

# US Sales of Herbal Supplements Increase by 8.6% in 2019

## *CBD, mushroom, and elderberry supplements continue to drive sales*

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### Introduction

Herbal dietary supplements continued to experience strong sales growth in the United States in 2019, with total sales increasing by an estimated 8.6% from 2018, according to the *Nutrition Business Journal* (NBJ). Consumers spent approximately \$9.602 billion on herbal supplements across all market channels in 2019 — more than three-quarters of a billion dollars more than was spent in 2018. Herbal supplement sales have increased each year since 2004 (Table 1), and the near-record sales growth from 2018 to 2019 is the second-highest percentage increase since 1998.

Sales also continued to climb in the first half of 2020 during the initial stages of the COVID-19 pandemic, stimulated by consumer demand for herbal and nutritional supplements with potential immune-enhancing effects. (See article beginning on page 68.)

SPINS, a market research firm based in Chicago, Illinois, and NBJ, a natural products industry publication of Informa’s New Hope Network based in Boulder, Colorado, provided the US retail sales figures for this report. NBJ supplied estimates of the total annual sales of herbal supplements, as well as sales in three market channels (mass market, natural and health food, and direct sales) and sales by product type (single-herb supplements vs. combination formulas). SPINS provided sales data for the 40 top-selling herbal and fungal ingredients in the mainstream (conventional) and natural retail channels (Table 2).

In addition to the 8.6% overall sales growth from 2018 to 2019, total retail sales of herbal dietary supplements increased in each of NBJ’s three market channels in 2019 — the 11th consecutive year of growth in all channels. Direct sales of herbal supplements, which includes online sales, had the strongest sales growth of the three market channels in 2019 and increased by 11.5% from the previous year, reaching a total of \$4.995 billion. Since 2016, the mass market channel has

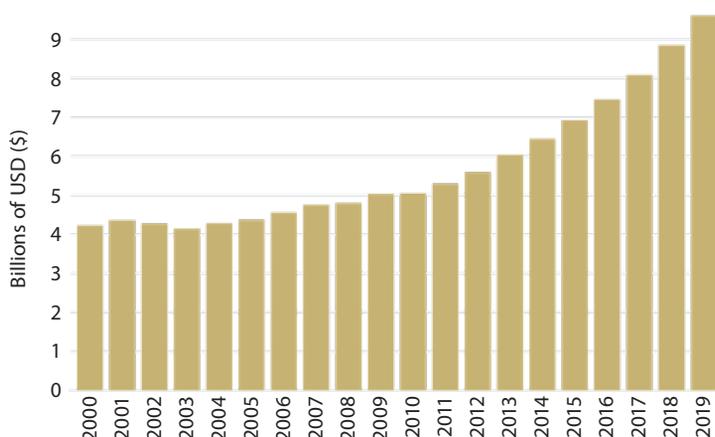
**Table 1. Total US Retail Sales of Herbal Supplements\***

Year	Total Sales	% Change
2019	\$9.602 billion	8.6%
2018	\$8.842 billion	9.4%
2017	\$8.085 billion	8.5%
2016	\$7.452 billion	7.7%
2015	\$6.922 billion	7.5%
2014	\$6.441 billion	6.8%
2013	\$6.033 billion	7.9%
2012	\$5.593 billion	5.5%
2011	\$5.302 billion	4.5%
2010	\$5.049 billion	3.3%
2009	\$5.037 billion	5.0%
2008	\$4.800 billion	1.0%
2007	\$4.756 billion	4.4%
2006	\$4.558 billion	4.1%
2005	\$4.378 billion	2.1%
2004	\$4.288 billion	3.4%
2003	\$4.146 billion	-2.3%
2002	\$4.275 billion	-2.8%
2001	\$4.361 billion	3.2%
2000	\$4.225 billion	2.9%

Source: *Nutrition Business Journal*

\* Includes sales in all channels. NBJ primary research includes NBJ surveys of supplement manufacturers, distributors, multilevel marketing firms, and mail order, internet, and raw material/ingredient supply companies, as well as interviews with major retailers (Walmart, Costco, etc.), manufacturers, suppliers, and industry experts. Secondary sources include IRI, SPINS, Nielsen, *Natural Foods Merchandiser*, Insight, The Hartman Group, company data, and other published material.

**Figure 1. Total US Retail Sales of Herbal Supplements**



Source: *Nutrition Business Journal*



Hemp oil  
Photo ©2020 Matt Magruder



Elderberry *Sambucus nigra*  
Photo ©2020 Steven Foster

**Table 2. US Retail Channel Definitions\***

	SPINS	Nutrition Business Journal
<b>Mainstream Channels</b>	<b>Conventional Multi-Outlet Channel (Powered by IRI)</b> The “mainstream” channel. Includes the Grocery Outlet (stores with \$2 million+ annual all-commodity value [ACV]), the Drug Outlet (chains and independent stores, excluding Rx sales), and selected retailers across Mass Merchandisers (including Walmart and club, dollar, and military stores) representing more than 105,000 retail locations.	<b>Mass Market Channel</b> Includes food/grocery, drug, mass merchandise, and club and convenience stores, including Walmart, Costco, etc.
<b>Natural Channels</b>	<b>Natural Enhanced Channel</b> Includes full-format stores with \$2 million+ in annual sales and 40% or more of UPC-coded sales from natural/organic/specialty products. This channel includes co-ops, associations, independent retailers, and large regional chains (excluding Whole Foods and Trader Joe’s). It represents more than \$26 billion in total sales and encompasses more than 1,850 stores.	<b>Natural &amp; Health Food Channel</b> Includes supplement and specialty retail outlets, including Whole Foods Market (estimates), GNC, sports nutrition stores, etc.
<b>Direct Sales</b>		Includes direct-to-consumer sales from the internet (e.g., e-commerce websites such as Amazon.com and Walmart.com, among many others), direct-selling media (TV, radio, and print publications), health practitioners, and multilevel marketing or network marketing firms (US sales only).

\* The sales discussed in this article pertain only to those involving herbal and other plant- and fungi-based dietary supplements, and generally do not include herbs sold as teas and beverages or as ingredients in natural personal care and cosmetic products.

seen higher sales growth than the natural and health food channel, and the same was true in 2019. Mass market sales totaled \$1.704 billion in 2019, a 9.4% increase from 2018. However, total sales of herbal supplements in the natural and health food channel have been higher than those in the mass market channel since at least 2005, when *HerbalGram* began including a breakdown of NBJ’s three market channels.<sup>1</sup> In 2019, sales in the natural and health food channel were an estimated \$2.904 billion, a 3.6% increase from 2018.

The SPINS sales data for the herbal and fungal ingredients discussed in this report include sales of dietary supplements in which the herbal or fungal ingredient (or derivative thereof, e.g., plant sterols and beta-glucans) is the primary functional ingredient. This includes only products that meet the legal definition of a dietary supplement per the US Food and Drug Administration (FDA), with the exception of cannabidiol (CBD) products, as explained later.<sup>2</sup> Sales of herbal teas or cosmetics with botanical ingredients are not included. The dollar amounts reflect the latest estimates (as of late June 2020) of sales for the 52-week period that ended December 29, 2019.

Unless otherwise noted, subsequent descriptions of sales increases and decreases, or sales growth and decline, refer to total annual sales changes *by percentage* from the previous year. The mainstream and natural channel sales discussed in this report refer to US retail sales only.

**CBD and Elderberry Sales Experience Triple-Digit Growth in Mainstream Channel**

Herbal supplements with horehound (*Marrubium vulgare*, Lamiaceae) as the primary ingredient had the highest total annual sales in the mainstream channel for the seventh

consecutive year. Most products included in this category have multiple ingredients and typically are not horehound-only supplements. In 2019, consumers in this channel spent a total of \$152,731,014 on horehound products — an increase of 4.2% from 2018, according to SPINS. Horehound is commonly found in throat lozenges (or “cough drops”), including some varieties of widely known brands such as Ricola® (Ricola Ltd.; Laufen, Switzerland). This bitter herb traditionally is used to treat respiratory and digestive issues, and many horehound products are still used for these purposes, including as an expectorant, cough suppressant, and for dyspepsia.<sup>3</sup>

In 2019, for the first time, CBD, a psychoactive but non-intoxicating compound in cannabis (*Cannabis sativa*, Cannabaceae), became one of the 40 top-selling ingredients in mainstream retail outlets. In this channel, CBD sales totaled \$35,899,378 in 2019, making it the ninth top-selling supplement ingredient. Sales of CBD increased by a remarkable 872.3% from 2018 to 2019 — the largest increase of any other top 40 ingredient in the mainstream channel. SPINS has been tracking CBD sales in both mainstream and natural channels since 2014, but the ingredient made its first appearance among the top 40 ingredients in the natural channel in 2017 after a 303% increase in sales from the previous year.

In 2019, SPINS revised its CBD and hemp data classifications and began to count sales of so-called “full-spectrum” extracts of hemp (aerial parts) — legally defined as *Cannabis sativa* with a tetrahydrocannabinol (THC) concentration of no more than 0.3%<sup>4</sup> — as CBD products. Previously, these full-spectrum extracts were included in the hemp category. This likely contributed to the significant sales increase of CBD products in the mainstream channel.

CBD products have been promoted for a wide range of health issues, such as anxiety, insomnia, drug addiction, and acne, among many others.<sup>5</sup> According to SPINS, the top health focuses of CBD products sold in the 2019 mainstream channel were “non-specific” followed by mood support and sleep. The non-specific health focus is essentially a “miscellaneous” category and can include products marketed for general health support. (For more about the science of CBD, see “Cannabidiol: A Race to Relief” beginning on page 36 in this issue.) The most common formulation types of mainstream CBD products were “alcohol-free tinctures,” liquids, and soft-gels, according to SPINS.

Based on the results of a nationally representative survey of 4,000 people in January 2019, *Consumer Reports* estimated that 64 million US adults had tried CBD in the previous two years.<sup>6</sup> Among those surveyed, the most common reason for taking CBD was to relax and reduce stress/anxiety, and 64% rated CBD as “extremely or very effective” in doing so. Notably, nearly a quarter of respondents said that they used CBD to replace an over-the-counter (OTC) drug (e.g., nonsteroidal anti-inflammatory drugs) or a conventional pharmaceutical drug (e.g., anxiety or pain medications).

CBD’s rapid ascent to supplement stardom and conflicting state and federal laws regarding cannabis and cannabis-derived ingredients have complicated the regulatory situation for CBD. The FDA does not consider CBD — whether derived from hemp or cannabis (legally defined as *C. sativa* with a THC concentration above 0.3%) — to be a legal dietary supplement ingredient. The FDA is currently “evaluating the regulatory frameworks that apply to certain cannabis-derived products that are intended for non-drug uses, including whether and/or how the FDA might consider updating its regulations, as well as whether potential legislation might be appropriate,” according to its Consumer Updates page for cannabis (as of March 2020).<sup>7</sup> While its review is underway, the FDA has focused on companies that make CBD products labeled with unapproved drug claims. In 2019, the FDA sent 22 warning letters to such companies for illegally marketed CBD products.<sup>8</sup>



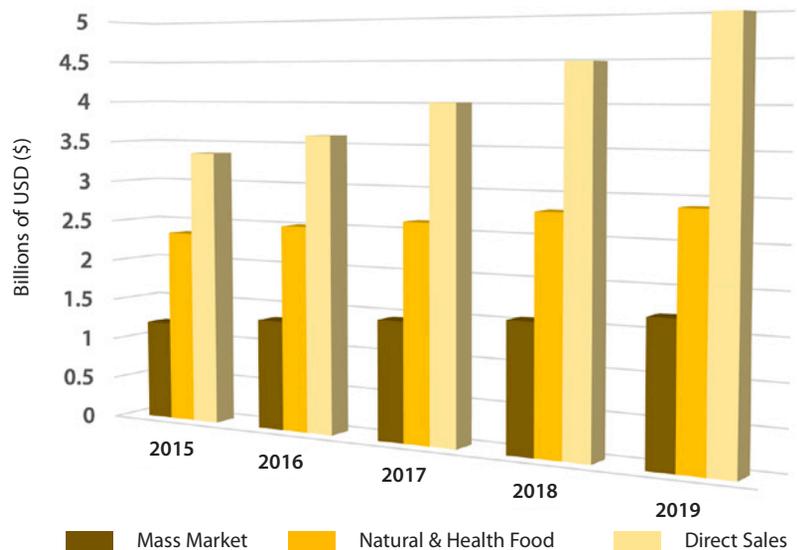
Wheatgrass *Triticum aestivum*  
Photo ©2020 Steven Foster

**Table 3. Total US Herbal Supplement Sales by Market Channel**

	2015	2016	2017	2018	2019	% Growth (from 2018)
<b>Mass Market</b>	\$1.204 billion	\$1.336 billion	\$1.449 billion	\$1.558 billion	\$1.704 billion	9.4%
<b>Natural &amp; Health Food</b>	\$2.356 billion	\$2.506 billion	\$2.624 billion	\$2.804 billion	\$2.904 billion	3.6%
<b>Direct Sales</b>	\$3.363 billion	\$3.609 billion	\$4.012 billion	\$4.480 billion	\$4.995 billion	11.5%

Source: *Nutrition Business Journal*

**Figure 2. Sales by Market Channel**





Ivy leaf *Hedera helix*  
Photo ©2020 Steven Foster



Echinacea *Echinacea purpurea*  
Photo ©2020 Steven Foster

Elderberry (*Sambucus* spp., Adoxaceae) experienced the second-strongest growth in the mainstream channel in 2019, and sales surged in the first half of 2020 due to the COVID-19 pandemic, as explained in the next article. Sales increased by 110.8% from 2018 to a total of \$107,574,611 in 2019. This is the second consecutive year of mainstream sales growth of more than 100% for this herb, which is commonly used for immune support and cold and flu symptoms.<sup>9</sup> Consistently increasing sales have helped elderberry move from the 25th top-selling ingredient in the mainstream channel in 2015 to the third top-selling ingredient in 2019.

In 2018, elderberry sales were bolstered partly by the unusually severe 2017-2018 flu season. During the 2018-2019 US flu season, which the US Centers for Disease Control and Prevention (CDC) classified as moderately severe, an estimated 35.5 million people in the United States were sickened with influenza.<sup>10</sup> Immune health was the third most popular reason why consumers in 2019 chose to take supplements, according to the 2019 Council for Responsible Nutrition (CRN) Consumer Survey on Dietary Supplements.<sup>11</sup> Elderberry's immune health benefits have been the subject of numerous human clinical trials, and research published in 2019 offered additional support for these claims. A meta-analysis of elderberry for cold- and flu-related respiratory symptoms published in February 2019, for example, found that the herb "substantially reduce[d] upper respiratory symptoms."<sup>12</sup> The authors of the analysis concluded that elderberry supplementation could help reduce "antibiotic misuse for upper respiratory symptoms due to viral infections, and [could be] a potentially safer alternative to prescription drugs for routine cases of the common cold and influenza."

The availability of multiple, easy-to-consume formulation types also may have contributed to mainstream elderberry sales growth in 2019. In recent years, consumers increasingly appear to be seeking out non-pill supplement forms such as gummies, liquids, and tinctures. Elderberry, with its familiar sweet fruit flavor, is particularly well suited to these formulation types.<sup>13</sup>

Two other herbs commonly marketed for immune or respiratory support made the top 10 list of mainstream ingredients. Echinacea (*Echinacea* spp., Asteraceae) sales increased by 4.9% from 2018, making it the second top-selling ingredient, and ivy leaf (*Hedera helix*, Araliaceae) sales increased by 14%, making it the sixth top-selling supplement in this channel.

Ashwagandha (*Withania somnifera*, Solanaceae), an herb commonly used in Ayurveda, the dominant traditional medical system of India, continued to enjoy strong sales in 2019. Mainstream sales of ashwagandha supplements rose by 45.2% from

2018 with sales totaling \$10,835,737 in 2019. The herb first appeared in the top 40 list of mainstream ingredients in 2018, when sales in this channel rose sharply from the previous year by 166%; ashwagandha made the top 40 list in the natural channel beginning in 2015.

For many mainstream consumers, familiarity with Ayurvedic ingredients may have started with turmeric (*Curcuma longa*, Zingiberaceae), which was the fastest growing ingredient in the mainstream channel in 2017. Sales of turmeric are still increasing in the mainstream channel, but at lower rates each year; in 2019, sales of turmeric grew by only 2.0% — down from 46.7% in 2017 and 30.5% in 2018. Boswellia (*Boswellia serrata*, Burseraceae) and fenugreek (*Trigonella foenum-graecum*, Fabaceae), two other ingredients with traditional Ayurvedic uses, saw declines or minor growth in 2019, with sales changes of -7.3% and +2.3%, respectively. Natural products trends tend to be more pronounced and shorter lived in the mainstream channel. The less robust growth and declining sales of these ingredients may suggest that the “novelty” of previously trending Ayurvedic ingredients for mainstream consumers could be slowly starting to wear off; however, this is only one interpretation.

Garcinia (*Garcinia gummi-gutta*, Clusiaceae), green tea (*Camellia sinensis*, Theaceae), and coconut oil (*Cocos nucifera*, Arecaceae) supplements experienced the three largest sales decreases in the mainstream channel from 2018 to 2019. Garcinia, often marketed as “Garcinia cambogia,” a synonymous scientific name,<sup>14</sup> rose to fame beginning in 2012 after Mehmet Oz, MD, promoted the herb as a “magic weight loss cure” on his daytime talk show, “The Dr. Oz Show.” The Southeast Asian tropical fruit enjoyed years of popularity for its claimed benefits and became the fourth top-selling supplement ingredient in mainstream retail stores in 2015. After a series of widely publicized lawsuits, negative news reports, and a Senate hearing questioning the safety and efficacy of garcinia, sales quickly declined.<sup>15</sup> In 2019, garcinia was the 24th top-selling herbal supplement in the mainstream channel, with sales totaling \$14,991,878 — less than a third of its total sales in 2015. Sales in 2019 may also have been impacted by a widely publicized case in February 2019 in which the US Federal Trade Commission settled with a marketer of garcinia supplements that paid for dozens of fake positive reviews of the product on Amazon.com.<sup>16</sup>

Sales of green tea supplements, which also benefited from the “Dr. Oz effect” in the mid-2010s, peaked in 2015 when it was the fifth top-selling supplement ingredient in the mainstream channel.<sup>15</sup> Although sales have mostly declined since then, green tea has remained a top-10 mainstream ingredient. In 2019, green tea was the 10th top-selling ingredient in this



Ginger *Zingiber officinale*  
Photo ©2020 Steven Foster



Barley grass *Hordeum vulgare*  
Photo ©2020 Steven Foster

channel, with sales totaling \$33,754,156 — a 25.3% decrease in total sales from 2018.

Coconut oil (−23.3%), which has seen declining sales since 2016, and yohimbe (−20.7%; *Pausinystalia johimbe*, Rubiaceae) were the only other ingredients in the mainstream retail channel with sales decreases of more than 20%. Potential reasons for coconut oil's continued decline are discussed in the next section.

In previous years, *HerbalGram* chose to exclude certain ingredients from the top 40 list of mainstream ingredients for various reasons (e.g., not derived from herbs or fungi, nonspecific categories, etc.). However, no entries were excluded from this year's report. Accordingly, readers should keep this in mind when comparing Tables 4 and 5 in this year's report with those of previous years.

## CBD and Mushroom Products Continue to Drive Natural Channel Sales

For the second consecutive year, CBD was the top-selling herbal supplement ingredient in the natural channel, with total sales of \$90,720,546. CBD's 71.3% increase in sales from 2018 was the largest sales increase of any of the 40 top-selling herbs in this channel in 2019. However, this increase is relatively modest compared to the more-than-300% sales increases for CBD in 2017 and 2018. The skyrocketing sales helped CBD overtake turmeric as the top-selling ingredient in this channel in 2018. Turmeric had held the position from 2013 to 2017.<sup>17,18</sup>

The most popular formulation types and health focuses of CBD products in the natural channel were unchanged from 2018. As in the mainstream channel, CBD supplements in the natural retail channel were marketed primarily for “non-specific” health reasons followed by mood support and sleep, according to SPINS. CBD products sold in natural retail stores were most commonly alcohol-free tinctures followed by softgels and capsules.

After CBD, medicinal mushrooms experienced the greatest sales increases in the 2019 natural channel. Three of the five ingredients with the largest sales increases from 2018 in this channel were mushroom products. Sales of “mushrooms (other)” — a category that includes sales of multiple species, including lion's mane (*Hericium erinaceus*, Hericiaceae), turkey tail (*Trametes versicolor*, Polyporaceae), and combinations thereof — increased by 33.2% from 2018 and totaled \$10,596,345 in 2019. Reishi (*Ganoderma lucidum*, Ganodermataceae) and cordyceps (*Cordyceps militaris*, Cordycipitaceae) had the fourth- and fifth-largest sales increases of 13.5% and 8.2%, respectively.

Mushrooms (other) debuted on *HerbalGram*'s list of top 40 natural channel ingredients in 2015 as the 23rd top-selling ingredient. Since then, total annual sales have more than doubled, earning mushrooms (other) a spot as the eighth top-selling ingredient in this channel in 2019. Vegetable capsules and powders were the most popular formulation types of mushroom products sold in natural retail stores in both 2018 and 2019, according to SPINS, although tinctures started to become more popular in 2019.

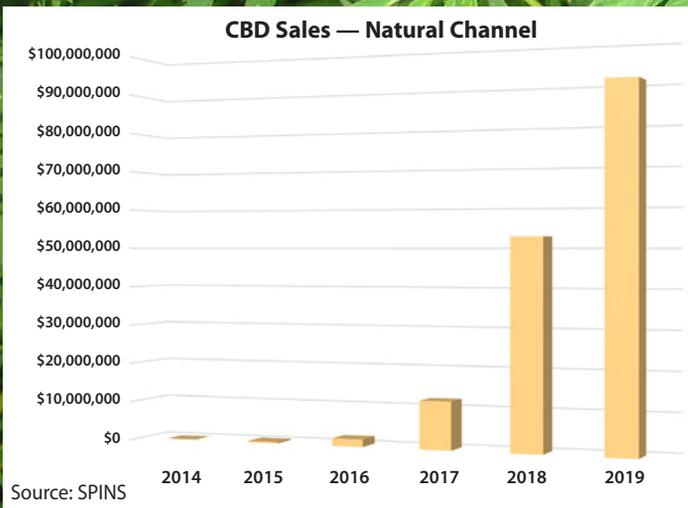
Immunity and cognitive health were the top health focuses of mushroom (other) products sold in natural retail outlets in 2019, followed by non-specific uses. These are the same health focuses that natural channel shoppers sought out in 2018 and, notably, the same health focuses of shoppers in the mainstream channel in 2019. This suggests that consumers across the board may be becoming more familiar with the potential health benefits of fungal products. These widely reported benefits, combined with multiple, easy-to-consume formulation types, likely helped fuel the so-called “shroom boom” of 2019.<sup>19</sup>

Besides CBD and mushrooms, elderberry was the only other top-40 ingredient in the natural channel with a significant sales increase in 2019. Sales of this ingredient increased by 20.5% from 2018, with sales totaling \$31,952,786 in 2019. As noted previously, a moderately severe 2019 cold and flu season likely helped drive sales of this ingredient.

Coconut oil experienced the largest sales decline from 2018 to 2019 in natural retail outlets. Sales of coconut oil supplements in this channel totaled \$2,897,144 in 2019 — a 31.4% decrease in sales from 2018. Coconut oil experienced rapid sales growth in 2013 after Dr. Oz hyped a wide range of potential health benefits of this “miracle fat that fights fat.”<sup>20</sup> Subsequently, trending diets that shunned carbohydrates and promoted “healthy fats,” such as paleo and ketogenic diets, helped sustain coconut oil's popularity until 2017, when sales of the ingredient in this channel started to decline. Although the trend toward embracing healthy fats and oils appeared to continue in 2019,<sup>21</sup> widespread and conflicting media reports about the health benefits and potential risks of coconut oil consumption may have contributed to the ingredient's continued decline in 2019. Perhaps most notably, in a video that went “viral” in August 2018, a Harvard University professor systematically dismantled coconut oil's supposed benefits, calling the ingredient “pure poison.”<sup>22</sup> Media outlets continued to debate the saturated-fat-rich food's potential benefits and risks throughout 2019.<sup>23</sup>

Flax (*Linum usitatissimum*, Linaceae) seed and hemp had the second- and third-highest sales decreases, respectively, in the 2019 natural channel. Flax seed, which is rich in omega-3 fatty acids, was the top-selling ingredient in this channel in 2012, but sales have been declining steadily since then. Sales of flax seed supplements declined by 12.2% from 2018, with sales totaling \$12,573,964 in 2019. During this time, flax dropped from the fifth top-selling ingredient to the seventh. The reason for the decline is unclear, but it is possible that consumers in the natural channel are switching to other sources of omega-3s.

Hemp products, like CBD, first appeared on the list of 40 top-selling ingredients in the natural channel in 2018. However, unlike CBD, hemp supplement sales have since declined — by 9.9% in 2018 and 12% in 2019. The continued decline may be due partly to product classification changes described earlier. SPINS now includes only hemp seed products with a negligible amount of CBD in this category.

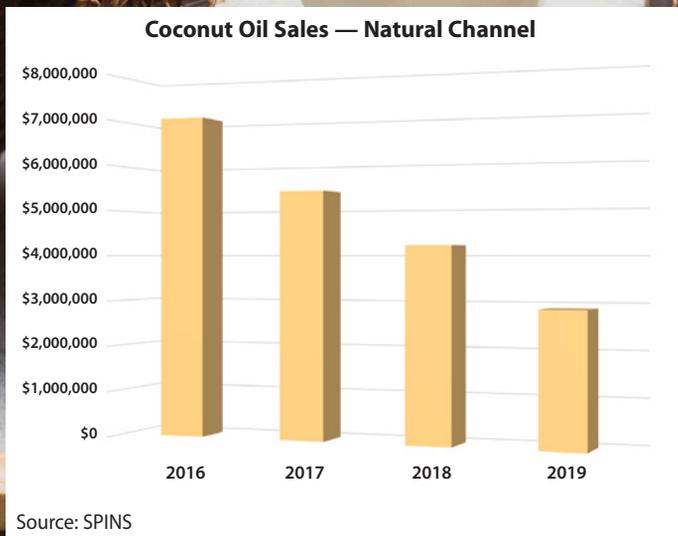


CBD Sales – Natural Channel	
2019	\$90,720,546
2018	\$52,946,750
2017	\$12,178,776
2016	\$1,881,717
2015	\$309,890
2014	\$8,506

Cannabis *Cannabis sativa*  
Photo ©2020 Bogdan



Coconut oil *Cocos nucifera*  
Photo ©2020 Mescioglu



Coconut Oil Sales – Natural Channel	
2019	\$2,897,144
2018	\$4,224,140
2017	\$5,397,873
2016	\$7,051,773

**Table 4. Top-Selling Herbal Supplements in 2019 — US Mainstream Multi-Outlet Channel**

Rank	Primary Ingredient	Latin Binomial	Total Sales	% Change from 2018
1	Horehound	<i>Marrubium vulgare</i>	\$152,731,013.98	4.2%
2	Echinacea <sup>a</sup>	<i>Echinacea</i> spp.	\$120,185,302.86	4.9%
3	Elderberry	<i>Sambucus nigra</i> and <i>S. canadensis</i>	\$107,574,611.46	110.8%
4	Turmeric <sup>b</sup>	<i>Curcuma longa</i>	\$92,432,701.70	2.0%
5	Cranberry	<i>Vaccinium macrocarpon</i>	\$88,900,064.38	6.3%
6	Ivy leaf	<i>Hedera helix</i>	\$43,122,837.27	14.0%
7	Ginger	<i>Zingiber officinale</i>	\$39,455,176.99	6.4%
8	Garlic	<i>Allium sativum</i>	\$37,938,646.26	0.7%
9	Cannabidiol (CBD)	<i>Cannabis sativa</i>	\$35,899,378.48	872.3%
10	Green tea	<i>Camellia sinensis</i>	\$33,754,156.23	-25.3%
11	Red yeast rice <sup>c</sup>	<i>Oryza sativa</i>	\$33,648,588.26	8.0%
12	Apple cider vinegar	<i>Malus</i> spp.	\$33,644,761.68	10.4%
13	Fenugreek	<i>Trigonella foenum-graecum</i>	\$33,238,113.57	2.3%
14	Saw palmetto	<i>Serenoa repens</i>	\$30,700,004.93	3.7%
15	Black cohosh	<i>Actaea racemosa</i>	\$28,078,996.24	-15.7%
16	Wheatgrass / Barley grass	<i>Triticum aestivum</i> / <i>Hordeum vulgare</i>	\$26,259,511.29	25.0%
17	Ginkgo	<i>Ginkgo biloba</i>	\$25,543,153.93	18.9%
18	Flax seed / Flax oil	<i>Linum usitatissimum</i>	\$23,005,712.31	-11.6%
19	Aloe vera	<i>Aloe vera</i>	\$21,074,250.16	-3.7%
20	Yohimbe	<i>Pausinystalia johimbe</i>	\$18,366,189.44	-20.7%
21	Cinnamon	<i>Cinnamomum</i> spp.	\$16,525,708.00	-6.6%
22	Valerian	<i>Valeriana officinalis</i>	\$16,252,463.12	-9.1%
23	Milk thistle	<i>Silybum marianum</i>	\$16,244,188.41	-1.8%
24	Garcinia	<i>Garcinia gummi-gutta</i>	\$14,991,877.54	-33.5%
25	Bioflavonoid complex <sup>d</sup>	—	\$14,681,912.64	-17.3%
26	Horny goat weed	<i>Epimedium</i> spp.	\$14,201,565.49	27.1%
27	Coconut oil	<i>Cocos nucifera</i>	\$14,036,848.91	-23.3%
28	Goji berry	<i>Lycium</i> spp.	\$13,812,253.72	12.9%
29	Green coffee extract	<i>Coffea arabica</i>	\$13,013,379.34	-18.9%
30	Ginseng	<i>Panax</i> spp.	\$12,572,733.72	-4.2%
31	Senna <sup>e</sup>	<i>Senna alexandrina</i>	\$10,912,381.12	-8.3%
32	Plant sterols <sup>f</sup>	—	\$10,894,757.52	-4.1%
33	Ashwagandha	<i>Withania somnifera</i>	\$10,835,737.05	45.2%
34	Beet root	<i>Beta vulgaris</i>	\$9,827,665.87	18.4%
35	Boswellia	<i>Boswellia serrata</i>	\$8,923,628.32	-7.3%
36	Açaí	<i>Euterpe oleracea</i>	\$8,816,949.58	2.7%
37	Rhodiola	<i>Rhodiola</i> spp.	\$8,737,768.32	-9.7%
38	Fennel	<i>Foeniculum vulgare</i>	\$8,663,058.49	6.1%
39	Maca	<i>Lepidium meyenii</i>	\$8,133,656.61	5.3%
40	Grapefruit seed extract	<i>Citrus x paradisi</i>	\$7,779,003.70	7.8%

Source: SPINS (52 weeks ending December 29, 2019)

<sup>a</sup> Includes three *Echinacea* species: *E. angustifolia*, *E. pallida*, and *E. purpurea*.

<sup>b</sup> Includes standardized turmeric extracts with high levels of curcumin.

<sup>c</sup> Red yeast rice is fermented with the yeast *Monascus purpureus*.

<sup>d</sup> Bioflavonoids are phytochemicals that are often extracted from citrus (*Citrus* spp., Rutaceae) fruits.

<sup>e</sup> Excludes OTC laxative drugs containing senna or sennosides.

<sup>f</sup> Not including beta-sitosterol.

**Table 5. Top-Selling Herbal Supplements in 2019 — US Natural Channel**

Rank	Primary Ingredient	Latin Binomial	Total Sales	% Change from 2018
1	Cannabidiol (CBD)	<i>Cannabis sativa</i>	\$90,720,545.72	71.3%
2	Turmeric <sup>a</sup>	<i>Curcuma longa</i>	\$48,138,541.59	-6.8%
3	Elderberry	<i>Sambucus nigra</i> and <i>S. canadensis</i>	\$31,952,785.92	20.5%
4	Wheatgrass / Barley grass	<i>Triticum aestivum</i> / <i>Hordeum vulgare</i>	\$17,990,270.93	-9.8%
5	Ashwagandha	<i>Withania somnifera</i>	\$13,661,462.20	7.2%
6	Aloe vera	<i>Aloe vera</i>	\$12,687,774.14	-9.3%
7	Flax seed / Flax oil	<i>Linum usitatissimum</i>	\$12,573,964.19	-12.2%
8	Mushrooms (other)	—	\$10,596,344.51	33.2%
9	Echinacea <sup>b</sup>	<i>Echinacea</i> spp.	\$10,401,555.39	1.3%
10	Milk thistle	<i>Silybum marianum</i>	\$10,010,699.48	-4.7%
11	Oregano <sup>c</sup>	<i>Origanum vulgare</i>	\$9,275,511.10	-7.0%
12	Cranberry	<i>Vaccinium macrocarpon</i>	\$7,919,630.81	3.9%
13	Saw palmetto	<i>Serenoa repens</i>	\$7,767,948.88	0.6%
14	Maca	<i>Lepidium meyenii</i>	\$7,464,260.86	-11.9%
15	Garlic	<i>Allium sativum</i>	\$6,929,067.19	-0.2%
16	Valerian	<i>Valeriana officinalis</i>	\$6,711,204.33	-1.3%
17	Echinacea–Goldenseal combo	<i>Echinacea</i> spp. / <i>Hydrastis canadensis</i>	\$6,272,608.20	-1.3%
18	Nigella	<i>Nigella sativa</i>	\$5,436,145.88	-8.6%
19	Horsetail	<i>Equisetum</i> spp.	\$5,373,416.61	0.9%
20	Chlorophyll / Chlorella	— / <i>Chlorella vulgaris</i>	\$5,180,157.89	-6.5%
21	Ginkgo	<i>Ginkgo biloba</i>	\$4,598,414.26	-1.3%
22	Hemp seeds and derivatives	<i>Cannabis</i> spp.	\$3,829,584.51	-12.0%
23	Red yeast rice <sup>d</sup>	<i>Oryza sativa</i>	\$3,784,732.62	1.7%
24	Quercetin <sup>e</sup>	—	\$3,673,172.27	-1.0%
25	Cherry fruit	<i>Prunus</i> spp.	\$3,664,146.25	1.2%
26	Reishi	<i>Ganoderma lucidum</i>	\$3,646,673.30	13.5%
27	Ginger	<i>Zingiber officinale</i>	\$3,400,415.56	2.9%
28	Kava	<i>Piper methysticum</i>	\$3,382,661.86	-8.7%
29	Fenugreek	<i>Trigonella foenum-graecum</i>	\$3,299,830.20	-8.8%
30	Ginseng	<i>Panax</i> spp.	\$3,291,828.69	-2.4%
31	Beet root	<i>Beta vulgaris</i>	\$3,167,973.72	1.8%
32	Holy basil	<i>Ocimum tenuiflorum</i>	\$3,078,406.16	-10.9%
33	Resveratrol <sup>f</sup>	—	\$3,044,282.97	-4.1%
34	Evening primrose oil	<i>Oenothera biennis</i>	\$2,961,872.48	-5.6%
35	Stevia	<i>Stevia rebaudiana</i>	\$2,953,938.77	-2.2%
36	Coconut oil	<i>Cocos nucifera</i>	\$2,897,144.46	-31.4%
37	Olive leaf	<i>Olea europaea</i>	\$2,891,034.03	-10.6%
38	Hawthorn	<i>Crataegus</i> spp.	\$2,887,509.12	3.3%
39	Moringa	<i>Moringa oleifera</i>	\$2,750,656.99	-4.4%
40	Cordyceps	<i>Cordyceps</i> spp.	\$2,740,052.18	8.2%

Source: SPINS (52 weeks ending December 29, 2019)

<sup>a</sup> Includes standardized turmeric extracts with high levels of curcumin.

<sup>b</sup> Includes three *Echinacea* species: *E. angustifolia*, *E. pallida*, and *E. purpurea*.

<sup>c</sup> Includes products labeled as containing oregano oil and oregano leaf tinctures.

<sup>d</sup> Red yeast rice is fermented with the yeast *Monascus purpureus*.

<sup>e</sup> Quercetin is a flavonoid found in various plants, such as onions (*Allium* spp., Amaryllidaceae) and berries.

<sup>f</sup> Resveratrol is an antioxidant found in various plants, such as grapes (*Vitis vinifera*, Vitaceae) and berries.

**Table 6. Total US Retail Sales of Herbal Supplements by Type**

	Total Sales	% Total Sales	% Growth*
<b>2019</b>			
Single Herb	\$5.402 billion	56.3%	6.3%
Combination Herbs	\$4.201 billion	43.7%	11.8%
<b>2018</b>			
Single Herb	\$5.083 billion	57.5%	6.8%
Combination Herbs	\$3.759 billion	42.5%	13.1%
<b>2017</b>			
Single Herb	\$4.759 billion	58.9%	5.6%
Combination Herbs	\$3.326 billion	41.1%	12.9%
<b>2016</b>			
Single Herb	\$4.505 billion	60.5%	6.1%
Combination Herbs	\$2.947 billion	39.5%	10.1%
<b>2015</b>			
Single Herb	\$4.245 billion	61.3%	5.5%
Combination Herbs	\$2.677 billion	38.7%	10.7%
Source: <i>Nutrition Business Journal</i> / * From previous year			

As with the mainstream channel, *HerbalGram* chose not to exclude any ingredients from the list of 40 top-selling ingredients in the 2019 natural channel.

**Direct Sales**

Continuing a three-year trend, direct-to-consumer sales of herbal supplements once again experienced the highest sales growth of NBJ’s three market channels. The 11.5% growth in the direct sales channel from 2018 to 2019 was more than three times higher than the growth in the natural and health food channel. Total annual direct sales of herbal supplements have been higher than total sales in the mass market and natural and health food channels since at least 2005, when *HerbalGram* began publishing NBJ’s channel data in its annual market reports.<sup>1</sup>

NBJ tracks direct sales from four primary segments: multilevel marketing (MLM) companies, also known as network marketing companies, direct media (TV, radio, and print), health practitioners, and the internet.<sup>24</sup> According to NBJ, internet sales include e-commerce sales from Amazon.com and the websites of major brick-and-mortar retailers such as Walmart, among others.

**Single-Herb Supplements vs. Combination Formulas**

From 2018 to 2019, the sales growth of combination formulas was higher than that of single-herb supplements. This has been the case every year since 2011. Sales of combination formulas and single-herb supplements grew by 11.8% and 6.3%, respectively, in 2019.

Combination formulas contain multiple herbs that typically work together (additively or synergistically), often to support a general health function or body system. For example, a combination supplement marketed as a sleep aid may contain herbs with calming or anxiety-reducing properties and other botanical ingredients with sleep-promoting effects.<sup>25</sup> Single-herb supplements, on the other hand, tend to have more targeted uses, although sometimes more than one. Senna (*Senna*



Green tea *Camellia sinensis*  
Photo ©2020 Steven Foster



**Garlic** *Allium sativum*  
Photo ©2020 Steven Foster



**Valerian** *Valeriana officinalis*  
Photo ©2020 Steven Foster

*alexandrina*, Fabaceae), for example, has well-known laxative effects and is primarily used to treat digestive issues.<sup>26</sup> Although single-herb supplements have accounted for most of the total sales for more than a decade, the percentage gap between sales of these two product types has been slowly closing each year.

## Conclusion

Dietary supplement use by adults in the United States reached an all-time high in 2019, according to CRN's 2019 survey.<sup>11</sup> More than three-quarters of surveyed adults reported taking at least one dietary supplement in the previous year, and half of those consumers reported taking an herbal supplement. Extrapolating these findings to the 2019 US adult population<sup>27</sup> results in a staggering number of potential herbal supplement users (whether occasional or frequent) — roughly 97 million individuals. Consumer trust in herbal supplements also appeared to remain strong in 2019. Nearly 72% of the adults in CRN's survey reported confidence in the safety and efficacy of herbal supplements. General consumer trust combined with newly popular ingredients in both channels likely helped contribute to the near-record sales growth in 2019.

Mainstream consumers continued to turn to elderberry supplements for their potential immune health benefits, and natural retail shoppers appeared to wholly embrace mush-

room products in 2019. However, the standout ingredient of 2019 was undoubtedly CBD. Since at least 2008, when *HerbalGram* began including tables of the top-selling ingredients in both channels, no single ingredient has simultaneously had the top growth in both mainstream and natural channels. However, with its myriad claimed and implied health benefits and widespread appeal, CBD did just that in 2019. HG

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**Turmeric** *Curcuma longa*  
Photo ©2020 Steven Foster

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## US Supplement Sales Rise Sharply during First Six Months of 2020

### COVID-19 pandemic boosts sales of medicinal fungi and herbs commonly used for immune health

By Tyler Smith

As the coronavirus spread across the globe in early 2020,<sup>1</sup> news reports in the United States reflected a growing sense of dread in the country. At the time, very little was known about the virus or COVID-19, the disease caused by SARS-CoV-2. When confronted with a potentially deadly infectious disease and no available treatment, many people in the United States turned to natural products, as evidenced by skyrocketing sales of dietary supplements, including herbal products, in early 2020. The increased sales were fueled largely by consumers' seeking immune support and general wellness products.<sup>2</sup> Sales were also impacted, in part, by pantry-stocking or even "panic buying" of immune products,<sup>3</sup> which led to depleted inventories, backordered products, and other supply chain disruptions during this time.<sup>4</sup>

Overall dietary supplement sales in March 2020 were up 39% from March 2019, and by mid-June, sales\* were still up 14% compared to the previous year, according to SPINS data.<sup>2</sup> As much of the country was under some form of stay-at-home order during this time, online sales far outpaced brick-and-mortar sales.<sup>5</sup> NBJ predicts that total online sales in 2020 will be 61.4% higher than in 2019; in-store sales are expected to rise by only 7.1% in 2020.<sup>2</sup>

Total dietary supplement sales estimates for 2020 are similarly optimistic, with NBJ predicting the highest level of sales growth in more than two decades. Sales of cold, flu, and immunity products are predicted to grow 51.2% from 2019, perhaps making up close to 10% of total dietary supplement sales in 2020, according to SPINS data.<sup>2</sup>

The information below is based on herbal supplement sales data from January 1, 2020, to June 22, 2020, provided by the market research firm SPINS. Sales growth refers to the total percentage sales increase for this period compared to the same period in 2019.

#### Popular Herbal Immune Products

Unsurprisingly, sales of herbal supplements marketed for immune health experienced strong growth during the first half of 2020. A handful of ingredients experienced sales increases above 70% in both mainstream and natural channels, including well-known herbs such as elderberry, echinacea, and oil of oregano (*Origanum vulgare*, Lamiaceae).

Sales of elderberry, which has been shown to reduce upper-respiratory symptoms in clinical trials,<sup>6</sup> grew by 126% in the natural channel. In the mainstream channel, elderberry sales increased by 241.4%. Sales of echinacea, which has been used traditionally for various immune-related benefits, also grew sharply in the first half of 2020. Echinacea sales in the natural channel grew by 70.2%, and sales in the mainstream channel grew by 90.9%. A 2014 Cochrane Review concluded that preparations of echinacea had potential cold-prevention benefits, but the trending-positive results were not statistically significant.<sup>7</sup> A more recent systematic review and meta-analysis published in 2019 made similar conclusions, noting that echinacea "might have a preventative effect on the incidence of upper respiratory tract infections."<sup>8</sup> Oregano has been used traditionally for various medicinal purposes, including for respiratory symptoms such as cough.<sup>9</sup> Although oregano has been shown to have antimicrobial and antiviral properties in vitro, human clinical trials are lacking.<sup>10</sup> Sales of this herb

\* For the four-week period that ended June 14, 2020.

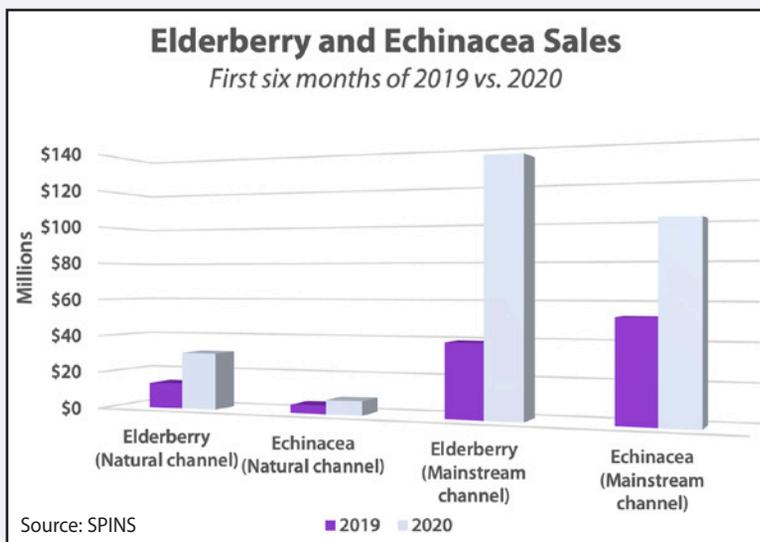
— primarily in essential oil form — grew by 74.8% in the natural channel and 90.6% in the mainstream channel in the first half of 2020.

Less common herbs with potential immune health benefits also fared well in the first six months of 2020, including astragalus (*Astragalus* spp., Fabaceae) root, elecampane (*Inula helenium*, Asteraceae), and lomatium (*Lomatium* spp., Apiaceae). A 2015 Cochrane Review of astragalus for preventing frequent respiratory tract infections in children found 120 relevant, full-text studies; however the studies were deemed to be of poor quality and none met the review authors' inclusion criteria.<sup>11</sup> Elecampane and lomatium also are used traditionally for respiratory conditions, but human clinical trials are lacking.<sup>12,13</sup>

#### Medicinal Fungi

Mushrooms and fungi-derived ingredients have been used in traditional Chinese medicine for centuries,<sup>14</sup> and their popularity as medicine has increased in the United States in recent years. Mushroom and fungal products first appeared on the list of 40 top-selling ingredients in the natural channel in 2015, and sales have increased steadily since then. SPINS tracks multiple mushroom species, and the traditional uses and claimed benefits vary for each, often with some overlap. Immunity and general health benefits were the most common health focuses of mushroom supplements sold in the United States in 2018 and 2019.

In the first half of 2020, in both mainstream and natural retail channels, six of the 40 ingredients (15%) with the largest sales growth were fungal products (including



beta-glucans). Of these, five appeared in both channels, two of which experienced sales increases greater than 70% in 2020: shiitake (*Lentinula edodes*, Omphalotaceae) and “mushrooms (other).” As noted previously, the mushrooms (other) category includes any fungal product not individually tracked by SPINS, such as turkey tail. Sales of mushrooms (other) increased by 84.0% in the natural channel and a remarkable 494.6% in the mainstream channel. Shiitake, extracts of which have exhibited immunomodulatory, antibacterial, antifungal, antioxidant, and cytotoxic properties in vitro,<sup>15</sup> has been used for a wide range of medicinal purposes, including as an adjuvant cancer treatment<sup>16</sup> and immune system modulator.<sup>17</sup> Shiitake sales increased by 125.4% in the natural channel and 74.9% in the mainstream channel.

**Conclusion**

Although sales of dietary supplements in the first half of 2020 benefited largely from immune health ingredients, sales of other ingredients have increased as well, particularly those related to stress and sleep. As of mid-June 2020, supplement sales appear to have leveled off after the sales jumps seen earlier in the year.<sup>5</sup> The future course of the coronavirus pandemic in the United States is uncertain, which makes predicting sales for the second half of 2020 challenging. However, if the first half of 2020 is any indication, then the herb and dietary supplement industry appears to be on track for another record-breaking year. HG

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