

TXA News

December, 1998

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GENERAL NEWS

***A Self-Study Inservice: Textile Science for Consumers**

Charlotte Coffman

Answering consumer questions are part of every CCE educator's job. Some counties maintain a consumer

hotline; others refer the questions to a specialist. If you frequently serve as the textile/apparel specialist, your job would be easier if your county owned an up-to-date reference. **This inservice offers you the chance to obtain and explore such a reference without leaving your office.**

TXA is offering a self-study inservice by mail (or email) from February 15 to April 15. Participants will be supplied *Textile Science*, a highly respected textbook by Kathryn Hatch that covers a wide range of textile/clothing issues. Study packets of five questions each will be mailed to arrive by February 15 and March 15. Participants will have one month to locate and return the answers. Those who complete the study packets by April 15 may keep the book at no extra cost; those who do not complete the study packets will be charged an extra \$60 to help defray the cost of the book (list price is \$81). All participants will be charged an initial \$10 registration fee. Limit one entry per county.

Please see the enclosed registration forms for additional details or contact Charlotte Coffman, Tel: 607-255-2009, Fax: 607-255-1093, Email: cwc4@cornell.edu. Registration deadline is January 15, 1999.

**Thanks to Joyce Smith, Extension Clothing Specialist, and Marge Wolford, Extension Family & Consumer Science Agent, from the Ohio State University Extension for sharing this idea.*



Cornell Design League Sets April Show

The Cornell Design League has selected April 17, 1999, for their Annual Spring Fashion Show. In the past, 4-H clubs and textile/clothing project groups have enjoyed attending this fun event. Mark your calendars now.

Chemistry at the Mall

The American Chemical Society sponsors an annual National Chemistry Week to increase public awareness of the importance of chemistry in our daily lives. This year, the Department of Textiles & Apparel had three exhibits in the Ithaca Chapter's Chemistry at the Mall:

1. Fibers and their applications
2. Indigo dyeing
3. Recycling soda bottles into polyester fiber for carpets and fleece fabrics

TXA faculty, graduate students, and undergraduate students worked together to make this a successful event. The event was well attended by people of all ages.



Resource Corner

Dressing for Independence

Jean Pompelli's 123-page book explains how to adapt children's patterns for kids with special needs. Also included are ideas for modifying ready-to-wear clothing and for promoting self-dressing skills. Published by Wings Way, the book is available from Books Now at 800-BOOKS-NOW, Ext. 8210 or at the web site www.booksnow.com/sewnews. The cost is \$14.95.

Bargains from Cornell Resource Center

The following TXA publications are on sale for \$1 until December 15, 1998.

1.) 329WQFS set of 4 water quality publications:

- 329WQFS1-2 Drinking Water Standards
- 328WQFS3 Water Test Interpretation
- 329WQFS4 Home Water Testing
- 329WQFS5 Drinking Water Treatment Guidelines

2.) 329CHAMP Championship Material manual

3.) 329CPSN Clothing for People with Special Needs

All publications will be sent through pouch mail. They may be ordered from:

Email: pee3@cornell.edu

Fax: 607-255-9946

Tel: 607-255-7660

Internet: <http://www.cce.cornell.edu/publications/catalog.html>

Youth Textiles & Sewing Curriculum

Among the fall 1998 publications from the 4-H Cooperative Curriculum System is *Sewing and Textiles*, a four publication series. Three youth guides and one helper's guide discuss a wide range of clothing topics. Those include sewing, recycling, consumer decisions, apparel care, and textile science. Although sewing projects are part of the package, this is not a how-to-sew curriculum. Instead, users are expected to refer to *Let's Sew* by Nancy Zieman, a book already in use in most NY counties. Advanced sewers will have to search for other references.

The books are reasonably priced at \$2.75 each plus a shipping charge. They can be purchased from:

4-HCCS Distribution Center
20 Coffey Hall, 1420 Eckles Ave.
University of Minnesota
St. Paul, MN 55108-6069
Tel: 612-625-8173
Fax: 612-625-6281,
Email: order@extension.umn.edu

or
National 4-H Council/Supply Service
c/o Crestar Bank
PO Box 79126
Baltimore, MD 21279-0126
Tel: 301-961-2934
Fax: 301-961-2937
Email: 4hsupply@fourhcouncil.edu

Useful Websites

- www.intfab.com International Fabric Collection
- www.fairchildbooks.com Fairchild books
- www.culturenet.ca/CostumeSocietyAmerica/ The Costume Society of America
- www.galaxymall.com/commerce/sewing_patterns Easy Sewing Patterns.
- www.whats-new-mag.com What's New Magazine that is written for teachers of home economics and family and consumer science.
- <http://www.human.cornell.edu/txa/outreach.cfm> TXA Extension programs. Although "under construction," this site provides a good overview of our extension efforts.
- <http://txnc170.human.cornell.edu/> Occupational Safety and Health through the Use of Protective Clothing. This site explains the research and educational effort of the USDA Regional Research NC-170 Project of which TXA is a member. It also provides useful consumer information related to personal protective equipment.



APPAREL INDUSTRY OUTREACH

Apparel and Sewn Products Industry Newsletter Debuts

Fran Kozen

The first issue of *topstitch*, a newsletter for the apparel and sewn products industry in New York State, was mailed to nearly 500 manufacturers in the state in early November. The newsletter will be published twice a year by the Apparel Industry Outreach Program, newly established in the TXA Department under the direction of Suzanne Loker. The newsletter will be a forum for presenting information of interest to the industry, answering questions posed by industry, and identifying resources at Cornell and elsewhere in the state that could be useful to the industry. It will serve a major function of creating awareness of the Apparel Industry Outreach Program.

We always appreciate knowing about apparel and sewn products companies or any size in your county. It is difficult to maintain an accurate database of these companies, due to frequent restructuring, a lag in reporting to census sources, and other factors. Therefore, information on new companies, or on company closings in your area would be helpful to us, so we can reach as many as possible with our newsletter.

A summary of activities of the Apparel Industry Outreach Program will be included in TXA News periodically, and a copy of *topstitch* may be included once a year. If you would like to be a regular recipient of all issues of *topstitch*, please indicate that on your TXA News subscription form or contact Fran Kozen, fhk2@cornell.edu, or 255-0465. If you are interested in the activities of the Apparel Industry Outreach Program, you might also want to look at our Web site: www.human.cornell.edu/TXA/extension/appind/ . If you have additional questions about the program, contact Suzanne Loker at SL135@cornell.edu, or 255-6204.



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YOUTH PROGRAMMING

4-H'ers Win 1998 State Contest

*Priscilla Van Gorder**

The New York State Make It With Wool Contest held on November 1, 1998 in Cobleskill, NY turned out to be a big success for Oswego County 4-H. The event was sponsored by The American Sheep Industry and although it was not primarily a 4-H event, there were many 4-H members present. The counties of Rensselaer, Schoharie, Wyoming, Jefferson, and Oswego were represented.

The Wool Contest is an annual competition in which contestants are judged on workmanship and suitability of the garment on the individual. Participants take part in a fashion show at the end of the judging, in a manner very similar to our Textile/Clothing Revue. Many fine garments were entered in this contest and the judges congratulated the contestants on their sewing skills. All participants were awarded textile-related gifts and wool fabric.

Oswego County 4-H is pleased to announce that Angus Saunders received first in the Senior Division for his tuxedo and vest. Angelie Bouffard was second with a two-piece historical costume. Laura Saunders placed first in the Junior Division with a two-piece fitted suit, and Sarah McGinley received third. Patricia Hurd also placed highly in the Pre-teen Division. Angus and Laura Saunders will be representing New York at the National competition in Denver, Colorado in January. We congratulate our two winners and encourage other 4-H members to participate in next year's competition.

**Priscilla Van Gorder is an Extension Educator for Cornell Cooperative Extension in Oswego County.*



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A Style of Your Own Hits the Road

Charlotte Coffman

A Style of Your Own is the title of a clothing decisions curriculum now under development through the 4-H Cooperative Curriculum System. Intended for youth, grades 7-12, it includes fiber science, apparel design, and resource management and uses that knowledge to develop decision-making skills, consumer confidence, and personal satisfaction. The series contains two youth guides, *Discovering Choice* for youth in grades 6-8 and *Managing Choice* for youth in grades 9-12.

The pilot version was sent to 25 sites for editing and testing. Feedback is expected by February. The pilot version was also included in the 4-HCCS exhibit at the National Association of Extension 4-H Agents conference in Louisville, KY, and was presented at the Extension Workshop of International Textile & Apparel Association Conference in Dallas, TX.



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TEXTILE TECHNOLOGY

Enzymes for Cleaning

Charlotte Coffman

Enzymes used in cleaning products are a \$600,000 a year business, and the market is growing. Enzymes are included in about 60% of US laundry detergents and in about 85-90% of European detergents. Enzyme usage in automatic dishwasher detergent is substantially lower. About 20% of European dishwashing products contain enzymes; only two US products list enzymes as an ingredient.

Enzymes are popular because they work. Enzymes remove stains, prevent redeposition of removed soil, aid in whitening and brightening, and soften fabrics. In addition, they are highly efficient—generally used in small concentrations of 0.5-1% (by weight).

The four primary types of detergent enzymes are: proteases, amylases, lipases, and cellulases. Proteases, the most prevalent enzyme type, break down protein soils. Amylases break down starch for stain removal and also have an anti-graying effect with repeated washings. Cellulases help color maintenance, softening and reducing graying because of their depilling effect on cotton. They open fibers for particulate soil removal, leading to enhanced whiteness. Lipases break down fats and are often used in liquid detergents as prespotters.

Over the last few years, biotechnology has progressed so that most enzymes are "protein engineered." Companies can substitute amino acids in the gene sequence to gain the desired performance. Gene banks containing thousands of enzymes are also available. Once the desired enzyme has been determined, it can be produced by an organism under industrial conditions. These new tools enable improvement of existing enzymes as well as development of new detergent enzyme families.

Resources:

I. Zweig, J. E. Enzyme Update, Newsletter, The Surfactants & Detergents Division, The American Oil Chemists' Society, Champaign, IL. pp 4, July, 1998.


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Indigo Dyeing: Got the Blues?

Melania Nice and Charlotte Coffman*

Since 25,000 BC, cultures around the world have been using the natural plant dye, indigo, to color yarn, cloth, garments, and even themselves, an intense blue. Until recently, the process of indigo dyeing was based on trial and error, oral tradition, and mystery. It was not until 1897 that this ancient dye was available in synthetic form. Today, synthetic indigo is used to dye the American staple--denim blue jeans. The natural plant extract is still used by artists and craftspeople all over the world.

The indigo color comes from the chemical indican found in a variety of plants including the common woad plant. The chemical is extracted from the leaves and then dried in powder form. Indican is not soluble in water and therefore does not bond readily with fiber. Therefore a dye bath that reduces or ferments the indigo is required. Historically this was achieved by adding natural reducing agents such as bran, oatmeal, and even urine to cause composting of the plant material by hydrogen producing bacteria. Today, sodium hydrosulfite and sodium hydroxide do the trick.

These chemicals remove the oxygen in the dye bath allowing the free hydrogens to bond with the indigo creating a light green, soluble dye. When the textile is submerged in the dye bath, the indigo is absorbed. When the textile is removed, an oxidation reaction occurs as the hydrogens bond with oxygen from the air. The yellow-green color of the dye transforms to deep blue in front of your eyes! The indigo blue becomes insoluble and permanent. The longer the textile stays in the bath, and the greater number of times it is dipped into the bath (oxidized and reduced), the darker the color.

Indigo-dyed cloth should be rinsed with soap and water and allowed to dry. Future care should include laundering dyed garments separate from other clothes to prevent dye migration. Although, the color will lighten slightly over time, indigo dye is the only dye that achieves such a deep, dark blue color.

To learn more about indigo dyeing, its history, and its modern uses check out the listed resources or visit these websites:

- www.indigodye.org
- www.net-link.net/~rowan/woad.html

If you want to try your hand at dyeing with indigo, both the synthetic and natural dye can be obtained from

Dharma Trading Company, Box 150916, San Rafael, CA 94915, Tel: 415-456-7657 or 800-542-5227, Fax: 415-456-8747, Email: catalog@dharmatrading.com, Internet: www.dharmatrading.com.

Resources:

1. *Adosko, R. Natural Dyes and Home Dyeing, Dover Publications, NY, NY. 1971.*
2. *Miller, D. Indigo from Seed to Dye, Indigo Press, Santa Cruz, CA. 1984.*
3. *Polakoff, C. Into Indigo, Anchor Press/Doubleday, Garden City, NY. 1980.*

**Melania Nice is a TXA senior who works with extension programs and helped organize an indigo dyeing exhibit for National Chemistry Week.*



New Pattern Making Software for Home Sewers

Fran Kozen

A new pattern making software for home sewers, *Pattern Master*, is now available. It is priced competitively with others, at \$189 and runs on Windows or on SoftWindows or Virtual PC on the Macintosh. Pattern Master is the nicest of the home programs that I have tried. It requires about 20 measurements and include standard sizes as well. Patterns are built by selecting from preloaded elements, as for some of the others, but this program contains a huge variety of built-in styles, greatly increasing the variety of garments possible. Right now, women's blouses, dresses, sheaths, skirts, pants, jumpsuits, coats and jackets are available. Children's and men's tailored patterns are in the works. Pattern Master is a program designed by Wild Ginger Software, Inc., a company successfully selling more complex pattern making software to industry. They can be contacted at:

Wild Ginger Software, Inc.

2817 Lebanon Pike #201

Nashville, TN 37214

1-888-WAY-WILD

www.wild-ginger.com (demonstration can be downloaded)



CONSUMER ISSUES

High-Efficiency Clothes Washers

Charlotte Coffman

What does the phrase *high-efficiency clothes washer* mean to you? Faster cycles? Cleaner clothes? Less detergent? Automatic sorting? All of the above answers may be attractive, but the new high-efficiency washing

machines are designed to use less water and energy. Until now, the washing machine was the second largest indoor consumer of water in American homes.

The new machines are advertised as tumbler washers, horizontal axis washers or high-efficiency washers. Whatever the name, they have certain common characteristics:

- Tumbling action instead of agitation
- More rinses per wash cycle
- Water saving
- Energy saving
- Front loading with a horizontal drum

The tumbling action is more gentle, causing less pilling and color loss. It also improves circulation of items for more thorough cleaning and moves the clothing in and out of a shallow pool of water using less water. Some high-efficiency washers have as many as four rinses per wash cycle. This removes detergent residues and helps to prevent redeposition of soils.

Water usage per cycle is 11 to 32 gallons compared to 40-47 gallons for traditional agitator machines. This is a reduction in water use of about 40%. Manufacturers claim that consumers can save \$10 per month on water bills. Less water through the washers also means less waste water and lower sewer bills.

The new washers operate on 50-60% less energy than agitator models. Manufacturers estimate \$100 annual energy savings per household. High-efficiency washers remove more moisture from clothing, resulting in additional savings due to decreased dryer time.

Although all high-efficiency models to date are front loading, not all front-loading machines are efficient. Thus, the Consortium for Energy Efficiency has petitioned the Federal Trade Commission to eliminate loading style as a criterion in the energy guide label. The problem is that the efficiency of washers is compared only within product categories. Thus, the performance of front-loading models is compared and the performance of top-loading models is compared. Each model is given a ranking **within** its category but the performance of front-loading versus top-loading machines is not evaluated. This leads to confusing labels. For example, a top-loading model may be inefficient and carry a "Uses Most Energy" label that alerts consumers to wasteful energy and water consumption. It is also possible, however, for a very efficient top-loading model to carry a "Uses Most Energy" label simply because it is slightly less efficient than its front-loading competitors; yet, it is much more efficient than top-loading models. It might even sport conflicting labels—both the negative "Uses Most Energy" (uses more energy than similar models) and the prestigious "Energy Star" label (exceeds energy efficiency standards).

The "Energy Star" is awarded to appliances that exceed the federal energy efficiency standards. It is a special label designed by the US Department of Energy, the US Environmental Protection Agency, and appliance manufacturers to encourage consumers to purchase high-efficiency appliances. If only 20% of households use high-efficiency washers, carbon dioxide in the air would be reduced by more than five million metric tons—a change equivalent to retiring about one million cars.

If you are in the market for a new washing machine, ask your dealer for assistance in interpreting the energy guides, inquire about the Energy Star program, and explore special discount offers. For example, Maytag is

offering a \$100 rebate on horizontal axis washers to members of the American Association of Family and Consumer Sciences and the National Extension Association of Family and Consumer Sciences. It is also worthwhile to check these websites for late-breaking news:

- Energy Star Program www.energystar.gov
- ASKO www.asko.com
- CREDA www.creda.com
- FRIGIDAIR www.frigidair.com
- GENERAL ELECTRIC www.geconsumer.com
- GIBSON www.gibsoncompany.com
- MAYTAG www.maytag.com
- MIELE www.miele.com
- STABER www.staber.com

High-efficiency washers are now available at appliance dealers nationwide and new models are being introduced. Although the initial cost is higher, consumers should realize long-term savings on water and energy costs and help reduce environmental pollution.

Resources:

1. _____. Residential Clothes Washer, CCE Update, Consortium for Energy Efficiency, Inc., Boston MA. March, 1998.
2. Kenner, J. and Greer, B. The Latest in High-Efficiency Washing Machines, What's New in Home Economics, Family and Consumer Science, Philadelphia, PA. September/October, 1998.
3. Websites listed above.

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ENVIRONMENTAL ISSUES

Radon News

Katie L. DiTella

A recent study of the National Research Council suggests that radon ingested and released from drinking water poses few risks to human health even though people's overall exposure to the gas increases. This news contradicts the Environmental Protection Agency's (EPA) previous analyses of the risks posed by radon in drinking water.

The Research Council's congressionally requested study, *Risk Assessment of Radon in Drinking Water*, found that consuming water which contains radon is much less of a health risk than inhaling air with radon. The most common health threat from drinking water with radon is stomach cancer. According to

the Research Council, only 20 of the 13,000 stomach cancer deaths per year may result from drinking water that contains radon. No evidence exists which suggests that radon causes reproductive problems or birth defects, regardless of whether it is ingested or inhaled.

Whenever water is used in a home, radon easily transfers from the water to the air. However, this radon transfer adds only a small amount to overall indoor concentrations of the gas. The amount is considered small because of the relatively low volume of water used in homes, the large volume of air into which radon is emitted and the exchange of indoor air with outside air. The Research Council estimated that of the 19,000 deaths per year attributable to a combination of indoor radon and smoking, about 160 may result from inhaling radon emitted from household water.

The EPA's 1991 and 1994 reports of health risks from ingesting and inhaling radon in water differed from those of the Research Council's. For example, the EPA calculated that approximately 100 stomach, colon and liver cancer deaths may result annually from ingesting radon. However, the Research Council estimated 20 stomach cancer deaths.

Conversely, the EPA's reports of risks posed by inhaling radon released from water are lower than the Research Council's. The EPA's analyses suggested that 86 deaths may occur per year. The Research Council estimated 160 deaths per year. The Research Council reports that risk estimates differed because it used comparatively newer models with updated biological data on the cancer-causing effects of ingesting radon. Also, the Research Council considered recent findings from another Research Council report regarding health risks posed inhaling radon.

To minimize radon related health risks, the Research Council recommends that mitigation efforts focus on removing radon from indoor air. In general, much more radon enters households through soil beneath homes than through water. Lowering levels of radon in water alone will not significantly lower health risks for most individuals.

Resources:

1. National Research Council. *Risk Assessment of Radon in Drinking Water*. Washington, DC. National Academy Press. 1998.
2. Environmental Protection Agency. *Report to the United States Congress on Radon in Drinking Water*. Office of Water. March, 1994.



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EDITORS NOTE:

Autumn is an interesting season for educators. Just as nature seems to be winding down, classes and fall conferences are gearing up. I was impressed with the energy and focus of the CCE Statewide Conference in

Waterloo and with the optimism, content, and organization I witnessed at the NAE4-HA conference in Louisville, KY. My hope for 1999 is that I can sustain the enthusiasm and maintain the contacts from those conferences.

Charlotte W. Coffman, Editor
Senior Extension Associate

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