

IN SUMMARY PHYTOESTROGENS

PHYTOESTROGENS

Dietary Supplements

- 1994 Dietary Supplement and Health Education Act (DSHEA)
- Don't have to be proven safe
- Don't have to be proven effective
- No guarantee that drug is what the label states
- May not be removed from market
- FDA must prove it will create medical problem
- No manufacturing standards
- No processing, harvesting, packaging standards

Anatomy of Requirements

- Identity
- Net quantity of contents
- Structure-function claim
- Directions for use
- Supplemental facts panel
- Name and place of business of manufacturer

Definition of a Dietary Supplement

- Any product intended for ingestion as a supplement to the diet
- Minerals
- Vitamins
- Herbs
- Botanicals and other plant derived substances
- Amino acids
- Metabolites, constituents and extracts of these

Definition of Drug

- Diagnose
- Cure
- Mitigate
- Treat
- Prevent

Clinical studies

- Efficacy
- Safety
- Interactions
- Dosages

Nutrition Support Claim

- Describe link between nutrient and deficiency disease
 - Calcium builds strong bones
 - Antioxidants maintain cell integrity
 - Fiber maintains bowel regularity

Structure-Function Claims

- This statement has not been evaluated by the FDA
- This product is not intended to diagnose, treat, cure, or prevent any disease.
- Based on review of literature and interpretation of scientific findings
- May be used without FDA authorization
- Must be true and not be misleading

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Ginkgo Biloba

- Oldest living tree species
- 150-200 million years
- Chinese monks kept as sacred herb
- Brought to Europe in 1700's
- One of the best researched herbs in the world
- Over 300 studies showing possible benefits
 - Enhances memory
 - Vertigo
 - Tinnitus
 - Neurological and circulatory ailments
 - Mental fatigue
 - Increases circulation in brain and boosts oxygen consumption
 - Increases cardiac output
- Diseases that are treated
 - Alzheimer's
 - Lack of concentration
 - Absentmindedness
 - Confusion
 - Lack of energy
 - Depression
 - Anxiety
 - Dizziness
 - tinnitus

GINSENG

- Family Araliaceae Genus Panax
- 55 genera and 700 species
- Herbs, trees and shrubs
- Tropical and temperate climates
- High conc. In American tropics and Indo-Malaysia
- Native to China
- Eastern and central North America
- Used by American Indians
- "Wonder of the World"
- Panax derived from the Greek Panakos (a panacea)
- Virtue ascribed to it by the Chinese who used it for almost anything

PHYTOESTROGENS

- Non-steroidal compounds found in plants
- Ability to bind and activate estrogen receptors
- Activity weak
- Isoflavones
- Lignans
- Coumestans

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- **BLACK COHOSH**
- Cimifuga racemosa
- Black Snakeroot
- Bugbane
- Rattleroot
- Rattleweed
- Squawroot
- USA and Canada
- Root and rhizome – dried and not fresh
- Anti-spasmodic, emmenagogue, hypertensive
- Extract of dry rhizomes and roots of Cimicifuga racemosa (Actaea racemosa)
- Native to eastern North America
- Cimex (latin) – a kind of bug
- Fugare – “to put to flight”
- Bugbane
- Strong odor
- Placed in mattresses and pillows in Eurasia
- Cohosh – Algonquin – “rough” – lumpy rhizomes

Estrogenic Effects

- Binds directly to estrogen receptors
- Suppresses LH
- May not suppress FSH
- No advantage over commercial estrogens

Soy & Cholesterol

- NO influence of endothelial function or lipid profile
 - Soy free animals had larger testes and greater sperm development
 - Genistein reversed effect of soy free diet
 - Plasma FSH levels were proportional to spermatogenesis
- No significant effect on bone turnover
- No change in breast epithelial proliferation, E & P receptors, mitosis
- NO EFFECTS ON VAGINAL CYTOLOGY OR ENDOMETRIUM

FUNDAMENTAL QUESTIONS

1. Describe the basic types of phytoestrogens?
2. Name some commonly used estrogenic plants.
3. How effective are phytoestrogens in relieving hot flushes?
4. What is the difference between a “drug” and a “food additive”?
5. Why may some phytoestrogens preparations work in one woman and not another?
6. What are the known risks of taking phytoestrogens?
7. Describe the history of phytoestrogen use?
8. What is black cohosh? Where does it come from? Does it work?