisel ürünler ihracat istatistiklerinde diğerleri faslında yer almaktadır. Bu yüzden ülkemizden ihraç edilen drogların tam bir listesine ulaşabilmek mümkün olmamaktadır. Bu bitkiler üzerinde sağlıklı çalışmalar yapılabilmesi için bunların ticaretlerinin izlenmesi, ihracat ve özellikle üretim miktarlarının ve bunların ne kadarının doğadan toplama ve ne kadarının da tarla üretiminden geldiğinin istatistiklerde açık ve net olarak yer

alması zorunluluğu bulunmaktadır. 7- Tüketici ve sanayici taleplerine cevap veren kaliteli ve standart ürün için ıslah edilmiş çeşitlerin geliştirilmesi, uygun ekolojik koşulların belirlenmesi, doğal bitkilerin doğaya zarar vermeden zamanında toplanması, hasat sonrası işlemler ve işleme teknolojisinin belirlenmesi tıbbi ve aromatik bitkilerde üretim ve pazar olanaklarını arttıracaktır. Bölgelere göre, birkaç üründe özüt ve etken madde üretimine geçilmesi, üretilen ürünler için markalaşma ve standart oluşturma faaliyetlerinin yürütülmesi elzemdir. Ayrıca ham madde üretimini ikincil ürünlere dönüştürecek tarıma dayalı sanayi tesislerinin bölgeye kazandırılması oldukça önemlidir. 8- Gıda, Tarım ve Hayvancılık İl müdürlüklerinin, fide ve tohum dağıtılması noktasında il özel idaresiyle birlikte projeler yapmasının çok etkili olacaktır. 9- Tıbbi ve aromatik bitkiler alanında faaliyet gösteren üretici, toplayıcı, ihracatçı, sanayici, araştırmacı ve diğer tüm paydaşların koordinasyonunu sağlayacak bir sistem ve araştırma sonuçlarının pratiğe aktarılması için, araştırmacı, sanayici, üretici arasında bilgi akışını sağlayacak yayın sistemi oluşturulmalıdır. 10- Genetik kaynaklar kullanılarak tarıma ve ülke ekonomisine endemik, vb. ekonomik değeri olan bitkiler kazandırılmalıdır. Genetik materyal(tohumluk-fide) yetersizliğini gidermek için çalışmalar yapılmalıdır. 11- Tağşiş (yabancı madde karıştırma) problemine karşı standardizasyon sağlanmalıdır. 12- Aktar dükkanı açmak için Tıbbi ve Aromatik Bölüm mezunu olma şartı getirilmelidir. 13- İki yıllık olan eğitim süresi yetersizdir. Avrupa ülkelerindeki gibi Medikal Herbalist'lik şeklinde uygulamalı en az üç yıllık eğitim verilmelidir. 14- Hali hazırdaki müfredat gözden geçirilerek bu konudaki söz sahibi ülkelerdeki gibi eğitim verilmelidir. Okullar arasında müfredat birliği sağlanmalıdır. Eğitimcilerin bu konuda yetkinliği şart koşulmalıdır. Meslek gereklerine uygun, donanımlı mezunların yetiştirilmesi için eğitime uygun altyapı sağlanmalıdır. 15- Bu bölüm mezunlarına yeterli eğitim verilerek "herbalist" ünvanı verilebilir. Ve yasalarca da tanınabilir. Mevcut unvan olan "Tıbbi ve Aromatik Bitkiler Teknikeri" uzun bir unvan olduğundan daha akılda kalıcı bir unvan için düzenleme yapılmalıdır. 16- Baharat, bitkisel gıda takviyesi, doğal kozmetik, bitki çayı, bitkisel ilaç üreten işyerleri ile bu tür ürünlerin satışının yapıldığı eczane, aktar, organik ürün dükkânlarında bölüm mezunlarının çalıştırılması zorunluluğu yasalarca dikkate alınmalıdır. 17- Bilimsel araştırma sonuçlarının pratiğe aktarılması noktasında çalışmaların yapılması gerekmektedir. Elde edilen sonuçların ulusal ve uluslararası ölçüde katkı yapması beklenmektedir. 18- Ülkemizde bitkisel ilaç sanayinin gelişmesine yönelik çalışmalara destek verilmelidir. 8 19- Uluslararası ticarete önem taşıyan türlerin üretimi ve ihracatının artırılması gerekmektedir. 20- Pazar garantili bahçe-tarla uygulamalarına yönelik çalışmalar ile markalaşmaya yönelik çalışmalar yapılmalıdır. Ayrıca stratejik değeri olan ürünlerin üretimine gidilmelidir. 21- Herhangi bir zaman diliminde popüler olan tür ya da ürün üzerine yoğunlaşmak yerine her dönem önemini kaybetmeyen türlere önem verilmelidir. 22- Tıbbi ve aromatik bitkilerin tarımı için orman arazileri yerine tarımsal alanların ayrılması gereklidir. 23- Tıbbi ve aromatik bitki analizi ile ilgili yetkin laboratuvarlar aracılığıyla kriterler belirlenmeli (bileşenlerin içeriği ve miktarı) ve yapılacak çalışmalarda bu standartlar baz alınmalıdır. 24- Bitkilerin doğru tanımlanmaması önemli bir hata olarak karşımıza çıkmaktadır. Bu konuda yetkinliği olan kişilerle ortak çalışılmalıdır. 25-

Üretim teknolojileri ile ilgili çalışma yapmak isteyen yatırımcılara gerekli eğitimler bakanlık vb. kurumların desteğiyle verilmelidir. 26- Fitoterapi konusunda Sağlık Bakanlığı'nın desteği gereklidir. 27- Gıda takviyesi olarak satılan ürünlerin ruhsatlandırılması Sağlık Bakanlığı tarafından yapılmalıdır. 28- Bilimsel çalışmalara konu olan bitkiler aktar veya pazardan temin edilmemeli, doğal ortam veya kültür ortamından alınmalı. Bu tür bildiriler bilimsel kongrede kabul edilmemelidir. 29- Tıbbi ve aromatik bitkilerin üretimi esnasında zirai mücadelede ruhsatlı pestisit üretimi üzerine çalışmalar yapılmalıdır. 30- Kongre esnasında posterlerin okunabilmesi için daha uzun süre asılı kalmalıdır. İlave olarak bu amaca dönük olarak posterler elektronik ortamda yayımlanmalıdır. 31- Kongrede kullanılan dilin Türkçe ve İngilizce olması önem arz etmektedir. 32- Etnobotanikte 70 farklı çeşit bitkiye "kekik" adı veriliyor. Bunu giderecek çalışmalar yapılmalıdır. 33- Sarı ve kırmızı kantaronun etki mekanizmaları farklı olmasına karşın, bu bitkiler karıştırılarak hataen birbirinin yerine kullanılabilir. Bu yüzden bazı sağlık problemleri yaşanabilmektedir. Bu ve benzeri durumların giderilmesi için gerekli çalışmalar yapılmalıdır. 34- Lavanta vb. endemik bitkilerin ülke ekonomisine kazandırılması için çalışmalar yapılmalıdır. 35- Tıbbi ve aromatik bitkiler üzerine farklı bilim disiplinlerinin işbirliği içinde yürüteceği multidisipliner çalışmalar ve toplantıların sayısı artırılmalıdır. Fakat bu toplantılar belli bir koordinasyon içinde yürütülmelidir. Benzer tarzda fazla sayıda yakın tarihli ve içerikli toplantılar düzenlenmektedir. 36- Tıbbi ve aromatik bitkilerle ilgili kongrelerin mutlak olarak ulusal ve uluslararası bazda düzenlenmesi gerekir. Bunun için 2 yılda bir ulusal 4 yılda bir uluslararası kongre düzenlenmesine karar verilmiştir. Gerçekleştirilecek kongrelerden çıkacak sonuç ve öneriler, akademik, ekonomik ve üretim/ürün/faydalı model/yeni teknolojiler çıktılarının olması için azami özen ve gayretin gösterilmesi büyük öneme sahiptir. 37- Bir sonraki Ulusal Tıbbi ve Aromatik Bitkiler Kongresi'nin Afyon Kocatepe Üniversitesi ev sahipliğinde 2018-2019 eğitim öğretim döneminde Afyon'da yapılmasına karar verilmiştir. Kongre sonuçlarının; ülkemize, bilim insanlarına, üreticilere, sanayicilere ve bütün insanlığa olumlu katkı yapması dileğiyle...16.05.2017- Konya

Natural Gums Shakeel Ahmed,Akbar Ali,2023-07-22 Natural Gums: Extraction, Properties, and Applications provides thorough, methodical coverage of a range of natural gums. These naturally forming polysaccharides or complex carbohydrates offer advantageous properties and a range of possible applications. The book begins by introducing fundamental knowledge regarding natural gums, including structures and properties, functionalization, gelatin behavior, and characterization techniques. Subsequent sections of the book provide in-depth chapters, each guiding the reader through the extraction, properties and applications of a specific gum type, covering plant-based, animal-based, microbial-based, and marine-based natural gums. Finally, the future potential of natural gums, and their implications in a circular economy approach, are considered. This is an informative resource for researchers and advanced students in bio-based materials, polymer science, chemistry, bioengineering, materials science, and food science, as well as industrial scientists and R&D professionals with an interest in natural gums and bio-based materials for advanced applications. - Explains origin,

extraction, processing and structural analysis of natural gums - Offers in-depth information on specific natural gum types, their properties and potential uses - Explores a range of advanced applications across food, biomedicine, pharmaceuticals, and more

Confectionery Science and Technology Richard W. Hartel, Joachim H. von Elbe, Randy Hofberger, 2017-10-09 This book examines both the primary ingredients and the processing technology for making candies. In the first section, the chemistry, structure, and physical properties of the primary ingredients are described, as are the characteristics of commercial ingredients. The second section explores the processing steps for each of the major sugar confectionery groups, while the third section covers chocolate and coatings. The manner in which ingredients function together to provide the desired texture and sensory properties of the product is analyzed, and chemical reactions and physical changes that occur during processing are examined. Trouble shooting and common problems are also discussed in each section. Designed as a complete reference and guide, *Confectionery Science and Technology* provides personnel in industry with solutions to the problems concerning the manufacture of high-quality confectionery products.

Dietary Supplements in Health Promotion Taylor C. Wallace, 2015-05-15 The supplement market continues to grow annually with more than half of the population using these products for reasons spanning from health maintenance to disease prevention and/or treatment. *Dietary Supplements in Health Promotion* presents clear and concise evidence on how dietary supplements may contribute to maintaining health status. The book

Gums, Resins and Latexes of Plant Origin Hosakatte Niranjana Murthy, 2022-07-20 This reference book provides a comprehensive overview of natural gums, resins, and latexes of plants with a focus on their chemistry, biological activities, and practical uses. The content is divided into five main sections each of which contains chapters contributed from valuable experts in their field. Naturally occurring plant products have quite diverse applications in many different industries. The book aims to highlight the important aspects of plant-based gums, resins and latexes as well as provide a strategic framework for further research and development activities on these bioproducts. It will appeal to a broad audience such as biologists, pharmacologists, pharmacists, food technologists and medical practitioners. It is also a useful resource for research investigators of the healthcare industry, academia and students of biomedical sciences.

Complex Carbohydrates in Foods Susan Sungsoo Cho, 1999-01-19 Explores the effects of complex carbohydrates (starch, gums, and dietary fibers) on human physiological function and establishes an appropriate dietary intake level for inclusion on nutritional labels. Addresses current research, applications, and implementation issues.

Encyclopedia of Polymer Applications, 3 Volume Set Munmaya Mishra, 2018-12-17 Undoubtedly the applications of polymers are rapidly evolving. Technology is continually changing and quickly advancing as polymers are needed to solve a variety of day-to-day challenges leading to improvements in quality of life. The *Encyclopedia of Polymer Applications* presents

state-of-the-art research and development on the applications of polymers. This groundbreaking work provides important overviews to help stimulate further advancements in all areas of polymers. This comprehensive multi-volume reference includes articles contributed from a diverse and global team of renowned researchers. It offers a broad-based perspective on a multitude of topics in a variety of applications, as well as detailed research information, figures, tables, illustrations, and references. The encyclopedia provides introductions, classifications, properties, selection, types, technologies, shelf-life, recycling, testing and applications for each of the entries where applicable. It features critical content for both novices and experts including, engineers, scientists (polymer scientists, materials scientists, biomedical engineers, macromolecular chemists), researchers, and students, as well as interested readers in academia, industry, and research institutions.

Biopolymers In Drug Delivery: Recent Advances and Challenges Michael U. Adikwu, Charles O.

Esimone, 2010-05-13 This Ebook describes the applicability of diverse natural and synthetic biopolymers and their blends in drugs, vaccines and gene delivery. It would serve as a concise body of information on biopolymers for researchers, industries and students of pharmaceu

Biodegradable Hydrogels for Drug Delivery Haesun Park, Kinam Park, Waleed S.W. Shalaby, 2011-07-08 From the Authors'

Preface The advances made in the area of controlled drug delivery during the last two decades are remarkable Of the many polymeric materials, biodegradable hydrogels present unique advantages and opportunities in the development of ... delivery devices We have undertaken the challenge of putting together information relevant to biodegradable hydrogels in one place. This book covers the mechanisms of biodegradation, types of biodegradable hydrogels, chemical and physical gels, chemical and enzymatic degradation, and examples of biodegradable drug delivery systems.

Food and Lifestyle in Health and Disease Chuong Pham-Huy, Bruno Pham Huy, 2022-04-29 Food and Lifestyle in Health and Disease gathers information on various food types providing an explanation of their nutrient composition, sources, roles, and mechanisms in health and diseases. To obtain good health practices and prevent diseases, it is necessary to understand links in the relationship of food, lifestyle, environment, and health. This book is a vital source for research topics related to these issues, including the following: Analysis of various types of food and lifestyles for the prevention and treatment of diseases and disorders, including cardiovascular disorders, cancers, neurodegenerative diseases, diabetes, hypertension, and obesity. The influences of environmental pollution, synergistic effects of different foods, and synergy of foods with physical activity or medicine. The roles of animal, fungal, and plant source foods in human health and disease. This book is appropriate for health-conscious users, health care providers and practitioners, teachers, and researchers.

Fisher's Contact Dermatitis Robert L. Rietschel, Alexander A. Fisher, Joseph F. Fowler, 2008 Since its introduction in

1967, Alexander A. Fisher's Contact Dermatitis has been the one essential text for American dermatologists who see patients with contact dermatitis. The sixth edition is an encyclopedic reference that discusses all aspects of contact dermatitis. It

features a full color atlas section as well as color images for the first time. The 6th edition provides updates on the following sections: statistics and sources of rubber allergy; allergy to plastic chemicals, especially epoxies and acrylics; textile dyes and permanent press allergy; photo dermatitis; allergy to newer preservatives and other ingredients in skin and hair care products and cosmetics such as cocamidopropyl betaine, emulsifiers, methyldibromoglutaronitrile; and metal allergy especially gold, nickel, rare metal allergy and allergy to dental materials, cardiovascular and orthopedic implants.

Handbook of Food Science, Technology, and Engineering Yiu H. Hui, 2006

Applications of Polymers in Drug Delivery Ambikanandan Misra, 2014-01-29 Use of polymers has become indispensable in the field of drug delivery. Polymers play a crucial role in modulating drug delivery to exploit maximum therapeutic benefits and have been fundamental in the successful development of several novel drug delivery systems that are now available. This book provides details of the applications of polymeric drug delivery systems that will be of interest to researchers in industries and academia. It describes the development of polymeric systems ranging from the conventional dosage forms up to the most recent smart systems. The regulatory and intellectual property aspects as well as the clinical applicability of polymeric drug delivery systems are also discussed. Each different drug delivery route is discussed in a separate chapter of the book. All major routes of drug delivery have been covered to provide the reader with a panoramic as well as an in-depth view of the developments in polymer-based drug delivery systems. Appendices are included which incorporate useful pharmaceutical properties of the polymers and important polymeric applications for various drug delivery routes.

Handbook of Food Preservation Mohammad Shafiur Rahman, 2020-06-10 The processing of food is no longer simple or straightforward, but is now a highly inter-disciplinary science. A number of new techniques have developed to extend shelf-life, minimize risk, protect the environment, and improve functional, sensory, and nutritional properties. Since 1999 when the first edition of this book was published, it has facilitated readers' understanding of the methods, technology, and science involved in the manipulation of conventional and newer sophisticated food preservation methods. The Third Edition of the Handbook of Food Preservation provides a basic background in postharvest technology for foods of plant and animal origin, presenting preservation technology of minimally processed foods and hurdle technology or combined methods of preservation. Each chapter compiles the mode of food preservation, basic terminologies, and sequential steps of treatments, including types of equipment required. In addition, chapters present how preservation method affects the products, reaction kinetics and selected prediction models related to food stability, what conditions need be applied for best quality and safety, and applications of these preservation methods in different food products. This book emphasizes practical, cost-effective, and safe strategies for implementing preservation techniques for wide varieties of food products. Features: Includes extensive overview on the postharvest handling and treatments for foods of plants and animal origin Describes comprehensive preservation methods using chemicals and microbes, such as fermentation, antimicrobials, antioxidants, pH-lowering, and

nitrite Explains comprehensive preservation by controlling of water, structure and atmosphere, such as water activity, glass transition, state diagram, drying, smoking, edible coating, encapsulation and controlled release Describes preservation methods using conventional heat and other forms of energy, such as microwave, ultrasound, ohmic heating, light, irradiation, pulsed electric field, high pressure, and magnetic field Revised, updated, and expanded with 18 new chapters, the Handbook of Food Preservation, Third Edition, remains the definitive resource on food preservation and is useful for practicing industrial and academic food scientists, technologists, and engineers.

Biobased Adhesives Manfred Dunky, K. L. Mittal, 2023-04-27 Biobased Adhesives Unique and comprehensive book edited by acknowledged leaders on biobased adhesives that will replace petroleum-based adhesives. This book contains 23 chapters covering the various ramifications of biobased adhesives. The chapters are written by world-class scientists and technologists actively involved in the arena of biobased adhesives. The book is divided into three parts: Part 1: Fundamental Aspects; Part 2: Classes of Biobased Adhesives; and Part 3: Applications of Biobased Adhesives. Topics covered include: an introduction to biobased adhesives; adhesion theories and adhesion and surface issues with biobased adhesives; chemistry of adhesives; biorefinery products as biobased raw materials for adhesives; naturally aldehyde-based thermosetting resins; natural crosslinkers; curing and adhesive bond strength development in biobased adhesives; mimicking nature; bio-inspired adhesives; protein adhesives; carbohydrates as adhesives; natural polymer-based adhesives; epoxy adhesives from natural materials; biobased polyurethane adhesives; nanocellulose-modified adhesives; debondable, recyclable, and biodegradable biobased adhesives; 5-Hydroxymethylfurfural-based adhesives; adhesive precursors from tree-derived naval stores; and applications in various diverse arenas such as wood bonding, controlled drug delivery, and wearable bioelectronics. Audience This book will interest materials scientists, adhesionists, polymer chemists, marine biologists, food and agriculture scientists, and environmentalists. R&D personnel in a slew of wide-ranging industries such as aviation, shipbuilding, railway, automotive, packaging, construction, wood bonding, and composites should find this book a repository of current and much-needed information.

Nondigestible Carbohydrates and Digestive Health Teresa M. Paeschke, William R. Aimutis, 2011-06-09 Featuring authors from academia as well as industry, this book provides a broad view of carbohydrates influencing digestive health. Part 1 is a general overview of carbohydrates that function as prebiotics or fermentable carbohydrates. Part 2 is a more in depth examination of specific carbohydrates for digestive health and applications. This book provides an in-depth review and thorough foundation for food scientists, product developers and nutrition scientists seeking to understand the digestive health implications of carbohydrates. Key features: Analyzes the most active fields of research currently performed on nondigestible carbohydrates Focuses on the growing opportunity to deliver digestive health benefits through fibers and other novel carbohydrates Authors include highly recognized researchers from academe and industry experts Explores new

possibilities in prebiotics and fermentable carbohydrates

Gums and Stabilisers for the Food Industry 10 Peter A. Williams, Glyn O. Phillips, 2000 The tenth volume of Gums and Stabilisers for the Food Industry provides an up-to-date account of the latest research developments in the characterisation, properties and applications of polysaccharides and proteins used in food.

Molecular Biology and Biotechnology Robert Allen Meyers, 1995-06-29 This is one volume 'library' of information on molecular biology, molecular medicine, and the theory and techniques for understanding, modifying, manipulating, expressing, and synthesizing biological molecules, conformations, and aggregates. The purpose is to assist the expanding number of scientists entering molecular biology research and biotechnology applications from diverse backgrounds, including biology and medicine, as well as physics, chemistry, mathematics, and engineering.

Food Emulsifiers and Their Applications Gerard L. Hasenhuettl, Richard W. Hartel, 2019-11-09 Emulsifiers, also known as surfactants, are often added to processed foods to improve stability, texture, or shelf life. These additives are regulated by national agencies, such as the FDA, or multi-national authorities, such as the EEC or WHO. The amphiphilic molecules function by assisting the dispersion of mutually insoluble phases and stabilizing the resulting colloids, emulsions, and foams. Emulsifiers can interact with other food components such as carbohydrates, proteins, water, and ions to produce complexes and mesophases. These interactions may enhance or disrupt structures and affect functional properties of finished foods. In dairy processing, small molecule emulsifiers may displace dairy proteins from oil/water and air/water interfaces, which affects stability and properties of the foams and emulsions. In baked products, emulsifiers contribute to secondary functionalities, such as dough strengthening and anti-staling. Synthetic food emulsifiers suffer from the stigma of chemical names on a product's ingredient statement. Modern consumers are seeking products that are "all natural." Fortunately, there are a number of natural ingredients that are surface-active, such as lecithin, milk proteins, and some protein-containing hydrocolloids. Mayonnaise, for example, is stabilized by egg yolk. This book can serve as both a guide for professionals in the food industry to provide an understanding of emulsifier functionality, and a stimulus for further innovation. Students of food science will find this to be a valuable resource.

Advanced Biopolymeric Systems for Drug Delivery Amit Kumar Nayak, Md Saquib Hasnain, 2020-07-11 This book discusses the recent innovations in the development of various advanced biopolymeric systems, including gels, in situ gels, hydrogels, interpenetrating polymer networks (IPNs), polyelectrolyte complexes (PECs), graft co-polymers, stimuli-responsive polymers, polymeric nanoparticles, nanocomposites, polymeric micelles, dendrimers, liposomes and scaffolds. It also examines their applications in drug delivery.

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