

Milk Thistle Extract Adulteration Bulletin Released by Botanical Adulterants Prevention Program

Bulletin summarizes reports on the market presence of milk thistle fruits and extracts from which substantial amounts of the active compounds have been removed.

AUSTIN, TEXAS, USA, October 19, 2020 /EINPresswire.com/ -- The ABC-AHP-NCNPR Botanical Adulterants Prevention Program (BAPP) announces the publication of a [new Botanical Adulterants Prevention Bulletin](#) (BAPB) on milk thistle (*Silybum marianum*) fruit.

Dietary supplements and herbal medicinal products made from the extracts of milk thistle fruit (sometimes called seed) are widely used by consumers for the supportive treatment of the liver, including alcohol- or drug-induced hepatitis and cirrhosis, and treatment of dyspepsia and gallstones. Milk thistle dietary supplements have consistently ranked among the 40 top-selling ingredients in US natural and mainstream retail outlets over the several past decades.

The therapeutic benefits of milk thistle fruit extracts result from their silymarin content. Silymarin is a collective term denoting a mixture of chemicals known as flavonolignans. Silymarin content standardization for milk thistle extracts is well defined in official monographs such as those published in European and US pharmacopeias.

Many peer-reviewed publications have shown that the silymarin content in some commercial dietary supplements is much lower than the amounts claimed on the product labels. To some extent, such discrepancies can be explained by the use of different analytical methods, such as the use of high-performance liquid chromatography with ultraviolet detection (HPLC-UV) rather than spectrophotometric methods (e.g., via ultraviolet or visible light spectroscopy). However, published data also point to the market occurrence of fraudulent products wherein the silymarin has been reduced or removed without the knowledge of the buyer.

The new bulletin was written by Allison McCutcheon, PhD, an expert in herbal medicine research in Vancouver, British Columbia. It summarizes the published data on quality issues with milk thistle extracts, details analytical methods to detect adulteration, and informs on the nomenclature, production, and market importance of milk thistle extracts. Twenty-seven medicinal plant experts from academia, government, contract analytical laboratories, analytical equipment manufacturers, and the botanical dietary supplement industry have provided input on the bulletin during the peer-review process.

Stefan Gafner PhD, chief science officer of the nonprofit American Botanical Council (ABC) and technical director of BAPP, commented: "This is the first BAPP adulteration bulletin that focuses on the sale of depleted extracts, in which beneficial constituents are knowingly removed from concentrated standardized extracts, and the remaining botanical material is resold without declaring that important, therapeutically-active plant chemicals are absent, or present at very low concentrations."

Gafner continued: "Such practices are known to occur in the spice industry, for example with black pepper, from which the pungent compounds are sometimes extracted and sold to the flavor industry, while the extracted peppercorns are dried, mixed with genuine peppercorns, and sold to the spice industry simply as 'black pepper'. Similarly, in the case of milk thistle, the extracted silymarin complex can be sold at higher prices to the phytomedicinal and dietary supplement industry, while the leftover spent milk thistle fruits might be re-extracted, and those depleted extracts or fruits might be misrepresented as genuine to unsuspecting buyers."

ABC Founder and Executive Director and BAPP Founder and Director, Mark Blumenthal, said: "Milk thistle has become a popular phytomedicine and herbal dietary supplement in the past decades due to its clinical documentation of safety and beneficial activity, mainly by people who are using it to improve and/or maintain liver health. In some cases, people with compromised liver function might continue to experience liver problems if the milk thistle product they are taking contains adulterated material, particularly when all or most of the primary beneficial compounds have been removed."

The goal of the BAPBs is to provide accounts of ongoing issues related to botanical identity and adulteration and provide confirmation of the adulteration of suspected and alleged adulteration of botanical raw materials, extracts, and essential oils, as well as fungal preparations. This allows quality control personnel and lab technicians in the herbal medicine, botanical ingredient, dietary supplement, cosmetic, conventional food, and other industries, where botanical and fungal ingredients are used, to be informed on adulteration problems that are apparently widespread and/or that may imply safety concerns.

The milk thistle bulletin is the 22nd BAPB and the 61st peer-reviewed BAPP publication. As with all BAPP publications, the bulletins are freely accessible to all ABC members, registered users of the ABC website, and members of the public on the BAPP website (registration required).

[About the ABC-AHP-NCNPR Botanical Adulterants Prevention Program](#)

The ABC-AHP (American Herbal Pharmacopoeia)-NCNPR (National Center for Natural Products Research at the University of Mississippi) Botanical Adulterants Prevention Program is an international consortium of nonprofit professional organizations, analytical laboratories, research centers, industry trade associations, industry members, and other parties with interest in herbs and medicinal plants. BAPP advises industry, researchers, health professionals, government agencies, the media, and the public about the various challenges related to

adulterated and fraudulent botanical ingredients sold in international commerce. To date, more than 200 US and international parties have financially supported or otherwise endorsed BAPP.

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