

TEXTILES AND APPAREL NEWSLETTER

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Announcing

Susan Darling Joins TXA

The Department of Textiles & Apparel welcomes Susan Elizabeth Darling, Extension Associate in the Water Quality program. She received her Master of Environmental Management in May of this year from Duke University, Durham, NC, and her Bachelor of Arts in 1998 from Amherst College, Amherst, MA.

Susan comes to Cornell with a wealth of experience in water quality issues. As a summer research fellow at Dartmouth College, she investigated the effect of cadmium on freshwater zooplankton. As a paralegal for the National Environmental Law Center in Boston, Susan conducted legal and scientific research and helped prepare briefs for Clean Water Act suits. At Duke University, she investigated the effects of public participation and procedural justice on environmental rule-making. Her work as a water quality intern at Massachusetts Water Resources Authority included analysis of data from sampling sites in Boston Harbor and reporting on changes in water quality of wastewater effluent.

Susan will work with Dr. Ann Lemley to coordinate and develop a water quality education program for small water system operators. She also will help coordinate the New York pilot of a food safety education project.

In her free time Susan plays the guitar and sings in the Cornell Women's Chorus.

EXPLORING FABRICS/FIBERS

Malden Mills

CHARLOTTE COFFMAN

I accompanied Priscilla Van Gorder and the Oswego County Creative Dimensions when they visited Malden Mills a few weeks ago. The main attraction was a tour of the operations that produce the famous Polartec and Polarfleece fabrics. We followed the polyester yarn through the knitting, dyeing, and brushing processes straight into the fabric outlet, from whence we emerged well laden.

Malden Mills is a family-owned textile mill in Lawrence, MA, with annual sales of \$400 million. Founded in 1906 by Henry Feuerstein, Malden Mills began as a supplier of fake fur items. When fur coats lost popularity in the 1980s, the company switched to synthetic fleece fabrics used in outdoor wear by clothing manufacturers such as Patagonia, L.L. Bean, and Eddie Bauer.

In 1995, the Malden Mills factory burned and the CEO Aaron Feuerstein became a hero to workers everywhere when he continued to pay company staff while the buildings were rebuilt. Unfortunately, Feuerstein spent all of the insurance money and borrowed an additional \$100 million to complete the project. Mired in debt, Malden Mills has filed for Chapter 11 protection from bankruptcy. Its fate is still uncertain as the company strives to produce a satisfactory plan and its creditors vie for more control.

A recent purchase may provide financial relief. The U.S. Defense Department has ordered \$10.8 million in Malden products to outfit soldiers with cold-weather gear.

To learn more about Malden Mills and their products, check these websites:

Case Study: Malden Mills

<<http://www.reputation-mgmt.com/malden.htm>>

Malden Mills Submits New Chapter 11 Plan

<http://www.businesstoday.com/business/business/mald1_0192002.htm>

Malden Mills Fabrics

<<http://www.polartec.com/fabrics/FAQ>>

<<http://www.polartec.com/fabrics/faqs.php?id/1>>

<<http://www.specialtyoutdoors.com/fleece.htm>>

<<http://www.theclothspot.com/Malden.htm>>

Note: Malden Mills donated a videotape to TXA that demonstrates their manufacturing process. If you wish to borrow it, contact Paula Smith, txa_extn-mailbox@cornell.edu.

ENGAGING YOUTH

Testing Textile Arts & Science Activities

CHARLOTTE COFFMAN

Thanks to all who volunteered to pilot test Fabric Structures and Resist Patterns activities with young people. If you submitted a pilot request and have not received an instruction packet, please let me know (cwc4@cornell.edu).

Participants are:

Chautauqua – Alisa Cochrane

Columbia – Linda Earley and Kristi LaFountain

Cortland – Jo Ellen Roehrig

Delaware – Kathy Sherwood

Hamilton – Eileen McGuire

Lewis – Suzanne Schwarting

Monroe – Margaret DiLella and Kim Romeo

Niagara – Kim Mansfield

Orleans – Jaime Brennan

Rensselaer – Janice Fox

Seneca – Betty Heitmann

Steuben – Nancy Torp and Loree Symonds

Suffolk – Nancy Grant

Tompkins – Shari Haldeman

Wyoming – Roxanne L Dueppengiesser

In-Touch Science Calendar

CHARLOTTE COFFMAN

December 7, 2002 - Appalachian Rural Systemic Initiative
Knoxville, TN

January 22-25, 2002 - Upstate Camp Conference,
Syracuse, NY

February 19-20, 2003 - American Camping Association
National Conference, Denver, CO.

SUPPORTING INDUSTRY

Apparel Industry Study Results Available

FRAN KOZEN

Suzanne Loker conducted a Fall 2000 study of 46 U.S. apparel and sewn products firms that used CAD technology, offered some custom products and services, and used some domestic production. Her purpose was to analyze the relationships between business and manufacturing strategies, performance, and progressive use of technology, domestic production, and custom product or service offerings. The results can be used by apparel and sewn products companies to assess technologies and strategies that might offer competitive advantages. Suzanne and graduate student Yun Jeong Oh published complete results of this study in June 2002. If you would be interested in reading the results, *Technology, Customization and Domestic Production: An Apparel and Sewn Products Industry Study Summary*, e-mail Suzanne at SL135@cornell.edu.

TEXTILE TECHNOLOGY

Can-do Clothing

CHARLOTTE COFFMAN

Need to be warm? Clothes can do the job. Want to lose weight? Apparel provides personal support. Trying to stay healthy? Clothing can help. Always spilling something? Yep, you guessed it - apparel has the answer. Newspapers, magazines, and the internet are shouting the latest trends in functional clothing. Listen up!

Stainless Steel Coats.

Malden Mills (related article on pp. 2) has developed a new heating technology that uses stainless steel microfibers in textiles that are washable and soft. These tiny fibers conduct heat powered by lightweight lithium batteries. The technology has been licensed to The North Face for jackets and to Land's End for blankets. The products are being tested by the Army's Special Operations Command and others who work in extremely cold conditions.

-Post-Standard, Syracuse, NY, February 24, 2002

Medic Alert Undies.

Malden Mills is also working with Eastern Carolina University, Foster-Miller, and Exponent to develop electronic undergarments that monitor the wearer's well being. Polartec fabric will incorporate sensors that monitor respiration, pulse rate, skin temperature, and blood pressure. Antenna transmit this data to medics behind the line of battle or to a medical facility miles from the patient.

[-http://just-style.com/news_detail.asp?art=27057&dm=yes](http://just-style.com/news_detail.asp?art=27057&dm=yes), October 22, 2002

Slimming Lingerie

This past summer, Hanes released Body Enhancers, an anti-cellulite hosiery embedded with tea and micro-encapsulated grapefruit seed extract. The normal friction from wear breaks the capsules and massages the ingredients into the skin. The garments were tested by 115 women in a 12-week blind study. Fifty-six percent saw visible improvement in cellulite appearance. The shapewear sells for about \$10 and the capsules are active for five washings.

-Smart Clothes, USA Today, March 11, 2002

Boffins at Fuji Spinning Company claim that their new lingerie helps wearers stay slim and trim. The *Wonder Slim* fabric contains extracts of caffeine and seaweed that supposedly combine with body oil and sweat to activate fat-eating enzymes. Men's and women's under garments sell for \$20-\$35 and are sold only in Japan.

[-http://just-style.com/news.asp?art=26959&dm=yes](http://just-style.com/news.asp?art=26959&dm=yes), October 15, 2002

Stain Resistance

Nano-Tex is a wicking fabric made by attaching hair-like structures to tiny cotton fibers. This fabric resists stains by allowing liquids to bead up so they can be quickly wiped off. Nano-Tex can be found in Levi's new Go Dockers pants, in Lee's Performance khakis, and in children's pants, leggings, and T-shirts by Healthtex.

-Smart Clothes, USA Today, March 11, 2002

CONCERNING CONSUMERS

Carpet Vacuuming & Cleaning

NANCY BREEN

This article, the fourth in the series, is based on my presentation at the March, 2002 In-Service, Carpets and More.

Soil abrades and damages carpeting as it is ground into the carpet pile and embedded in the carpet fibers. Proper maintenance removes soil, improves appearance, and extends the life of the carpet.

Preventive Measures

- Frequent and thorough vacuuming removes soil (up to eight passes of the vacuum cleaner may be needed).
- Walk-off mats at entrances trap wet and dry soils.
- Washable scatter rugs or inexpensive runners protect carpeting.
- Runners placed over carpet in high-traffic lanes reduce soil penetration.
- Level-loop or cut-pile carpeting minimizes soil retention and maximizes soil removal. (For descriptions of carpet styles, see the September, 2002 issue of TXA News).
- Light colored carpeting requires more frequent cleaning and prompt stain removal.
- Multicolored or patterned carpeting hide soils.

Types of Vacuum Cleaners

Upright vacuums have beater brushes that agitate carpet pile and remove soil and dust. Many models allow the beater brush to be raised to clean bare floors. Uprights are usually heavier than canisters and have less on-board storage for accessories.

Self-Propelled Uprights are heavier than standard models, a consideration when carrying up stairs. The self-propelled feature is helpful, especially for elderly or those with special needs.

Canister vacuums are designed to clean bare floors. Without a beater brush, they depend on suction to pull the soil into the cleaner. These cleaners are often lighter and easier to move around than uprights. Accessories are easily stored in the canister.

Combination vacuum cleaners are canisters with motorized floor nozzles that contain beater brushes. The beater brushes may be raised to clean bare floors.

Vacuuming — Allergy Considerations

The action of the beater brush may throw particles into the air causing discomfort for those with allergies. Wear a mask when vacuuming to reduce exposure to allergens. Change the bag when half full to maintain highest suction and distribute fewer particles into the air. You may also want to use a High Efficiency Particle Arrestor (HEPA) filter and/ or a microfiltration bag to trap particles within the vacuum.

A HEPA filter removes and traps particles from the air before the vacuum exhausts the air back into the room. To be listed as a HEPA, the filter must capture 99.9% of particles 0.3 microns and smaller. Choose one that can be installed in all types of vacuums.

Microfiltration bags can be purchased and used in your regular vacuum cleaner. These bags hold particles inside the bag, so they are not released back into the room.

Cleaning Methods

Dry Extraction

This method is quick and easy and will remove some, but not all embedded soils. If brushed, the bushes may distort the carpet pile.

- Apply an absorbent powder or foam to the carpet surface.
- Vacuum immediately to remove cleaner and soil OR brush to work cleaner into carpet and then vacuum.

Shampoo

Potential problems are shampoo residues that attract soil and distortion of the carpet pile with the rotating brushes.

- Apply a shampoo solution and work into the carpet with rotating brushes.
- Allow to dry and vacuum.

Hot Water Extraction

Sometimes called "steam cleaning," this is the most popular method of carpet cleaning. Soils and detergent residues are removed and carpet pile is not distorted because no brushes are used. Problems can occur if carpets are over wet.

- Inject a solution of hot water and detergent into the carpet.
- Extract immediately with suction.

Professional

Equipment is more powerful and can extract more solution and dirt than do-it-yourself machines.

Do-It-Yourself

Carpet cleaners can be rented or purchased for home use. These machines have small tanks that need frequent refilling; some are filled directly through a faucet hook-up. More than one suction pass is recommended to extract as much solution as possible and avoid over wetting. Also, narrow cleaning heads on these machines necessitate additional strokes—and additional time.

Cleaning — Allergy Considerations

Over wetting of carpets may cause backings made of jute to absorb water and mold. This is only true of older carpets, in the past 15-20 years jute backings have been replaced by synthetics that do not absorb moisture.

However, if any carpet is too wet, moisture may remain in the backing and/or penetrate the backing and remain in the pad and on the flooring. Mold may develop in the water or soils in these areas that remain damp for a long period. Try not to over wet the carpet and dry the carpet as quickly as possible by turning up the heat and using fans.

Web Sites

<www.bissell.com>
<www.dirtdevil.com>
<www.electrolux.com>
<www.eureka.com>
<www.hoover.com>
<www.kenmore.com>
<www.kirby.com>
<www.oreck.com>

Reference

Textiles for Residential & Commercial Interiors by Jan I. Yeager and Lura K. Teter-Justice. Available from <amazon.com> for \$68.

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