

Herbs as Dietary Supplements

Viewpoint of the U.S. Industry






Workshop on Regulatory Affairs on Herbal Medicinal Products

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Herbs and the FFDCA

-  The Federal Food, Drug & Cosmetic Act is an “intended use” statute: What is **claimed** for a product (usually **NOT** its ingredients) determines its regulatory status.
-  Herbs (for oral ingestion) are:
 -  Foods
 -  Dietary Supplements
 -  Drugs

Herbs are foods...

21 U.S.C. 321(f): “The term ‘food’ means articles used for food or drink for man or other animals, chewing gum, and articles used for components of any such article.”



garlic
(*Allium sativum*)



licorice
(*Glycyrriza spp.*)



peppermint
(*Mentha piperita*)

Herbs are supplements...





21 U.S.C 321(ff): “... a product (other than tobacco) intended to supplement the diet that bears or contains... an herb or other botanical... [or] a concentrate, metabolite, constituent, extract, or combination...”

- ❑ Form of ingestion is limited (tablet, capsule, powder, softgel, gelcap, or liquid).
- ❑ Can not be represented a conventional food or as a sole item of a meal or the diet.
- ❑ Must be labeled as a dietary supplement.
- ❑ May not be a “new” drug (or antibiotic or biologic), unless prior marketed as a dietary supplement or food.

Herbs are supplements...








Herbs are drugs...

-  21 U.S.C. 321(g) – The term "drug" means:
 -  articles recognized in the USP, HPUS, or NF;
 -  articles intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals; and
 -  articles (other than food) intended to affect the structure or any function of the body of man or other animals...



contains sennosides
(from *Senna* spp.)

[Herbs are “botanical drugs”]

-  Guidance for industry issued in 2004
 -  Significant focus on CMC (chemistry, manufacturing and controls)
 -  Differentiates between products with or without safety concerns
 -  Only one “botanical drug” approved to date:
 -  Polyphenon[®] (green tea catechin extract) ointment for genital warts

Herbs are foods + supplements

Oats (*Avena sativa*)

FDA authorized health claim: “May reduce the risk of heart disease.”



“...support for stress...”



Herbs are foods + supplements

Garlic (*Allium sativum*)

...essential food ingredient
in many cultures...

“...cardiovascular
health”



Herbs are foods + supplements

Licorice

(*Glycyrrhiza* spp.)

...for candy and in
beverages, such as teas
and liquors...



“...benefits and soothes the
stomach...”



Herbs are foods + supplements

Ginger

(Zingiber officinale)



...in cookies and cakes;
as tea; in many meat &
vegetable recipes...



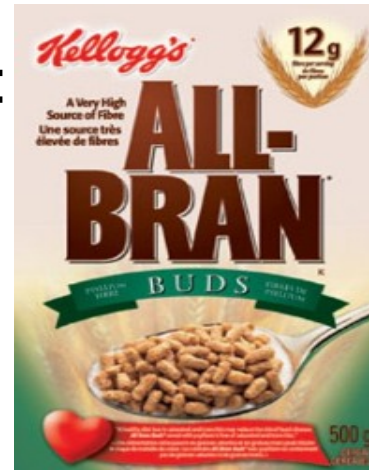
“...potentiates proper
digestive function.”



Herbs are foods + supplements + drugs

Psyllium (*Plantago ovata*):

- ...as a **food**, may bear the FDA approved health claim: “May reduce the risk of heart disease.”
- ...as a **dietary supplement**, may also bear the FDA approved health claim, and a structure-function claim (“promotes regularity”).
- As an **OTC drug**, may be labeled as a bulk-forming laxative.



The DS Market in the U.S.

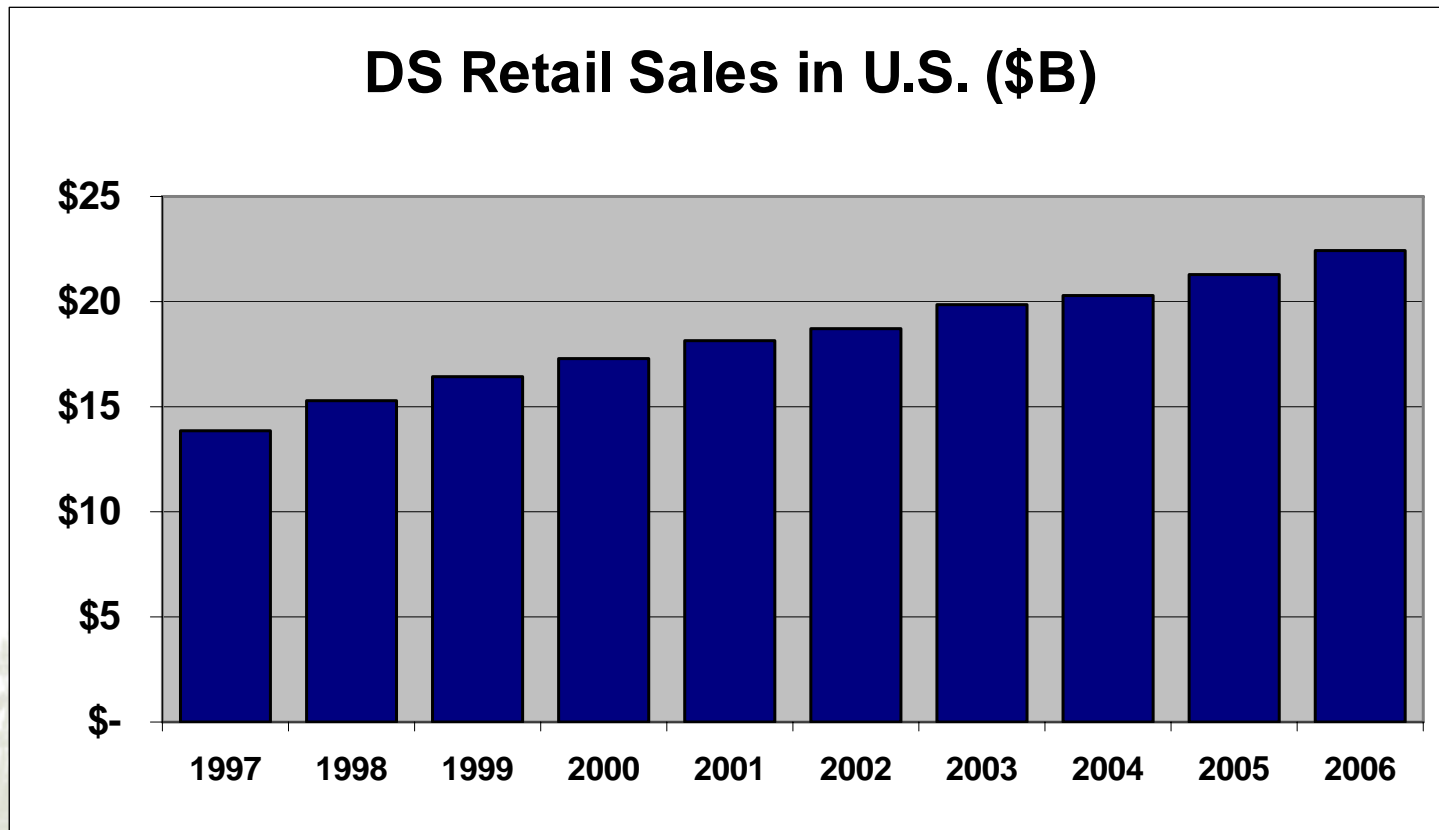
- Total US population = 300M
- Adult population = 240M
- % of population reported to use:
 - Vitamin/mineral: 51% (122-153M)¹
 - Non-vitamin/-mineral: 19% (45-55M)²
 - **Herbal: 10% (24-30M)¹**

1. U.S. NHIS 2005

2. U.S. NHIS 2002

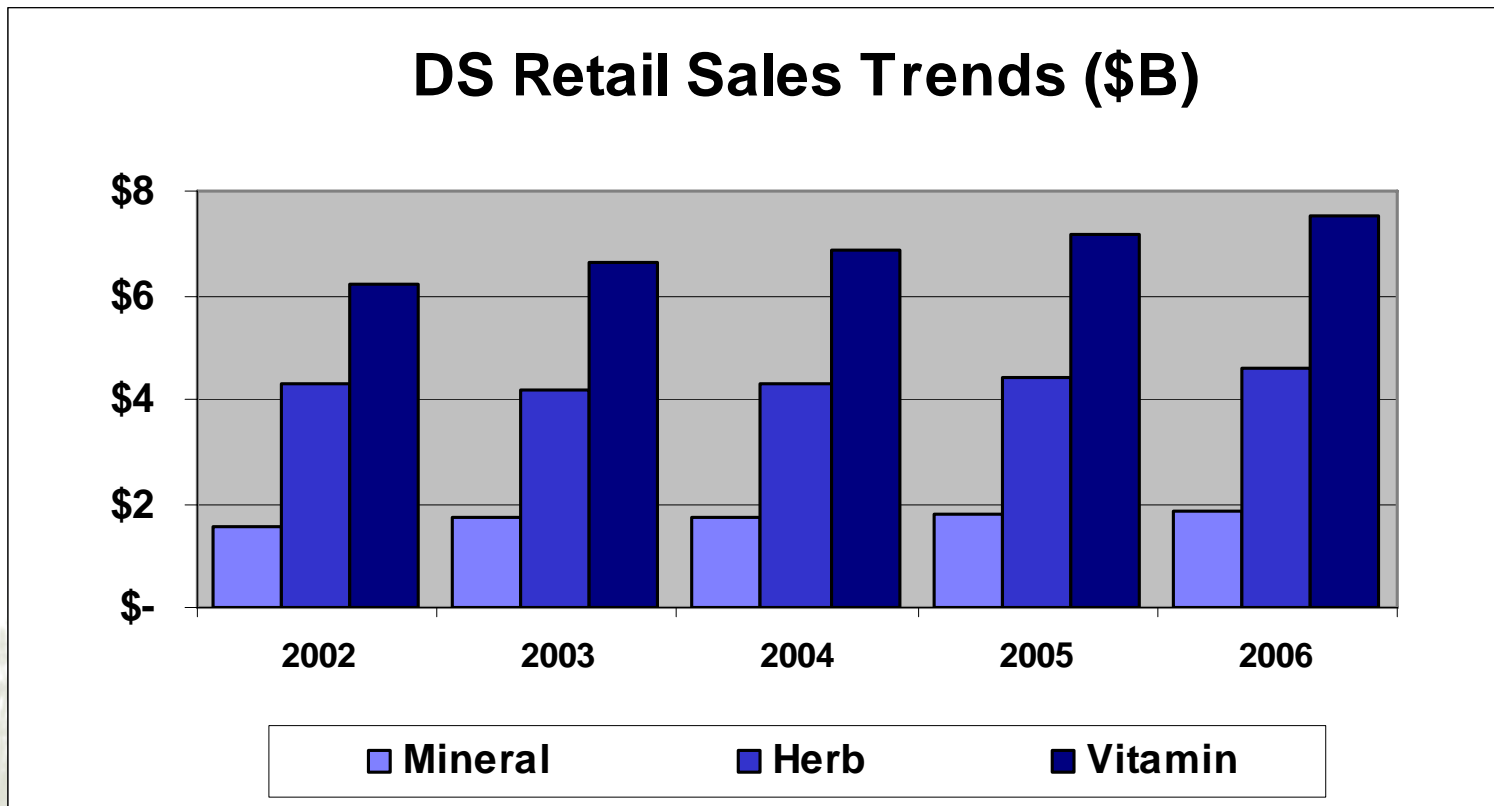
DS Sales Trends: All

All data from Nutrition Business Journal



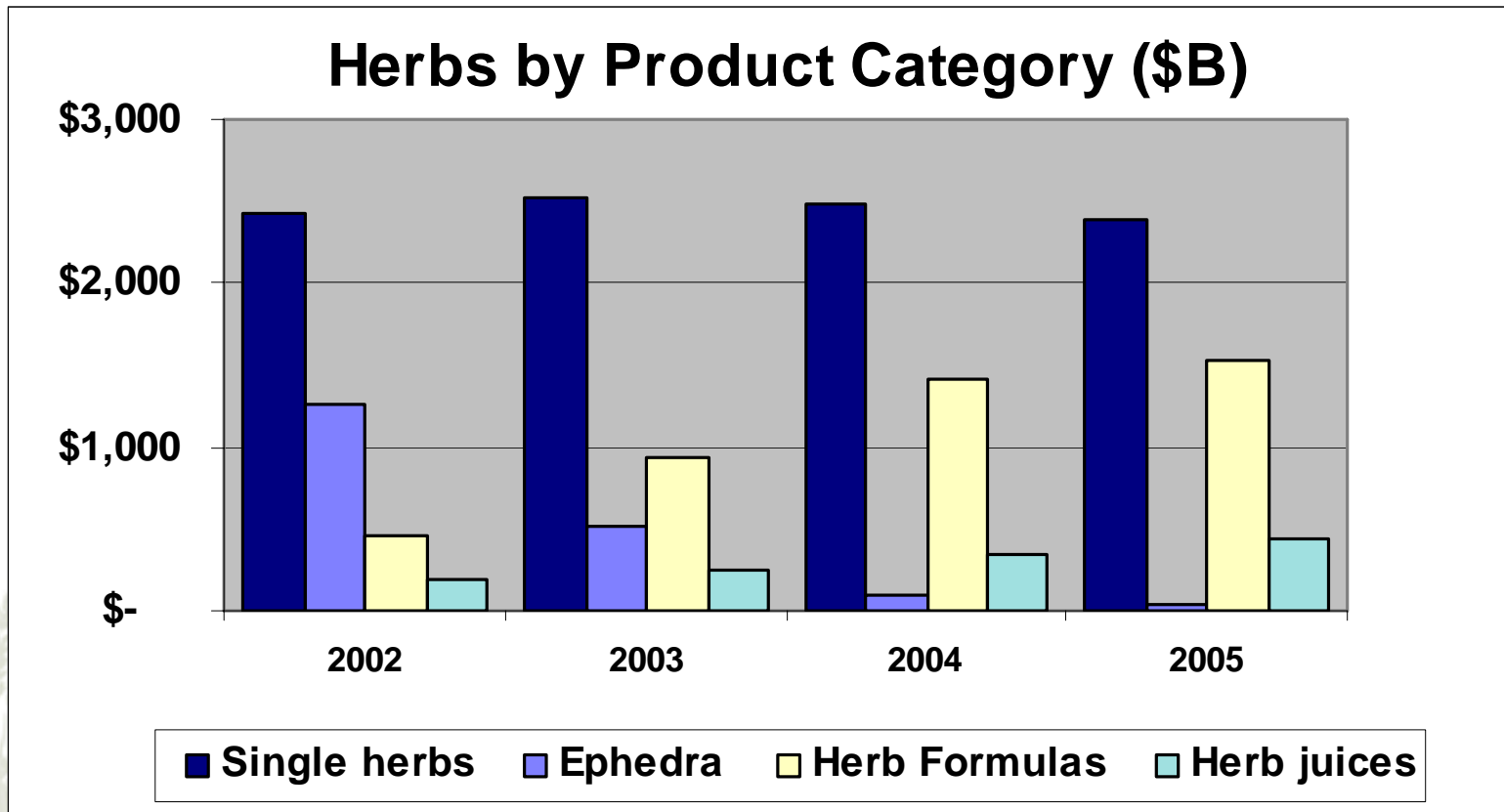
DS Sales Trends: Key Categories

All data from Nutrition Business Journal



Herb Sales Trends by Category

All data from Nutrition Business Journal



DS: Existing barriers to entry

- ❑ Facility registration required; submit online; no cost
- ❑ Basic understanding of federal and local laws is needed (FTC; USDA; DOT; OSHA; etc.)
- ❑ **NO** requirement for facility inspection
- ❑ **NO** requirement for product registration
- ❑ **NO** requirement for pre-approval of claims
- ❑ **NO** limitation on channels of trade
- ❑ **NO** positive list of ingredients
- ❑ **FEW** specifically unallowed herbal ingredients: ephedrine alkaloids; aristolochic acid; pyrrolizidine alkaloids

DS Ingredients 21 U.S.C. 321(ff)

21 U.S.C 321(ff): “... a product (other than tobacco) intended to supplement the diet that bears or contains a vitamin, a mineral, an amino acid, an herb or other botanical, a dietary substance for use by man to supplement the diet by increasing the total dietary intake, [or] a concentrate, metabolite, constituent, extract, or combination...”

“Mr. Chairman ... if someone wants to put sawdust in a bottle and sell it for \$14, it is okay with me as long as they don’t put a claim that it is useful to prevent cancer, heart disease, diabetes, or arthritis.” FDA Commissioner David Kessler, 1993.

DS Ingredients 21 U.S.C. 321(ff)(3)(B)

Enforcement history: Unallowed herbal ingredients

- In 2001, Federal Trade Commission required “external use” labeling for comfrey (*Symphytum* spp.); FDA issued advisory that “dietary supplements that contain comfrey or any other source of pyrrolizidine alkaloids are adulterated...”
- Product recalls and FDA import alert since 2001 on DS containing aristolochic acid
- Ephedrine alkaloids classified by FDA as representing an “unreasonable risk” when present in DS in any amount; banned in 2004

DS Ingredients 21 U.S.C. 321(ff)(3)(B)

Enforcement history: Pharmanex and Cholestin®

- ❑ Marketed as a dietary supplement; contained “red yeast rice” (*Monascus purpureus*) standardized to lovastatin
- ❑ FDA disagreed (May 1998):

“FDA based its decision on the fact that Cholestin contains lovastatin -- an active ingredient in the approved prescription drug Mevacor used to lower cholesterol levels. Under the terms of the [FFDCA], as amended by [DSHEA], Cholestin is not a dietary supplement because lovastatin was not ‘marketed as a dietary supplement or food’ before FDA approved Mevacor as a drug.”

“The law is intended to maintain incentives for companies to establish the clinical safety and efficacy of drug products. FDA believes that today's decision furthers that result.”

DS Forms 21 U.S.C. 321(ff)(2)

Enforcement history: Unallowed forms

- Ener-B (1995): Nasally administered Vitamin B-12
"The ordinary and plain meaning of the term 'ingestion' means to take into the stomach and gastrointestinal tract by means of enteral administration."
- Gold root extract (2002): Lozenge or gum
"An article that is delivered orally, but that exerts its effect prior to being swallowed (for example, a gum or lozenge that stimulates salivation) is not 'intended for ingestion.'"

DS Forms 21 U.S.C. 321(ff)(2)

Enforcement history: Unallowed representation

- Celestial's Zingers to Go[®] Tangerine Orange Wave Herb Tea (2007): Powdered blend containing stevia

The product *"is represented as a conventional food within the meaning of ... 21 U .S.C. 321(f)."*

"The label declares 'Iced Tea Mix' adjacent to the words 'Herbal Supplement' on the ... PDP"

"The label states that [the product is] an easy and delicious all-natural way to get your daily eight glasses of water ... [and] the product is 'a sunny combination of the flavor of tangy tangerines and juicy oranges with refreshing, naturally caffeine free herb tea.'"

DS Claims (DSHEA) 21 U.S.C. 343(r)(6)

- “Statements of nutritional support”
- Claims a benefit related to a classical nutrient deficiency disease and discloses the prevalence of such disease in the U.S.;
- Describes the role of a nutrient or dietary ingredient intended to affect the structure or function in humans;
- Characterizes the documented mechanism by which a nutrient or dietary ingredient acts to maintain such structure or function;
- Describes general well-being from consumption of a nutrient or dietary ingredient.

DS Claims (DSHEA) 21 U.S.C. 343(r)(6)

- The manufacturer of the supplement must have substantiation that such statement is truthful and not misleading.
- Required labeling: "This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease."
- Must notify FDA "no later than 30 days after the first marketing of the dietary supplement with such statement that such a statement is being made."

Unallowed Claims 21 U.S.C. 343(r)(6)

- ❑ Any statement that claims to diagnose, mitigate, treat, cure, or prevent a specific disease or class of diseases – even if truthful and well substantiated.
 - ❑ Antacid claims for recurrent or persistent heartburn
 - ❑ Sleep aid claims that imply treatment of insomnia
 - ❑ Stimulant claims that imply treatment of narcolepsy or chronic fatigue syndrome
 - ❑ Laxative claims that are promoted for chronic or persistent constipation
 - ❑ Cholesterol-lowering claims

Examples of DS Claims

■ Acceptable claims for **Ginkgo**:

■ "Improves memory."

■ "Maintains health blood vessel tone."

■ Unacceptable claims for **Ginkgo**:

■ "...may be effective in treating Alzheimer's disease, as well as dementia."

■ "Inhibits the clumping of blood platelets."

Examples of DS Claims

■ Acceptable claims for **Garlic**:

- "Healthy circulation."
- "Immune support."

■ Unacceptable claims for **Garlic**:

- "...supports healthy low-density lipoprotein levels...."
- "...may kill antibiotic-resistant bacteria."
- "...a good protective agent against flus and colds."

Examples of DS Claims

- Acceptable claims for **Echinacea**:
 - “Supports the immune system.”
 - “Supports healthy immune function.”
- Unacceptable claims for **Echinacea**:
 - “...often used to fight colds and infections.”
 - “Over 300 studies have shown that Echinacea provides wound-healing, anti-inflammatory and anti-viral activity.”

Examples of DS Claims

■ Acceptable claims for **Elderberry**:

- "Promoting health during the winter season."
- "Popular during the winter."

■ Unacceptable claims for **Elderberry**:

- "...reduces the duration of flu by half."
- "...reduces the severity of flu symptoms."



Examples of DS Claims

■ Acceptable claims for **Saw palmetto**:

■ "...supports a healthy prostate."

■ "...inhibits 5-alpha reductase activity."

■ Unacceptable claims for **Saw palmetto**:

■ "...for benign prostatic hypertrophy (BPH)."

■ "...improves urine flow in men over 50."

■ ...or any other statement related to symptoms "that are recognizable to health care professionals or consumers" as being characteristic of BPH

Conclusions: Herbs as DS in U.S.

- Very wide variety of herbal ingredients allowed
- Barriers to entry are low
- Barriers to competitors entries are also low
- No market exclusivity for long-established herbs
- Market exclusivity for proprietary products (extracts; unique formulas; novel uses) possible, and expensive
- No “drug” claims allowed, even if well substantiated

THANK YOU!

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American Herbal Products Association

THE VOICE OF THE HERBAL PRODUCTS INDUSTRY