

Office of Dietary Supplements Update

National Institutes of Health,
U.S. Department of Health and Human Services

Special points of interest:

- DSID Project Kick-Off
- Dr. Johanna Dwyer Joins ODS
- Third Annual Bibliography Published
- 2003 ODS Grant Recipients Announced

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Dietary Supplement Ingredient Database (DSID) Project

The Office of Dietary Supplements, under an interagency agreement led by NHLBI with the USDA Agricultural Research Service (ARS), is creating a Dietary Supplement Ingredient Database (DSID) in parallel with ongoing USDA research efforts to seek improvements to the National Nutrient Databank.

After DSHEA was passed in 1994, dietary supplement sales grew by nearly 80%. U.S. government surveys have found that one-half to one-third of adults took vitamin and mineral supplements everyday between 1994-2000. The overall objective of the DSID project is to create a publicly accessible database that provides accurate values for the content of commonly used dietary supplements.

The prevalence of dietary supplement usage is currently being monitored by the National Center for Health Statistics (NCHS) for the *NHANES: What We Eat in America* initiative. The database contains information primarily from the labels of dietary supplements. “No broad-based verification of the ingredients in dietary supplements currently exists,” says Dr. Johanna Dwyer, Project Director for DSID.

The DSID will be an analytically tested and verified dietary supplement database. DSID will report the results of a systematic survey of supplement composition, including chemical analyses, of ingredients and indicators of data quality. The DSID

will be incorporated into the National Nutrient Database for Standard Reference maintained and managed by USDA’s Nutrient Data Laboratory (NDL). Key experts at USDA ARS who will lead the project include, Joanne Holden, MS, Research Leader, Nutrient Data Laboratory, and Karen Andrews, BS and Lucy Zhao, MS.

The development of a quantitative database for nutrients and other compounds in dietary supplements will play a critical role in national research studies. These include assessments of total intake from diet and supplements and the relationship between supplements and diet.

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Dr. Johanna Dwyer Joins Office

The ODS welcomes Johanna Dwyer, PhD, RD who joins as a visiting senior scientist. Among her responsibilities, Dr. Dwyer will lead the development of the Dietary Supplement Ingredient Database (DSID).

Dr. Dwyer comes to us from the Frances Stern Nutrition Center (FSNC) at Tufts-New

England Medical Center Hospital, where she is the Director. She is also a professor of medicine at the Friedman School of Nutrition Science and Policy and at the School of Medicine, Tufts University, as well as a senior scientist at the Jean Mayer Human Nutrition Research Center on Aging at Tufts.

Dr. Dwyer holds numerous honors and adjunct academic appointments, has been editor of several prestigious journals, published hundreds of papers, and presented at more than a hundred symposia.

ODS is honored to have Dr. Dwyer on staff and working on this pivotal project.

Fact Sheets: Vitamin A and Osteoporosis Science Update

The vitamin A fact sheet has been revised to reflect new research published on vitamin A and osteoporosis.

Several studies published in the last few years show that intakes of vitamin A above the recommended dietary allowance (RDA) may be harmful to bone health. The RDA of vitamin A for adult men and women is 900 mcg (3000 IU) and 770 mcg (2330 IU) respectively and

the upper limit for all adults is 3000 mcg (10,000 IU).

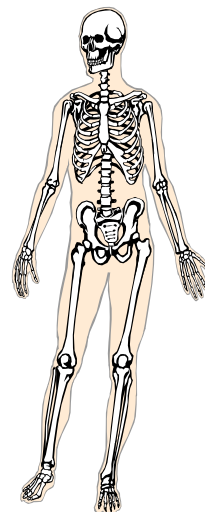
A study in the *New England Journal of Medicine* in 2003 was the first to look at retinol levels as a risk factor for fracture. The study found that high blood levels of retinol increased the chance of fractures in men. High vitamin A intake does not necessarily equate to high serum retinol; serum retinol is regulated by other factors than

vitamin A intake, including age, gender, hormones and genetics.

Additional research is needed to clarify the association between high levels of vitamin A intake from food and supplements and osteoporosis.

You can access the revised fact sheet at:

<http://ods.od.nih.gov/factsheets/vita.html>



2003 Research Grants Announced

The 2003 research grants have been announced. ODS was pleased to award 17 new grants and extend more than 50 grants awarded in 2002. This year's grant funding accounted for approximately 57% of the total ODS budget for FY 2003.

The ODS research grants are co-funded with NIH institutes and centers. Below you will find a partial list of grants. Visit the ODS Web site at <http://ods.od.nih.gov/index.aspx> for a complete list of the 2003 grant recipients.

Selected 2003 Grants:

-Shay, NF, "Soy supplements and cholesterol lowering drugs" (with NCCAM)
University of Illinois at Urbana Champaign

-Van Breeman, RB., "Mechanisms of prostate cancer prevention by lycopene," (with NCI)
University of Illinois at Chicago

-Szapary, PO., "Chromium picolinate in the metabolic syndrome" (with NIDDK)
University of Pennsylvania

-Nakanishi, K., "Neuromodulatory effects of ginkgolides and bilobalide" (with NIMH)
Columbia University

-Hensley, K., "Nitric oxide damage to folate cycle in the CNS" (with NINDS)
Oklahoma Medical Research Foundation

-Hambidge, M., "Zinc nutrition and brain development in southern Ethiopia." (with FIC)
University of Colorado Health Sciences Center

"Funding research continues to be a key priority of the Office of Dietary Supplements. Research is integral to determining the role that these nutrients play in health and disease."

Dr. Coates, Director of the Office of Dietary Supplements

Publications

ODS-SUPPORTED RESEARCH:

Choline

Zeisel SH, Mar MH, Holden JM, "Concentration of choline-containing compounds and betaine in common foods," *J Nutrition* 2003; 133(5): 1302-1307.

Black Cohosh

Johnson BM, van Breeman RB, "In vitro formation of quinoid metabolites of the dietary supplement *Cimicifuga racemosa*

(black cohosh)," *Chem Res Toxicol* 2003;16(7): 838-846.

Medicinal Herbs

Scott GN, Betz J, Yetley EA, Smith CS, "Medicinal Herbs and dietary supplements," *Toxicol Sci* 2003;72(1):7 Suppl.

OTHER:

2002 Annual Bibliography of Significant Advances in Dietary Supplement Research

The latest bibliography will be available at the ODS booth (#1315) at the ADA meeting in San Antonio, October 26-28. The November issue of *ODS Update* will highlight the details of this publication.

Dietary Supplement Use in the Elderly: Conference Summary

Conference highlights from this symposium held January 14-15, 2003 are available with help from the Foundation for the National Institutes of Health, an event sponsor, and Virgo Publishing Inc., an event partner. Order free copies by emailing ods@nih.gov.

ODS-Supported Botanicals Research Presented

SupplySide West

NIH was prominently featured on the agenda at this major supplement industry trade show held October 1-3 in Las Vegas. One entire day was devoted to NIH-funded research presentations and other NIH programs, including the Small Business Innovation Research (SBIR) program.

The latest botanical research was presented from the six NIH-funded Dietary Supplement Research Centers:

- Iowa State University/ University of Iowa
- Purdue University/ University of Alabama-Birmingham
- University of Arizona
- University of California, Los Angeles
- University of Illinois at Chicago
- University of Missouri

Research topics included soy isoflavones, tea catechins, grape seed extract, ginger, turmeric, St. John's wort, black cohosh, and echinacea.

This was also the first time that ODS exhibited at an industry trade show. ODS co-exhibited with the NIH Foundation.

For more information on SBIR, visit <http://grants1.nih.gov/grants/funding/sbir.htm> and the ODS Web site for more information on the Dietary Supplement Research Centers.



Calendar

ODS Exhibits

Oct 25-28, American Dietetic Association
San Antonio, TX

Nov 7-9, Pri-Med East
Boston, MA

Nov 15-19, American Public Health Association
San Francisco, CA

Joint ODS and IBIDS exhibit

Symposia Calendar

The following upcoming symposia are organized by NIH.

Oct 21, 7:00pm, When Too Much Iron is Bad; Hemochromatosis, the Silent Blood Disease, NIH Clinical Center, *Masur Auditorium*. (<http://www.cc.nih.gov/cc/mfp/current/index.html>)

Oct 22, 12-1pm, NCCAM Distinguished Lecture Series: Herbal Medicine, Ancient Practice Meets Modern Science (Norman Farnsworth, PhD). *Masur Auditorium*. ([http://](http://nccam.nih.gov/news/lectures/upcoming.htm)

nccam.nih.gov/news/lectures/upcoming.htm.)

Oct 23, 1-3pm, Women's Health Research for the 21st Century: Alcohol (ORWH) - *Lipsett Amphitheater*. (<http://www4.od.nih.gov/orwh/2003Seminars.pdf>)

Oct 28, 7pm, NIH Medicine for the Public Lecture. Complementary and Alternative Medicine: From Practice to Proof. *Masur Auditorium*. (<http://nccam.nih.gov/news/upcomingmeetings/index.htm>)

Dec 9, 1-3pm: Women's Health Research for the 21st Century. *Boning Up on Osteoporosis: Emerging Therapies for Prevention and Treatment*. (ORWH) - *Masur Auditorium* (<http://www4.od.nih.gov/orwh/2003Seminars.pdf>)

Analytical Methods Program Featured at AOAC Meeting

Joseph Betz, PhD, Director, Dietary Supplements Methods and Reference Materials Program at ODS chaired a session on September 16 at the 17th Annual AOAC meeting in Atlanta. The session, entitled "Botanical Reference Materials: Expectations and Reality", was the third in a series of meetings discussing botanical supplements. This year's topic specifically focused on

problems associated with analysis of natural products, specifically identification, analysis and availability of reference materials.

In 2002, Congress requested that the ODS allocate sufficient funds to speed up an ongoing collaborative effort to develop and disseminate validated analytical methods and reference materials for the most commonly used botani-

cals and other dietary supplements. The topic of this presentation at the AOAC meeting helped to explore and expand issues in this field.

A poster session on September 17 at the AOAC meeting highlighted research on botanicals from the NIH-funded Dietary Supplement Research Centers. For more information on the AOAC Meeting, go to <http://www.aoac.org>.





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Upcoming Features and Announcements

Next Issue:

- **Vitamin D Conference Highlights**
- **Additions to IBIDS**
- **ODS Strategic Plan Update**
- **2002 Annual Bibliography Summary**

DSID Project, continued from page 1...

The DSID project was born out of the ODS-sponsored workshop, "Future Directions for What We Eat in America—NHANES: The Integrated CSFII-NHANES" that took place June 20-21, 2002. The proceedings were published in the *Journal of Nutrition* in 2003 and links to the abstracts and full text articles can be found on the ODS Web site at <http://dietary-supplements.info.nih.gov/showpage.aspx?pageid=153#pubs>.

Phase I of the project, which included background research, is winding down. Phase II will involve:

- Identifying and ranking dietary supplements for priority in sampling and analysis.
- Consulting with statisticians to plan for the collection of representative samples of dietary supplements.
- Identifying qualified laboratories and laboratory methods for the preparation and analysis of dietary supplements.

"The availability of accurate and precise data on the nutritional components of dietary supplements will aid scientists in identifying dietary risk factors for acute and chronic diseases and guide the population in making choices for a healthful diet," says Mary Frances Picciano, Ph.D, senior nutrition research scientist at ODS.

The database is expected to be available for public access in 2005. ODS will periodically post updates on the status of the database.