



IN THIS ISSUE

DIRECTOR'S MESSAGE

- 2. Message from Executive Director Devon Powell

INSIDE LAW

- 3. FDA Sends a Warning *by Marc Ullman*

SPECIAL TOPICS

- 4. Consumers Encouraged to Submit Supplement Experiences to *Consumer Reports*
- 6. Patents Eligibility versus the Laws of Nature: Mother Nature Wins *by Payam Moradian*

SCIENCE & ALOE LITERATURE CITATIONS

- 7. NMR Quantitation of Natural Products: A Review; Herb-Drug Interaction Perspectives from Europe; Part 2 of Herb-Drug Interactions with Specific Examples

IASC AND ALOE IN THE NEWS

- 8. Links to various IASC and aloe-related news articles

LEGAL & LEGISLATIVE NEWS

- 9. An Update on Regulatory Action Related to Dietary Supplements *by Anthony L. Young*
- 10. Industry Effort Helps Defeat Durbin's Dietary Supplement Amendment

THE SCIENCE OF ALOE

- 11. Recently published studies on the science of aloe

REGULATORY NEWS

- 16. Recalls: Not Voluntary, But ... *by Anthony L. Young*
- 18. AHPA Amends Guidance on *Salmonella* Testing and Lead Limits
- 19. Fabricant Tells AHPA Botanical Congress Attendees to Focus on GMP Compliance
- 20. FDA's Focus on GMPs, Retailers, and Internet Shows (Again) Industry is Regulated *by Anthony L. Young*



DIRECTOR'S MESSAGE



Devon Powell,
Executive Director

I'm proud to announce that the 2012 Aloe Summit: Inside Aloe – Turning Science into Sales is officially happening on Friday, Nov. 9, 2012. Presented in cooperation with VIRGO Publishing, the event will encompass a full day of presentations from experts in the fields of regulation, science, and marketing, and will provide attendees with a forum for networking, education, and general gathering. Please inform all of your downstream industry partners and cohorts of this event and ask them to [register](#) as soon as possible! I also want to sincerely thank those companies that are sponsoring the event: International Aloe Science Council (IASC) members [Aloe Juamave](#) and [Florida Food Products](#), for their support, and I encourage others to consider sponsorship, as well.

Continuing the “good news” trend, the aloe vera leaf and inner leaf juice monograph being developed by the [American Herbal Pharmacopeia](#) (AHP) is, I'm told, in the final phases of completion. I feel like I've said that numerous times over the last 3+ years, but I think this time it may be a reality. I'm excited to see this monograph completed for a variety of reasons and hope the IASC board and members will be equally as proud to see it and what they've accomplished in supporting this work. Plans to add a scientific compendium to the monograph, which is currently tailored only to quality and compliance standards, is already under way.

In addition, the United States Pharmacopeia (USP) has also been working on its own monographs for aloe vera leaf/inner leaf juice, and I'm told that at this point in the process, aloe has passed a safety review by committee and is considered “Class A” (no safety concerns), which is also excellent news! The USP monographs are expected to harmonize with the AHP monograph, which will only further assist in IASC's efforts to provide quality/compliance standards and safety information that can be used by industry and regulatory agencies worldwide.

Speaking of which, as reported previously, IASC staff is working on compiling data to address Brazil's ban of aloe vera for oral consumption. We've analyzed the case studies presented in the National Health Surveillance Agency (ANVISA) technical report, and it seems all of the reports involved a high-aloin-content product or mixture (in some cases, the case report was on what appears to be a “home-made” aloe-leaf mixture that was not filtered/purified). With the monograph case study review and other data that's being collected for presentation, we feel we have a good chance of convincing ANVISA that it needs to look at aloe vera differently.

In the regulatory arena closer to home, the U.S. Food & Drug Administration (FDA) sent a [warning letter](#) on June 12, 2012, to aloe cosmetic manufacturer Set-N-Me-Free Aloe Vera Co., indicating that it had reviewed what were deemed to be a large number of drug claims in violation of the Federal Food, Drug, and Cosmetic Act on the company's website. The warning letter advises the company to “... review your websites, product labels, and other labeling and promotional materials for all your products to ensure that the claims you make for your products do not cause them to violate the Act.” The American Herbal Products Association (AHPA) will be hosting a teleseminar with a focus on claims on Oct. 4, 2012 titled “[Marketing “Red Flags” for Dietary Supplements](#)” that IASC members are encouraged to attend. The seminar features presentations from legal experts as well as representatives from FDA and the Federal Trade Commission. IASC members are being offered registration at the AHPA member price of \$195. To register, please visit the [AHPA website](#).

As always, it's a busy and challenging time for the IASC. I hope everyone has had and continues to have a great summer and is looking forward to the fall. I look forward to seeing all of you in Las Vegas in November at the 2012 Aloe Summit!

Devon Powell
Executive Director



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INSIDE LAW

FDA Sends a Warning

By Marc Ullman

On July 24, 2012, the Food and Drug Administration (FDA) issued a relatively brief (just a little more than two pages) warning letter to United Nutrition Labs Inc. of Reedsville, Pa. While the letter contained only four observations related to the company's current good manufacturing practice for dietary supplements (cGMP) and a general comment suggesting additional company action, it delivered two very significant warnings that any company manufacturing dietary supplements would do well to heed.

The United warning letter was based on the agency's determination that United failed to adequately respond to the FDA 483 (Report of Inspectional Observations) issued to the company following a four-day inspection by two agency investigators. A review of the warning letter indicates that the company failed to provide FDA with adequate documentation of the various corrective actions it represented would be undertaken to correct deficiencies in its GMPs. Specifically, the agency cited United's failure to:

- Establish specifications for the identity, purity, strength, and composition of each batch of dietary supplements it produced
- Conduct at least one appropriate test or examination to verify the identity of each dietary ingredient used in a dietary supplement
- Include in each Master Manufacturing Record procedures for adequate sampling of material or a cross reference to Standard Operating Procedures governing sampling procedures, and
- Calibrate instruments used to test dietary supplements or components of dietary supplements in accordance with the manufacturer's instructions or on a regularly documented basis

With each of these observations, FDA noted that while the company had acknowledged the need for corrective action and described its plans to rectify each, no documentation demonstrating that the corrections had taken place was provided. In other words, United received its warning letter because it neglected to respond to its 483 by providing FDA with copies of revised Standard Operating Procedures, Master

Manufacturing Records and completed documentation showing recalibration of equipment. Experienced counsel and consultants, who confront issues of FDA compliance, could easily have readily explained to the company that even if it completed every one of the corrective actions it described to FDA, the failure to include a piece of paper showing what had been done would result in a warning letter. This is one of the many reasons I advise my clients that as far as FDA is concerned, "If it isn't in writing, it didn't happen."

In addition to this unfortunately typical subject matter (the supplement industry's apparent inability to comply with many of the fundamental aspects of the GMPs is a subject for another day), the United warning letter included two passages that should give every dietary supplement manufacturer pause.

After reciting the four specific violations, the warning letter went on to comment that "Under 21 CFR 111.12(c), each person engaged in the manufacturing, packaging, labeling, or holding or in performing any quality control operations, must have the education, training, or experience to perform the person's assigned functions. However, we note that your firm's Quality Control Director is not qualified to perform her assigned functions in that she does not have the experience, knowledge, and level of training necessary to perform the functions of this position."

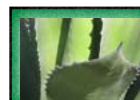
It appears that this is the first time FDA has cited this provision of the dietary supplement GMP regulations in any warning letter, and companies would be well advised to ensure that they are maintaining complete documentation of their employees' training and experience, especially for their quality control/quality assurance directors. Failure to attend to this kind of housekeeping matter could result in a determination by FDA that a facility is completely out of compliance with the GMP regulations.

In closing the warning letter, FDA noted that the Food Safety Modernization Act of 2011 "authorizes FDA to assess and collect fees to cover FDA's costs for certain activities, including reinspection related costs.... Reinspection-related costs means all expenses, including administrative expenses, incurred in connection with FDA's arranging, conducting, and evaluating the results of the reinspection and assessing and collecting the reinspection fees." (Yes, FDA can charge you for the cost of charging you). For domestic reinspections, FDA has set the reinspection fee at \$209 per hour per investigator plus expenses. This includes travel time, meals, hotel rooms, and transportation costs. Fees for reinspections outside of the United States will result in charges of \$289 an hour. It is not hard to imagine these fees rapidly mounting

into the tens of thousands of dollars for a multi-day inspection involving more than one investigator.

Every dietary supplement manufacturer, including IASC members that produce products labeled as dietary supplements, should take note of the threat of reinspection fees and the agency's focus on the qualifications for quality managers. Neither of these items had previously appeared in any warning letter directed to a dietary supplement manufacturer and suggests that FDA is prepared to turn its attention to its powers in these areas. Companies that attempt to navigate inspections and respond to FDA 483s without the assistance of qualified counsel and consultants place themselves in a position where they are particularly at risk of being targeted by FDA for this type of message—something any prudent company would seem to want to avoid.

Marc Ullman is a partner in Ullman, Shapiro & Ullman LLP, which serves as general counsel to IASC. The firm's practice concentrates on legal and regulatory issues affecting the aloe, dietary supplement, and natural products industry.



SPECIAL TOPICS

Consumers Encouraged to Submit Supplement Experiences to *Consumer Reports*

The American Herbal Products Association (AHPA) has learned that *Consumer Reports* magazine is seeking stories from consumers about their experiences, good or bad, with dietary supplements for an upcoming article. The [posting](#), dated May 30, on the affiliated [Consumerist.com](#) website, included the following:

Our sister-publication, *Consumer Reports*, needs your stories for a report on dietary supplements (including herbal remedies, vitamins, minerals, fatty acids, and multi-ingredient supplements for various uses). Have you recently had an especially beneficial experience with a supplement? Have you suffered a serious health problem after taking a supplement in the last three years? If so, was that linked to its interaction with a prescription drug? Please email your story and contact information to tips@cr.consumer.org so you can be contacted by a *Consumer Reports* editor.

AHPA is alerting its membership about this opportunity for consumers of member companies to share their positive experiences with dietary supplements with the editors of *Consumer Reports*.

During a phone call to the *Consumer Reports* office, an AHPA staffer was informed that as long as the posting is on The Consumerist website, the call for dietary supplements stories is still open; the *Consumer Reports* representative was not able to provide a deadline for consumer stories.

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Ullman, Shapiro & Ullman attorneys have long established nationwide reputations in the areas of Food and Drug Law, Intellectual Property and Trade Reputation Litigation.

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Patents Eligibility versus the Laws of Nature: Mother Nature Wins

Supreme Court ruling declines patent eligibility for an “invention,” relying on determination of dosages based on the body’s metabolism of a drug product

by Payam Moradian

The U.S. Supreme Court reviews only a handful of patent cases each year. This year, the court reviewed a patent case, *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S.Ct. 1289 (2012) (hereinafter “Mayo”), where the issue was patent eligibility of an invention in the field of diagnostics.

Patent eligibility is the first requirement for obtaining a patent. If an idea is not patent eligible, it cannot be patented no matter how novel or useful it might be. An idea is not patent eligible if it is a law of nature, a physical phenomenon, or an abstract idea. An example of a law of nature is gravity, which cannot be patented.

In Mayo, the Supreme Court addressed the issue of whether the patents at issue, U. S. Patent No. 6,355,623 and U. S. Patent No. 6,680,302, claimed a law of nature that was not patent eligible. The patents claimed that administering a known drug (from the thiopurine group of drugs) to a patient and then

determining the amount of particular metabolites [6-thioguanine and its nucleotides (6-TG) and 6-methyl-mercaptopurine (6-MMP)] in the blood was patentable.

Thiopurine drugs are used to treat a wide variety of health problems and are grouped together because they work in the same way to “turn down” or suppress the immune system.

After injection of thiopurine drugs, the metabolites form in the body. There is a correlation between metabolite levels and the toxicity and efficacy of the drug. The patents at issue claimed as their basis the measuring of the amount of the metabolite formed in the body. If a patient had formed little metabolite in the body, the amount of the drug could be increased to increase the efficacy of the drug. In patients where too much metabolite had formed, the amount of the drug would be decreased. By measuring the metabolite in the body, the optimal dose of maximum possible efficacy would be obtained for a particular patient. The patents at issue were valuable because they covered diagnostics for determination of the amount of the metabolites.

The Supreme Court held that the “invention” was not patentable subject matter as it pertained to a law of nature. The court reasoned that doctors already administered the drug, so there was nothing patentable about administering the drug. The court then concluded that the



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additional step of determining the amount of the metabolite was a result of a law of nature, i.e., the body's natural breakdown of the drug. The court concluded that no patent should be awarded for this natural phenomenon.

Before this decision, other court decisions had suggested that an active “transformative” step would make patentable what is otherwise a law of nature. The best example is an algorithm, which by itself is considered a law of nature, but if used in an industrial process can be patented as part of a process to manufacture a product. In this case, the transformative step was the administration of the drug in the body. The administration provided an active step carried out by a person, so the entire patented method was not the result of metabolism in the body. The Supreme Court dismissed reliance for patentability on a transformative step when this step—administration—was already known and carried out by doctors.

This decision by the Supreme Court will likely have limited impact on the food and herbal products industry. However, this decision would be relevant to food products if someone sought to patent taking a blood test after ingesting a food, and then changing the amount of the food that is ingested to alter the blood test. For example, many diabetics believe that cinnamon helps control their blood sugar level. If someone sought to patent follow-up glucose tests after ingestion of cinnamon to adjust the amount of the cinnamon ingested, it is likely that the subject matter would be patentable.

The decision, however, does not bar patentability of new amounts or dosages of ingredients. The Mayo decision involved patents that were not limited to any particular amount of the ingredient (in this case, a drug). The patents only called for determining the amount of the metabolite. If someone were to carry out blood tests or other studies and come up with a new dosage or amount that is new and more effective, that new dosage or amount would be patentable. The decision's impact is limited to determining amounts or dosages of a substance based on what the body does without discovering a new dosage or amount.

Payam Moradian is a senior associate and head of patent prosecution practice group with the Los Angeles-based legal firm ADLI Law Group. Moradian has substantial experience serving the food industry and supplement industry, including patent and trademark procurement, patent opinions, patent litigations, clinical protocols, and testing to support health claims in view of FTC guidelines, and FDA counseling.

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NMR Quantitation of Natural Products: A Review

- ♦ Pauli GF, Gödecke T, Jaki BU, Lankin DC. [Quantitative 1H NMR. Development and potential of an analytical method: An update.](#) J Nat Prod. 2012 Apr 27;75(4):834-851.

This review updates the seven-year-old one with coverage of the literature and recent developments in the use of nuclear magnetic resonance (NMR) for quantifying natural product constituents. Highly technical throughout, it is recommended reading for researchers working in this area. It also points out the ability of this technology to quantitate multiple analytes simultaneously using a single calibration.

Herb-Drug Interaction Perspectives from Europe

- ♦ Steinhoff B. [Current perspectives on herb-drug interactions in the European regulatory landscape.](#) Planta Med. 2012 Jun 6. DOI: 10.1055/s-0032-1314939 [Epub ahead of print]

This article evaluates herb-drug interactions from the European regulatory perspective. St. John's wort remains the poster child; out of more than 100 herbal community monographs, only about one in five includes information on potential interactions. The author wisely recognizes that since drug interactions can be affected by food, drink, and other factors, that risk assessments should first focus on synthetic drugs that have a narrow therapeutic range. In this way, information can be provided to the people using these drugs instead of the larger numbers of people using herbal medicinal products who aren't taking those drugs.

Part 2 of Herb-Drug Interactions with Specific Examples

- ♦ Gurley BJ, Fifer EK, Gardner Z. [Pharmacokinetic herb drug interactions \(Part 2\): Drug interactions involving popular botanical dietary supplements and their clinical relevance.](#) Planta Med. 2012 May 7. DOI: 10.1055/s-0031-1298331 [Epub ahead of print]

Part one of this article, highlighted in the April 2012 *AHPA Report* (vol. 27, no. 4, p. 24), covered the mechanisms by which herb-drug interactions may occur. Part two now

evaluates known interactions and their clinical relevance. The examples include black cohosh, black pepper, *Echinacea* species, garlic, ginkgo, ginseng species, goldenseal, kava, *Schisandra* spp., milk thistle, and St. John's wort. The authors note that novel formulations for botanical extracts that may otherwise be poorly absorbed may increase the bioavailability of extract constituents several fold. The effects of these techniques that include "liposomes, self-emulsifying microemulsions, microspheres, phosphatidylcholine complexation (phytosomes), and nanoparticles, as well as the incorporation of piperine," have not been clinically assessed for their herb-drug interaction potential.

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IASC AND ALOE IN THE NEWS

- ◆ [FDA raps aloe vera company for violating regulatory Act](#), [Cosmeticsdesigns.com](#)
- ◆ [Importance Of Aloe Vera](#), [Nigerianobservernews.com](#)
- ◆ [Why aloe vera is good for you](#), [Times of India](#)
- ◆ [Natural remedies for sunburn](#), [FoxNews.com](#)
- ◆ [The Amazing Healing Properties of Aloe Vera](#), [The Healing Journal](#)

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LEGAL & LEGISLATIVE NEWS

An Update on Regulatory Action Related to Dietary Supplements

*by Anthony L. Young, Kleinfeld, Kaplan & Becker LLC, and
AHPA General Counsel*

*Editor's note: The following report was delivered to the
American Herbal Products Association board of trustees at its
July 2012 meeting.*

I'd like to report on several topics of interest.

The Federal Trade Commission

An administrative law judge has now issued a decision in the case that the Federal Trade Commission (FTC) brought against POM Wonderful. There are some elements of this ruling that counter positions that FTC has recently put forth with regard to substantiation of supplement claims. However, both parties have appealed this ruling.

Also of interest is an FTC ruling against advertisements for windows that promised "up to" a certain level of savings in energy costs. FTC ruled that these "up to" claims would be interpreted to convey a promise of the "up to" amount of savings. Although the associated consent order should not be interpreted as a general statement of how the commission may interpret or take other action concerning representations including the words "up to" for other products or services in the future, supplement companies using such terms in advertising should be aware of this action.

FTC's current focus appears to be more on the financial sector and other types of claims, and its attention to supplements is still primarily limited to POM Wonderful.

The Food and Drug Administration

I'd like to highlight the Food and Drug Administration's (FDA) recent warning letters to companies that are making outright drug and disease claims. The agency finds many of these claims by making Internet searches, sometimes as a preliminary step before a physical inspection.

Also, recent warning letters related to current good manufacturing practice (cGMP) issues teach that there is

a wide variance in compliance with the cGMP rule. I have recommended that each cGMP warning letter be reviewed by company quality assurance/quality control personnel against the company's own practices. These letters indicate that FDA is migrating from review of items such as raw material identification and specification confirmation to a much more detailed evaluation of the entire manufacturing process, often by identifying several products and following the records trail for those from the beginning to the end of their manufacturing. FDA is imposing greater requirements on product distributors (brands whose products are manufactured by contract manufacturers) than most observers expected when the cGMP rule was issued.

The recent guilty plea by Bodybuilding.com to FDA charges in the matter of selling products found to contain undeclared synthetic anabolic steroids is important to note because this was a case brought by the United States against a retailer and clarifies that retailers are also subject to the requirements of the law.

Private Actions

I'd also like to call attention to a flurry of private class action lawsuits, many in California, challenging product claims for foods and dietary supplements, including nutrient content claims and "natural" and "antioxidant" claims. Of particular interest is a case brought against Jarrow Formulas for immune support claims for the company's probiotic gum.

Also of interest is the recent announcement by Pfizer that it will remove or modify numerous claims on its Centrum brand products in response to a complaint from Citizens for Science in the Public Interest (CSPI). Specifically, Pfizer agreed to drop its "breast health" and "colon health" claims, which CSPI had asserted to be understood by consumers to be cancer-prevention claims. The company also agreed to add language to clarify that its "energy" claim does not imply that the products directly provide an energy boost, but rather help support metabolic function, and will accompany its "heart health" claim with a statement that the product is "not a replacement for cholesterol-lowering drugs."

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Industry Effort Helps Defeat Durbin's Dietary Supplement Amendment

By a vote of 77 to 20, the U.S. Senate on May 24 voted overwhelmingly against an amendment (SA 2127) sponsored by Sen. Richard Durbin, D-Ill., to the pending Food and Drug Administration (FDA) Safety and Innovation Act (S. 3187).

The vote removes this amendment from consideration for inclusion in the overall bill, which was expected to be debated in the U.S. House of Representatives in the coming weeks. The amendment, if passed, would have set new requirements for dietary supplement manufacturers to register all products and their ingredients with FDA within 30 days of introduction, reformulation, or discontinuation.

The American Herbal Products Association (AHPA) had opposed the amendment and previous legislation, introduced last year by Durbin, from which it was derived. AHPA's talking points in opposition of SA 2127 can be accessed [here](#). Additionally, AHPA worked in conjunction with the other major trade associations to alert the industry about the amendment, and sent out a series of press releases to encourage industry members to contact their senators in opposition of it.

Speaking on the Senate floor in advance of the vote on the Durbin Amendment, Sen. Orrin Hatch, R-Utah, said the

amendment "is based on the misguided presumption that the current regulatory framework for dietary supplements is flawed and that FDA lacks authority to regulate these products." Hatch added that instead of allowing FDA to utilize the resources it already has under the Dietary Supplement Health and Education Act (DSHEA), which Hatch coauthored, the Durbin Amendment "serves to punish all responsible companies with its overreaching mandates."

Hatch added that 150 million Americans use dietary supplements regularly and that multiple previous FDA commissioners have testified that DSHEA provides the appropriate level of responsible oversight.

"AHPA would like to thank our supporters in the Senate and the many AHPA members and their employees and representatives who contacted their senators to defeat Senator Durbin's amendment," said Michael McGuffin, AHPA president. "This cooperative effort reaffirms the incredible unity of the dietary supplement industry, which came together to oppose this attempt to create more red tape and unneeded regulation," he added.

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THE SCIENCE OF ALOE RECENTLY PUBLISHED STUDIES

Potential prevention: Aloe vera mouthwash may reduce radiation-induced oral mucositis in head and neck cancer patients

Abstract

In recent years, more head and neck cancer patients have been treated with radiotherapy. Radiation-induced mucositis is a common and dose limiting toxicity of radiotherapy among patients with head and neck cancers. Patients undergoing radiation therapy for head and neck cancer are also at increased risk of developing oral candidiasis. A number of new agents applied locally or systemically to prevent or treat radiation-induced mucositis have been investigated, but there is no widely accepted prophylactic or effective treatment for mucositis. Topical Aloe vera is widely used for mild sunburn, frostbites, and scalding burns. Studies have reported the beneficial effects of Aloe gel for wound healing, mucous membrane protection, and treatment of oral ulcers, in addition to anti-inflammatory, immunomodulation, antifungal, scavenging free radicals, increasing collagen formation and inhibiting collagenase. Herein the author postulates that oral Aloe vera mouthwash may not only prevent radiation-induced mucositis by its wound healing and anti-inflammatory mechanism, but also may reduce oral candidiasis of patients undergoing head and neck radiotherapy due to its antifungal and immunomodulatory properties. Hence, Aloe vera mouthwash may provide an alternative agent for treating radiation-induced oral mucositis and candidiasis in patients with head and neck cancers.

Efficacy of fresh Aloe vera gel against multi-drug resistant bacteria in infected leg ulcers

Abstract

BACKGROUND: Infected leg ulcers are major health problems resulting in morbidity and disability and are usually chronic and refractory to antimicrobial treatment.

AIMS: The present study is aimed at determining the bacteria involved in leg ulcers and their resistance patterns to commonly used antibiotics as well as to determine whether Aloe Vera has antibacterial activity against multi-drug resistant organisms and promotes wound healing.

METHOD: A total of 30 cases with leg ulcers infected with multi-drug resistant organisms were treated with topical aloe vera gel and 30 age and sex-matched controls were

treated with topical antibiotics. Culture and sensitivity was done from the wounds on alternate days and the ulcer was clinically and microbiologically assessed after 10 days. The results were compiled and statistically analyzed.

RESULTS: Cultures of the study group who were using aloe vera dressings showed no growth by the fifth day in 10 (33.3%) cases, seventh day in another 16 (53.3%) and ninth day in two of the remaining four cases (6.7%) while in two (6.7%) cases there was no decrease in the bacterial count. This means that of the 30 cases, 28 showed no growth by the end of 11 days while two cases showed no decrease in bacterial count. Growth of bacteria in study group is decreased from 100% (30 cases) to 6.7% (2 cases) by day 11 with $P < 0.001$. Cultures of the control group did not show any decrease in the bacterial growth by day 11.

CONCLUSION: Aloe vera gel preparation is cheap and was effective even against multi-drug resistant organisms as compared to the routinely used topical anti-microbial agents.

Acute effect of Aloe vera gel extract on experimental models of pain

Abstract

The present study was performed to explore the effect of aqueous extract of Aloe vera on behavioral parameters of pain. Pain assessment was performed by the tail-flick and formalin tests. A. vera (100 mg/kg, per oral (p.o.)) produced an insignificant decrease in the pain response in the tail-flick and formalin tests. Moreover, A. vera (200 and 400 mg/kg, p.o.) did not have significant effect on the tail-flick test. However, A. vera (200 and 400 mg/kg, p.o.) significantly decreased the second phase of the formalin-induced pain. Thus, these findings suggest that A. vera exerts its effect by a peripheral mechanism of action rather than central.

In Vitro Drug Absorption Enhancement Effects of Aloe vera and Aloe ferox

Abstract

The effect of whole leaf and gel materials from two aloe species (Aloe vera and A. ferox) was compared with that of the precipitated polysaccharides from these aloe materials on the transepithelial electrical resistance (TEER) as well as transport of a model compound (atenolol) in the apical-to-basolateral direction across rat intestinal tissue. All the aloe leaf materials and precipitated polysaccharides had a statistically significant effect of lowering the TEER ($P < 0.05$) compared to the control group, which indicates their ability to open tight junctions between adjacent epithelial cells. In contrast to the expectation from the TEER results, only

the precipitated polysaccharides from dehydrated *A. vera* gel (Daltonmax 700®) had a statistically significant effect of enhancing the transport of atenolol ($P < 0.05$). These *in vitro* results therefore indicate that *A. vera* gel polysaccharides have potential as drug absorption enhancing agents in novel pharmaceutical drug delivery systems.

Microbiological stabilization of Aloe vera (*Aloe barbadensis* Miller) gel by high hydrostatic pressure treatment

Abstract

The effect of high hydrostatic pressure (HHP) treatment (300, 400 and 500MPa for 1 and 3min at 20°C) on the microbiological shelf-life and microbiota composition of Aloe vera gel during 90days of storage at 4°C was investigated. Aerobic mesophilic and psychrotrophic bacteria, as well as moulds and yeasts, were enumerated after HHP treatment and through cold storage. Randomly selected isolates from the count plates were identified by standard methods and the API identification system. Results showed that HHP treatment at or over 400MPa for 3min were effective to keep the microbial counts to undetectable levels during the whole storage period, and consequently the microbiological shelf-life of *A. vera* gel was extended for more than 90days at 4°C. The microbiota in the untreated *A. vera* gel was dominated

by Gram-negative bacteria (mostly *Rahnella aquatilis*) and yeasts (mostly *Rhodotorula mucilaginosa*). In contrast, Gram-positive bacteria tentatively identified as *Arthrobacter* spp. and *Micrococcus/Kocuria* spp. were the predominant microorganisms in samples pressurized at 300MPa for 1 and 3min, while *Bacillus megaterium* predominating in samples treated at 400MPa for 1min. At 400MPa for 3min and above, the microbial growth was completely suppressed during at least 90days; however, viable spore-formers were detected by enrichment.

Administration of Dried Aloe vera Gel Powder Reduced Body Fat Mass in Diet-Induced Obesity (DIO) Rats

Abstract

The aim of the present study was to investigate the anti-obesity effects of Aloe vera gel administration in male Sprague-Dawley (SD) rats with diet-induced obesity (DIO). SD rats at 7 wk of age were fed either a standard diet (10 kcal% fat) (StdD) or high-fat (60 kcal% fat) diet (HFD) during the experimental period. Four weeks after of HFD-feeding, DIO rats (11 wk of age) were orally administered with two doses of Aloe vera gel powder (20 and 200 mg/kg/d) for 90 d. Body weights (g) and body fat (%) of HFD fed rats were significantly higher than those of StdD-fed rats.



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Although a modest decrease of body weight (g) was observed with the administration of dried Aloe vera gel powder, both subcutaneous and visceral fat weight (g) and body fat (%) were reduced significantly in Aloe vera gel-treated rats. Serum lipid parameters elevated by HFD were also improved by the Aloe vera gel treatment. The oxygen consumption (VO_2), an index of energy expenditure, was decreased in HFD-fed rats compared with that in StdD-fed rats. Administration of Aloe vera gel reversed the change in VO_2 in the HFD-fed rats. These results suggest that intake of Aloe vera gel reduced body fat accumulation, in part, by stimulation of energy expenditure. Aloe vera gel might be beneficial for the prevention and improvement of diet-induced obesity.

Evaluation of antimicrobial efficacy of Aloe vera and its effectiveness in decontaminating gutta percha cones

Abstract

AIM: The aim of this study was to evaluate the antimicrobial efficacy of Aloe vera and to determine its effectiveness in decontaminating gutta percha cones.

MATERIALS AND METHODS: A concentrated extract of Aloe vera was used to check for the antimicrobial efficacy using the agar well diffusion method. Presence of zones of diffusion was identified against three common GP contaminants namely, E.coli, E.faecalis and Staph. aureus. New GP Cones, freshly taken out of the packet were then decontaminated for 1minute using Aloe vera gel and then placed in thioglycolate broth to check for the presence of turbidity.

RESULTS: The zones of inhibition on the agar plate were measured as 24mm, 21mm and 24mm respectively. The broth remained clear even after 48 hours of incubation.

CONCLUSION: We conclude that Aloe vera is indeed effective as a GP decontaminant and it holds a promising future as a medium for storage of GP cones.

Comparative evaluation of the antimicrobial activity of natural extracts of Morinda citrifolia, papain and aloe vera (all in gel formulation), 2% chlorhexidine gel and calcium hydroxide, against Enterococcus faecalis: An in vitro study

Abstract

AIM: A comparative evaluation of the antimicrobial activity of natural extracts of Morinda citrifolia, papain, and aloe vera

(all in gel formulations), 2% chlorhexidine gel and calcium hydroxide, against Enterococcus faecalis-an in vitro study.

MATERIALS AND METHODS: The antimicrobial efficacy was assessed in vitro using dentin shavings collected at 2 depths of 200 and 400 μ m. The total colony forming units at the end of 1, 3, and 5 days were assessed.

RESULTS: The overall percentage inhibition of bacterial growth (200 and 400 μ m depth) was 100% with chlorhexidine gel. This was followed by M. citrifolia gel (86.02%), which showed better antimicrobial efficacy as compared with aloe vera gel (78.9%), papain gel (67.3%), and calcium hydroxide (64.3%). There was no statistical difference between data at 200 and 400 μ m depth.

CONCLUSION: Chlorhexidine gel showed the maximum antimicrobial activity against E. faecalis, whereas calcium hydroxide showed the least. Among the natural intracanal medicaments, M. citrifolia gel consistently exhibited good inhibition up to the 5(th) day followed by aloe vera gel and papain gel.

Proteomic Identification of a Basic Peroxidase Stabilized within Acetylated Polymannan Polysaccharide of Aloe barbadensis

Abstract

Acetylated polymannan polysaccharide (ApmP) isolated from Aloe barbadensis Miller contains a stable peroxidase that was solubilized to investigate its biochemical, electrophoretic, immunological, and proteomic properties. In the electrophoretic band corresponding to the solubilized peroxidase, proteomic analysis detected seven tryptic peptides that matched homologous peptides covering one third of the ATP22a peroxidase of Arabidopsis thaliana. All the characteristics tested indicated that the activity stabilized within the ApmP pertains to the basic secretory peroxidase family, which includes members that have several biotechnological uses. Hence ApmP might yield a widely used peroxidase in stabilized form.

Evaluation of the Nutritional and Metabolic Effects of Aloe vera

Excerpt

Aloe vera has a long history of popular and traditional use. It is used in traditional Indian medicine for constipation, colic, skin diseases, worm infestation, and infections (Heber 2007). It is also used in Trinidad and Tobago for hypertension (Lans 2006) and among Mexican Americans for the treatment of type 2 diabetes mellitus (DM; Coronado et al. 2004). In



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Chinese medicine, it is often recommended in the treatment of fungal diseases (Heber 2007). In Western society, Aloe vera is one of the few herbal medicines in common usage, and it has found widespread use in the cosmetic, pharmaceutical, and food industries. In the case of health, the therapeutic claims for the topical and oral application of Aloe vera cover a wide range of conditions, but few claims have been the subject of robust clinical investigation. The conditions for which clinical trials of Aloe vera have been conducted include skin conditions, management of burn and wound healing, constipation, DM, and gastrointestinal disorders.

Aloe vera in the treatment for oral submucous fibrosis - a preliminary study

Abstract

BACKGROUND AND OBJECTIVES: Oral submucous fibrosis (OSMF) is a potentially malignant disorder of the oral mucosa, mainly associated with the practice of chewing gutka and betel quid. The pathogenesis is obscure, and till date, no definitive therapy is available for the management of OSMF. Hence, this preliminary study was carried out to compare the efficacy of Aloe vera with antioxidants in the treatment for OSMF. **Methods:** Twenty study subjects with OSMF were included in the study. Patients were divided into two groups. There were 10 patients in each group; group A subjects received 5 mg of aloe vera gel to be applied topically three times daily for 3 months and group B subjects received antioxidant capsules twice daily for 3 months. The results were analyzed with paired 't' test and unpaired 't' test. **Results:** Aloe vera responded better in all the parameters assessed and responded in all the clinicohistopathological stages particularly in those with mild-stage clinically and early-stage histopathologically. Aloe vera showed a statistically significant reduction in burning sensation ($P = 0.008$), improvement in mouth opening ($P = 0.02$), and cheek flexibility ($P = 0.01$) on comparing with the antioxidant group. **Interpretation and conclusion:** Overall assessment of the parameters depicted that Aloe vera group showed a better treatment response compared to the antioxidants group. It reduces the burning sensation and improves mouth opening thereby enhanced the patients' compliance. It proves to be a relatively safe, can be applied topically, easily available, economical, noninvasive, and efficacious in the treatment for OSMF.

LC-MS/MS Method for the Detection of Common Laxatives

Abstract

Laxatives refer to a group of diverse substances used to induce bowel movements. There exist various classes of

laxatives, which work through different pharmacological means. Based on the potential medical cause of use, one particular class of laxative may be preferred over another. Additionally, abuse of laxatives in both adults and children occurs. Some of the signs and symptoms of excessive laxative use/abuse can not only mimic various pathological conditions, but cause such conditions. Based on the potential abuse of laxatives, as well as for compliance purposes, a test to identify the use of common laxatives is of significant value. While stool and stool water can be used for such analyses, isolation and identification of analytes can be difficult due to matrix constituents and potential interferences. Ideally, a sensitive urine test for detection of laxative use/abuse with specific detection would be preferable. Described is an LC-MS/MS procedure for the detection of four metabolites related to common laxatives—desacetyl-bisacodyl, aloe-emodin, emodin, and rhein. Deuterated internal standards for desacetyl-bisacodyl and emodin are employed while an analog internal standard, biochanin A is used for rhein and aloe-emodin. Sample preparation consists of deconjugation of analytes in urine followed by a simple organic solvent extraction. Analysis is carried out using a pentafluorophenyl column employing a gradient mobile phase of formic acid in water/methanol. Mass spectral ionization conditions employ both positive and negative ESI. Two transitions are monitored for each analyte of interest.

Effect of Aloe vera on Healing of the Experimental Skin Wounds on Rats and its Comparison with Zinc Oxide: A Geometry and Histopathologic Study

Abstract

Aloe vera is a perennial succulent belong to the Lily (Liliaceae) family. This plant has been known as the healing plant. Aloe vera has been used for traditional medical purposes in several cultures for millennia. It has been demonstrated that Aloe vera has growth promoting activities. The objective of this study was to determination of the effect of Aloe vera on healing of the experimental skin wounds on rats and its comparison with zinc oxide. Zinc oxide is being used worldwide as an absorbent and protective compound. Its pharmacological properties are wide and its non-toxic material allows it to be used as a routine skin care substance. In current study, 70 female wistar rats were included in 5 groups. Full thickness incisional wound with 23 mm diameter was made with surgical scissors and scalpel. The whole operation was taking place under general anesthesia and analgesia circumstances. After making surgical wounds, rats are

treated as mentioned in the text. Rats are observed for 21 days for wound closure process and inflammatory conditions taking place in wound. Biopsy intervals are 0 (the day of surgery), 3, 7, 14 and 21th day after surgery. In these certain days rats were euthanized and biopsies of wound sites were obtained. Wounds areas are also, measured by Scion Image™ Software daily. At last, all data were analyzed using SPSS Statistics Ver.17. As a result, Aloe vera at the dose of 10% has significant healing properties compared to Zinc oxide. These data were validating under confidence surface of 95% ($p < 0.01$).

Enhancing yield and aloin concentration of Aloe vera plants by simultaneous application of N and benzyladenine

Abstract

Aloe vera is a medicinal plant with a wide range of uses from topical application to soothe burns to oral consumption to aid digestion. It is added to a wide range of health and beauty products. The quality and safety of dietary supplements has been emphasized since the 2007 FDA cGMP ruling, which states that manufacturers must ensure identity, purity, strength, and composition of their products. Botanical material is highly variable depending on species and growing conditions which make evaluation of these materials challenging. For analyzing Aloe vera extract in detail, components include glucose, acetylated mannose polymers, and malic acid. As the material ages, degradation products include acetic acid, lactic acid, formic acid, and fumaric acid. Common additives include the preservatives sodium benzoate and potassium sorbate. Depending on the formulation, other additives such as glycerol may be present. Nuclear magnetic resonance spectroscopy provides an effective means of evaluating botanical material as a result of its ability to be used as (1) a fingerprinting tool and (2) for quantitative analysis. Presented here is the implementation of a ¹H-NMR spectroscopy-based method [1] to evaluate Aloe vera in the Assure-RMS software package to provide a fully automated analysis of Aloe vera samples. The automated analysis will be described, first presenting the readily quantitated components, emphasizing the features of the spectra of these components that lend themselves to robust analysis. Then more problematic components will be examined. Strategies to improve the quantitation, including additional data and more sophisticated analysis, will be discussed.



REGULATORY NEWS

Recalls: Not Voluntary, But ...

by Anthony L. Young, Kleinfeld, Kaplan & Becker LLC, and AHPA General Counsel

Under the Food and Drug Administration (FDA) Food Safety Modernization Act (FSMA), FDA now has the power to order a food or dietary supplement company to hold any product reasonably believed to be adulterated or misbranded. This is referred to as administrative detention. In an economic impact description of administrative detention, FDA noted that it would consider products meeting its Class I and Class II recall criteria to be subject to this kind of action.

Class I recalls are those that involve a situation “in which there is a reasonable probability that the use of or exposure to a violative product will cause serious adverse health consequences or death.” A Class II recall is one “in which use of or exposure to a violative product may cause temporary or medically reversible adverse health consequences or where the probability of serious adverse health consequences is remote.”

This article will discuss Class I recalls. You can find them on FDA's [website](#). There are so many posted there because food safety is a huge priority for the agency.

The FSMA also empowers FDA to order a food or dietary supplement company to recall product when there is “a reasonable probability that an article ... is adulterated under section 402 or misbranded under section 403(w) and the use of or exposure to such article will cause serious adverse health consequences or death to humans or animals.” The FSMA requires this finding by the Commissioner of Food and Drugs Margaret Hamburg, M.D., and it is really quite a complex procedure.

For decades, FDA has relied upon companies to recall products voluntarily. Indeed, in one of the most famous recalls ever, the Bon Vivant Soup Company in 1971 voluntarily recalled its vichyssoise soup, which was tainted by botulin toxin and fatal if consumed. FDA ordered all the company's products be recalled because there were no records proving they were safely made, and the company went into bankruptcy. FDA then had to threaten multiple seizures nationwide to force retailers to send all of the Bon Vivant product back to the defunct manufacturer.

FDA still relies upon companies to voluntarily recall product and to voluntarily hold product that would be subject to a recall. When no company exists to recall, FDA issues a public health alert, warning consumers about the tainted products. This is the usual course with tainted sex and weight-loss products sold by Internet sellers that disappear when FDA seeks them out.

How does all of this affect your company? First, if you discover that you have a Class I recall situation, e.g., listeria or an undeclared allergen in your product, you will want to initiate a recall of the product and hold any inventory. For example, you may learn from a supplier that the ingredient it sold to you and that you used in your product contained one of those adulterants.

Why would you recall? You would recall because such products present a serious health risk to consumers. And if a consumer is injured as a result of using the product, you can expect litigation and insurance consequences to your business.

Alternately, FDA may discover a Class I recall situation during an inspection of your company's facilities. FDA will then "suggest" that the product be recalled. Listen carefully when FDA inspectors say this and "read their lips." This is not something FDA inspectors suggest lightly. Do not hesitate to ask questions of the inspector and probe his or her conclusion. Politely ask to speak to the district compliance officer if you continue to disagree. In the end, a voluntary recall is something you do and you are in charge of under FDA guidance. If FDA has to order you to recall product under the FSMA, then you are no longer in control—FDA is in control.

As part of a voluntary recall, FDA has certain procedures it would like you to follow. You are to contact the district recall coordinator and report information about the recall. FDA has guidance for this.

For a Class I recall, you will be asked to draft a press release, which FDA will have you send to the Associated Press. FDA has developed model press releases for most Class I recall situations.

Here are a few of the FDA model press releases:

- [Allergens](#)
- [Salmonella](#)
- [Salmonella in pet products](#)
- [Listeria monocytogenes](#)
- [E coli 0157:H7](#)

By design, Class I recall announcements are targeted to consumers. The goal of a Class I recall is to get the product off the market and to inform consumers of the hazard so that they stop using the affected product. You will be recalling any product on the market from both distributors and retailers. Retailers, in turn, may post recall information in their stores.

As part of the recall process, FDA will ask the recalling company to perform recall effectiveness checks with all of its customers. This involves a full report from each of your customers to find out what they did after they got the recall notice. But FDA does not rely only upon your effectiveness check. FDA will also contact some of the distributors and retailers that received your recall notice and check with them directly to see what they have done in regards to the recall. If they have not done anything, they will be "encouraged" to do the right thing.

For manufacturers who receive notice from a supplier that an ingredient is being recalled, you need to take care of business and consider recalling the product you manufactured with the adulterated ingredient.

Two years ago, during a recall of hydrolyzed vegetable protein (HVP) possibly tainted with Salmonella, FDA tracked down every recipient of that commodity material.

Here is a true story: FDA officials visited the office (the home of the owner) of a small food spice company after a contract manufacturer that served as a vendor to the food spice company had used that HVP.

Inspector: "Did you receive the recall notice from your contract manufacturer?"

Food spice company: "Yes."

Inspector: "Did you recall?"

Food spice company: "No, we have no complaints."

Inspector: "You need to recall."

Food spice company: "No, we only distributed XX units and received no complaints."

Inspector: "Well, you think about this over the weekend. We will be back on Monday afternoon."

Over the weekend, the company decided to recall the HVP and called the FDA inspector on Monday morning.

Food spice company: "We will recall."

Inspector: "Great. You have made my job so much

easier; all of the paperwork needed to get a court order is really a pain. Now, please call our recall coordinator.”

Oh, and for those American Herbal Products Association members that had not noticed or who believe the common press misperception: *This is a highly regulated industry.*

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AHPA Amends Guidance on *Salmonella* Testing and Lead Limits

The board of trustees of the American Herbal Products Association (AHPA) has amended AHPA's Guidance on Microbiology and Mycotoxins to reflect standard industry practice and its Guidance on Heavy Metals to lower the limit on lead where manufacturers choose to establish a lead

specification for herbal dietary supplements. The actions came during the board's recent July meeting.

The amendment to AHPA's [Guidance on Microbiology and Mycotoxins](#) changes the stated sample size for testing for *Salmonella* spp. to 25 grams, although the actual sample size used may vary depending on the method employed.

AHPA Chief Science Officer Steven Dentali, Ph.D., said the amendment makes the sample size for *Salmonella* spp. testing “more consistent with standard practice.”

Also at the July meeting, the board amended the AHPA [Guidance on Heavy Metals](#) by lowering the maximum quantitative limit for lead in herbal supplements to 6 mcg/day.

While not a requirement, this recommendation may be helpful when a company determines to establish a specification for the lead level in a manufactured supplement.

Certain limitations and conditions apply to this AHPA guidance, including that the quantitative limits suggested are applicable only to herbal supplements that are consumed in a total daily amount of 5 grams or less and that a product in compliance with this guidance may require a warning in order to comply with California Proposition 65's listing of these chemicals.

The International Aloe Science Council

Presents an

Aloe Scientific Primer



AHPA develops guidance policies to advance its mission to promote responsible commerce in herbal supplements. These policies address a variety of labeling and manufacturing issues and reflect the consensus of AHPA's members and its board of trustees. Unlike AHPA's trade recommendations, compliance with AHPA's guidance policies is not a condition of membership. Nevertheless, AHPA encourages its members and nonmember companies to adopt each of these policies in the interest of establishing consistent and informed trade practices.

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Fabricant Tells AHPA Botanical Congress Attendees to Focus on GMP Compliance

Consumer research, sustainability of wild-harvested botanicals, update on practitioner use of botanicals, and an herbal promotions board among topics presented at first botanical symposium

Daniel Fabricant, Ph.D., director of the Food and Drug Administration's (FDA) Division of Dietary Supplement Programs, told attendees of the American Herbal Products Association's (AHPA) inaugural Botanical Congress supported by VIRGO that industry companies can expect more inspections, more injunctions, and more product seizures from FDA related to current good manufacturing practice (cGMP) violations.

The Botanical Congress was held in New York City in early May in conjunction with SupplySide MarketPlace and featured nine informative sessions on topics ranging from consumer research and branding strategies to international supply issues and sustainability. P.L. Thomas & Co. and Wisdom Natural Brands sponsored the Congress.

Citing 21 CFR Part 111, Fabricant said FDA conducted 175 inspections in 2011, filed its first injunction, and seized products for the first time. He noted that in 2012, 138 inspections are already "under our (FDA) belt."

"It won't be the last time we use those authorities," Fabricant said. "It's something to be mindful of. It's something we take very seriously, as you've seen from the actions."

Addressing concerns to the contrary, Fabricant reiterated that the agency is not preparing to enforce the draft guidance on new dietary ingredients (NDIs). He recalled a presentation he gave last year in which "the big issue on the table was the NDI draft guidance." He continued, "I'm sure for many of you it still is. And it is just a draft guidance. I think everyone's heard me say that a million times, and we'll make it a million and one: It's just a draft guidance."

Fabricant then switched the focus to GMPs. "GMPs (are) the biggest challenge ... facing the dietary supplement industry—at least that's the way the regulators see it, and we hope everyone understands that," he said.

According to Fabricant, the most common areas of cGMP noncompliance discovered during FDA investigations include:

- Failure to prepare a master manufacturing record
- Failure to prepare a batch record
- Failure to establish specifications
- Failure to determine if specifications are met
- Failure of adequate quality control

During his presentation, Fabricant also addressed serious adverse event reporting (SAERs), stating it should be understood that "submitting an AE does not establish a causal relationship to indicate the AE is unsafe; not submitting or failing to submit an AE does not indicate the product is safe, though it is a violation of the Act."

Reflecting on the Congress as a whole, Greg Cumberland, president of Bent Creek Institute Inc. and general manager of the U.S. Botanical Safety Laboratory, said: "The inaugural AHPA Botanical Congress provided compelling insights on the drivers of growth, risk, and opportunity in the rapidly changing U.S. herbal industry."

This event provided key value for industry veterans and relatively new stakeholders alike, while also providing a welcome forum to advance novel ideas and solutions among our colleagues and peers."

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FDA's Focus on GMPs, Retailers, and Internet Shows (Again) Industry is Regulated

by Anthony L. Young

The dietary supplement industry is a regulated industry. Laws and regulations specify how products must be labeled and outline the practices applicable to their manufacture. These are detailed regulations.

If you go into a health food store or other supplement retailer, you can see the regulatory dietary supplement trade dress on product packaging: dietary supplement or the like on the front panel, ingredients at the bottom of that panel, and Supplement Facts on the right side panel. And now that these regulations have been in place for 10 years, manufacturers that do not label their products correctly stand out like the proverbial sore thumb. Whether a supplement is in compliance with current good manufacturing practice (cGMPs) may not be apparent from a shelf look, but it's a safe bet that a company that does not label a product correctly does not know about cGMP regulations.

In this wired world, the Internet has become a vehicle for product sales. Facebook may have taken a face-plant when it went public in mid-May, but many supplement companies have Facebook pages, Twitter accounts, and the like, where consumers can discuss their products. It should not surprise you that the Food and Drug Administration (FDA) views these discussions as testimonials used to promote a company's product, and if those testimonials constitute disease claims for the product, a warning letter might be in order. Do not be surprised that, when you are cGMP inspected, the FDA inspector will have read your website and all of your associated electronic media.

cGMPs: the Biggest Challenge

The cGMPs have been in place now for all dietary supplement manufacturers since July 2010. FDA's Daniel Fabricant, Ph.D., director of dietary supplement programs, stated at the American Herbal Products Association (AHPA) Botanical Congress last month that FDA conducted 175 inspections in 2011, filed its first injunction, and seized products for the first time. He noted that in 2012, 138 inspections of supplement companies have already been completed. AHPA publishes Legal Alerts linking to the warning letters FDA issues following some of these inspections. All manufacturers and distributors should read these warning letters to ascertain whether they are in

compliance with the noted regulations. As evinced by the mislabeled supplements still on store shelves, it is rapidly becoming clear that many manufacturers remain clueless with respect to cGMP requirements.

So, everyone needs to hear what AHPA has been saying for the past year and what Fabricant said specifically and unequivocally at the AHPA Botanical Congress in early May: "GMPs (are) the biggest challenge ... facing the dietary supplement industry—at least that's the way the regulators see it, and we hope everyone understands that."

At some point, FDA is going to push companies to "voluntarily" recall products that were not manufactured in accordance with cGMPs. Should a product manufactured and released (knowingly) without one of the dietary ingredients listed on the product label stay on the market? Most drug companies would recall such a product. Should a product manufactured with raw materials that were not identified or confirmed to meet specifications be subject to recall? How about if the equipment cleaning processes have not been validated? If you go through food and drug recall reports (FDA publishes these as Enforcement Reports each month, and you can subscribe to them on the FDA [website](#)), they'll teach you when recalls are Class I (press release and to consumer level), Class II (retail level), or Class III (distributor level).

Retailers Have Liability

Bodybuilding.com is an example of retailer liability. On May 8, the U.S. Attorney in Boise, Idaho, announced that charges and a plea agreement had been entered against Bodybuilding.com under which the company will plead guilty and pay a \$7 million fine, and its former president, Jerry DeLuca, will pay a \$600,000 fine. This company was and is a retailer, not brick and mortar, but an Internet retailer. And FDA determined it was selling misbranded or adulterated dietary supplements.

Retailers are at risk, of course, when they sell misbranded products and products manufactured out of compliance with cGMPs. Retailers need to understand that under the Federal Food, Drug, and Cosmetic Act, they are strictly liable for selling misbranded or adulterated dietary supplements, even if they have done nothing other than put these products on their shelves. There was a time many years ago when retailers, especially chain drug stores and the like, served as gatekeepers for the industry. This is no longer true, as you can find mislabeled products and products that make unlawful disease claims at many major retailers. Retailers have a role, and they should be concerned if particular manufacturers whose products they carry are being warned about cGMP violations or unlawful claims.

In the dietary supplement industry, we have experienced more retailer liability under California Proposition 65. Prop. 65 plaintiffs often sue retailers because they understand that there are many small companies in the dietary supplement industry that might qualify for the Prop. 65 small business exemption. Small businesses with fewer than 10 employees are exempt from the warning requirement of Proposition 65. But many retailers have more than 10 employees, are not exempt, and can be sued for selling a Prop. 65 violative product. Indeed, major health food stores are routinely sued and push back on their suppliers for indemnification.

Facebook and Disease Claims

Facebook is popular, and while General Motors may have dropped it as an advertising vehicle, many supplement companies have Facebook pages. On these pages, consumers are sometimes encouraged to become a Friend and to post comments. As you might imagine, some consumers report experiences that would constitute disease (or miracle) claims, such as “I’ve been on crutches because of arthritis for 10 years, but after I started taking WalkFunction, I was able to throw my crutches away!” And then many other people may “Like” the comment. Are you responsible for such claims on your Facebook page? Yes, according to FDA. But why? Don’t your customers have a First Amendment right to tell their stories?

Your customers do have a right to tell their stories, and they can tell them to the company whose product they use. But when a company allows that story to be posted on its Facebook page, that story, known in the law for decades as a “testimonial,” becomes a claim for the product. Testimonials have been used in the promotion and sale of dietary supplements for at least 50 years in print and radio advertising and in brochures. Facebook, Twitter, and blogs are simply the modern version of this form of advertising. With the Facebook public offering, reports surfaced about Facebook sites and how to buy “Friends”. One can buy “Likes,” too, per 1,000. And these vendors will put those Likes where the buyer wants them, such as adjacent to a testimonial for WalkFunction.

Against this background, it is no surprise that FDA has found disease claims on supplement companies’ Facebook sites.

In a [Warning Letter](#) to For Earth in August 2011, FDA noted the following:

The Facebook webpage includes testimonials, as well as a link to your website where your products are sold. The testimonials include the following:

In a post dated November 29, 2010:

“Everything I have used to prevent my cancer from coming back and every supplement I use to heal my body from chemo is in MiGenetics...”

In a post dated December 2, 2010, from the same person:

“The right ingredients (supplements) have kept me from death due to cancer. MiGenetics has helped repair the damage from chemo and made my body come back to healthy. Blood sugar elevated grossly from chemo is now below 110 thanks to MiGenetics. Get healthy and live longer. Get MiGenetics.”

In a [Warning Letter](#) to Cellular Rx in May of last year, FDA noted:

In addition, we note that the Facebook account at <http://www.facebook.com/pages/Cell-Pro7/351345481336> includes numerous testimonials, including videos, which make disease claims such as:

“When I started taking OM24®, within days my osteoarthritis was relieved.”

“I totally control my diabetes and blood pressure with the tablets...”

So, if you have a Facebook page for your company and/or your products, be concerned about how FDA would address what consumers post there.

FDA Inspectors and the Internet

FDA inspectors use the Internet just like you and your customers do. And they read your website and other Internet forums such as Facebook and Twitter before they come into your facility. Do not be surprised if they begin by laying out printed pages from these sites and telling you whether your websites are making disease claims. Be ready to respond promptly. Of course, it would be best if you fix any potential problems before they complete their inspection.

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