

Preserving Vintage Clothing and Textile Products - Part 2

Preserving our Past and Present for Future Generations



Have you read "Collectibles" 4H•HLTH•402 and 4H•HLTH•403. If you haven't, take a step back and read them because the information below builds upon their content.

This fact sheet was originally printed by the Oklahoma Cooperative Extension Service as C-1412 Heirloom Textiles: Conservation and Care in the Home.

Throughout history, textiles were used to express individuality, social status and group identity or membership. Textiles have

also provided an outlet for creativity. Today, people enjoy textiles as beautiful objects and study them as sources of knowledge about the past. Some people invest in or collect fine old pieces that increase in value over the years.

Many people keep wedding dresses, christening garments and other household items for the sentimental reasons. Family textile heirlooms represent a family over a period of time. This means that individual family members are caretakers of the textiles, preserving them for the enjoyment of future generations. The care and giving of heirlooms thus becomes symbolic of the love and continuity of the family.

Textile heirlooms are fragile and require special attention. Excessive humidity or dryness, heat, light and air pollution are harmful. Dirt and stains, insects, microorganisms, strain and abrasion also damage them. Hazardous chemicals used in storage cause deterioration. Display supplies and equipment may damage fabric.

Conservation of textiles is a relatively new field. As no two textiles are exactly alike, it is difficult to give specific directions for their care and storage. There are, however, general guidelines for the care of textiles that are delicate because of age and fabric characteristics.

Proper care and storage will preserve textile heirlooms for many generations. Follow the appropriate practices to prolong the life of your current and future textile heirlooms.

Preservation Supply Kit:

- White cotton gloves
- Appropriate containers for storage of textile
- Bound nylon screen and vacuum with attachments and suction control
- Appropriate needle and thread
- Appropriate fabric for repair
- Acid free tissue paper
- Wash, unbleached and undyed muslin
- Polyester batting
- Distilled water - does not have chemicals and minerals which can stain or damage

Always work with clean hands.

Perspiration and lotions leave a chemical residue on fabrics. Remove jewelry that might snag or rub fabrics. (Some museums require textile workers to wear white, cotton gloves.)

Do not eat, drink or smoke near a textile heirloom.

Dropping food on textiles may cause permanent stains. Microorganisms and insects attack stained fabrics and destroy fibers. Chemicals in smoke cause fabric deterioration.

Do not wear a historic garment.

Many people are larger today. This causes fragile fabric and seams to tear. Body movement causes abrasion. Perspiration, perfumes, lotions, cosmetics, hairsprays and deodorants contaminate the fabric.

Textile Characteristics

Before 1940, most fabrics were produced from natural protein fibers (silk and wool). Natural cellulosic fibers (cotton and linen) or man-made cellulosic fibers (rayon and acetate) were also used. Beginning with nylon in the 1940's and polyesters in the 1950s, synthetics have become increasingly common. Unique characteristics of each fiber categories will often determine which care procedures are most appropriate for heirloom textiles.

Cotton and linen fibers are:

- Absorbent and swell when they are wet,
- More fragile when wet, especially if bleached,
- Harmed by acidic substances,
- Self-destructive, giving off acid as they age,
- Susceptible to attacks from mold and mildew,
- Susceptible to insect damage, especially if soiled or starched,
- Unstable in high humidity, which enhances decomposition,
- Inflexible, breaking rather than bending along crease lines and
- Damaged by ultraviolet rays in light.

Rayon fibers are similar to cotton.

Acetate fibers are:

- Not colorfast,
- Not durable.

Silk and wool fibers are:

- Absorbent and swell when they are wet,
- More fragile when wet,
- Harmed by alkaline substances,
- Damaged by ultraviolet rays in light,
- Wool is especially susceptible to insect damage,
- Silk is susceptible to water spotting, and
- Silk is sometimes weighted with a metallic salt for a crisper, rustling texture.

Nylon and polyester fibers are:

- Resistant to damage from acids and alkaline,
- Sometimes susceptible to damage from dry-cleaning solvents,
- Low in moisture absorbency,
- Susceptible to oil absorbency
- Shiny, unless treated with a de-lustrant,
- High in static electricity, and
- Melt at high temperatures.

Pre-conservation Analysis

It is important to accurately identify accurately fiber content of a textile heirloom. The characteristics unique to that fiber may determine appropriate care procedures. Identification methods include **microscopic examination**, **burn test** and **chemical analysis**. Examine a few threads or a very small clip from a seam or hem to determine the fiber. Use a separate clip of fabric for each test. Never test directly on the textile heirloom.

Cotton, linen, wool and silk fibers all have uniquely different appearances when viewed under a low powered microscope. Cotton fibers look like twisted ribbons. (Note that this appearance refers to fibers, not yarns.) Linen resembles bamboo with joints when magnified. Wool has overlapping scales, while silk is a smooth cylinder. It is more difficult to distinguish among synthetic fibers, which are smooth cylinders. Occasionally, these manufactured fibers will have lengthwise lines (Figure 1).

For microscopic examination, use tweezers to pull one or two fibers from the end of an exposed fabric yarn. Place the fibers on a glass slide and top them with a cover sheet. Do not wet the fibers because they may swell and distort the identifying characteristics.

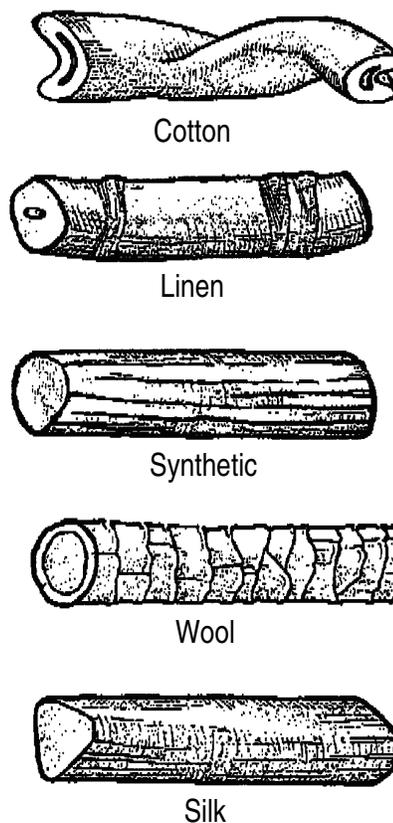


Figure 1

Dark dyes and some fabric finishes can make microscopic identification of fibers difficult. Synthetic fibers often resemble silk. Therefore, use a second method, a burn test, to help identify the fiber content. Hold a small clip of fabric with tweezers and ignite it

using a candle flame. Ease with which the fabric **ignites**, **speed of burning**, and **appearance of the ash** are clues to the fiber identity.

Cotton, linen and rayon (cellulosic) materials burn rapidly. They smell like burning paper, have a slight after-glow when extinguished, and leave a feathery ash.

Wool and silk (protein) fibers are more difficult to ignite. They give a scorched smell and have a heavy, crusty ash.

Weighted silk is especially difficult to burn and produces an ash with the appearance of a fine screen.

Nylon and polyester (synthetic) fibers melt, form hard beads or residue, and smell acrid.

Two simple chemical tests, using household products, can aid in the identification of silk and acetate. Silk dissolves in sodium hypo chlorite, commonly found in chlorine bleach. To test for silk, submerge a clip of fabric in a small jar of chlorine bleach. If the fabric dissolves after a couple of hours, it is probably silk. If the fabric loses its color, but remains intact, it is probably not silk.

Identify acetate by using acetone in fingernail polish remover. Place a drop of nail polish remover on a small clip of fabric. If the fabric is acetate, it will melt or become sticky.

Care

Heirloom Textiles

Keep all textile heirlooms, regardless of fiber content, clean. Cleaning removes harmful substances which attract insects and microorganisms, or cause chemical damage to the fabric.

Consider the following methods of removing soils:

- **Airing**
- **Vacuuming**
- **Wet cleaning**
- **Dry cleaning**

Before selecting a cleaning method, determine fiber content, the condition of the textile, and the fastness of dyes. Look for the presence of soluble glues, paints or trims. Start with the least damaging or gentlest care method. Remember, the goal is not for the article to look new, but to preserve it.

Airing

If your textile has a musty smell, air it indoors away from direct sunlight. Fragile fabrics should not be exposed to outside air. Ultraviolet radiation, air pollution, air borne dirt, and insects are harmful to them. Do clotheslines because strain will concentrate in a small area. Do not beat or shake the textile as this may cause damage.

Vacuuming

Vacuuming a textile removes loose dirt and dust. Periodically vacuum all textile heirlooms. Use the upholstery attachment of a household vacuum and a small piece of fiberglass screen (available in most hardware stores).

Wash the fiberglass screen to remove oils. Bind the edges with washed, undyed bias fold tape to keep them from scratching the fabric.

Lay the screen gently over the textile heirloom, and move the screen as needed during the vacuuming process.

Adjust the vacuum to a "low suction" setting and vacuum the fabric through the fiberglass screen. Hold the hose attachment at least a half inch above the screen.

Vacuuming helps clean a sturdy textile

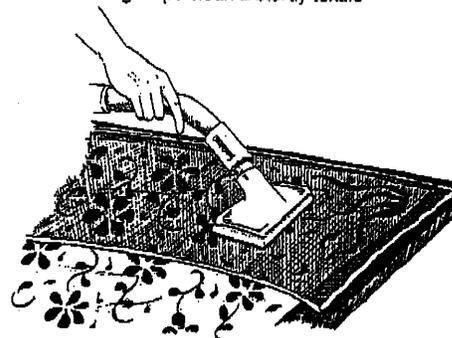


Figure 2.

Vacuum both sides of the textile and repeat several times if extremely dirty (figure 2).

Pockets and creases are a common hiding place for insect eggs and are difficult areas to vacuum with a screen. To reduce strain of the suction on the fabric, place netting or cheese cloth over the end of the vacuum nozzle. (Hold the cheese cloth in place with a rubber band).

To prevent vacuuming up loose beads from beaded fabrics, use two layers of screen over the textile heirloom. Use a soft paint brush to gently loosen dirt that may have become lodged around and under the beads. When working with a pile fabric (such as velvet or carpet), always vacuum in the direction of the pile yarns. This will smooth them and avoid undue stress on the fabric.

For many historic fabrics, vacuuming may provide enough cleaning and no other treatment will be necessary. For other heirlooms, it may be desirable to either wet or dry clean the textile.

Wet Cleaning

Wet cleaning cotton and linen textiles removes the acid buildup on the fibers and leaves them cleaner and more flexible. This usually prolongs the life of a textile. Wet cleaning can be effective for textiles that are not too fragile.

Wet cleaning is useful to. . . .

- Add moisture to dry and brittle fibers
- Remove water soluble soils, including perspiration
- Remove starch which attracts insects
- Remove acid that builds up naturally on cellulosic fabrics
- Remove established creases which may cause cracks and slits in the fabric
- Remove tangles in loose or raveled yarns.

Do not use wet cleaning if. . . .

- Dyes fade in water or detergent solution
- Trims, glues, and paints dissolve in water
- Fabric is a dyed silk, which can water spot
- Fabric is crepe (tightly spun yarns swell in water and become damaged)
- It is a multi-layered garment, which is difficult to dry
- Fabric is very fragile and, becoming weaker when wet, may deteriorate.

To wet clean a textile heirloom by hand you will need the following supplies:

- A container large enough to clean the fabric in a flat, unfolded position,
- A fiberglass screen large enough to support the entire fabric,
- A generous supply of distilled water,
- A liquid hand-dishwashing detergent (such as joy) with no bleach.

Test all colored fabrics or yarns for dye fastness before wet cleaning. Place

one drop of distilled water in a hidden area (such as the seam allowance) and let it soak in. Place a dinner knife blade between test area and outer fabric to prevent damage if dyes are not fast (figure 3).

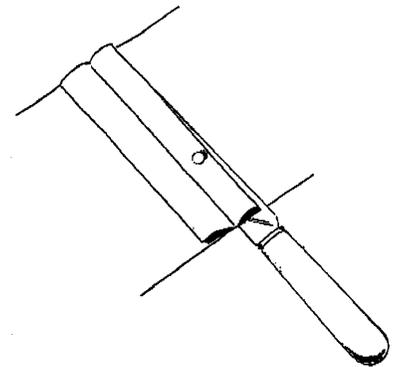


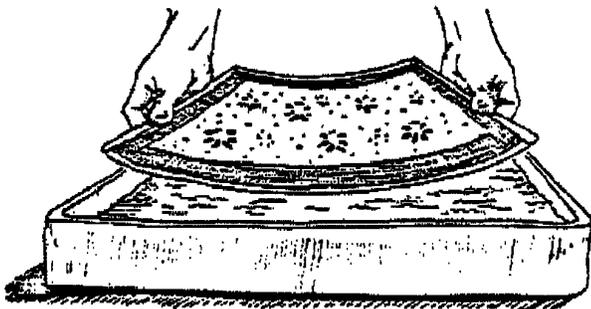
Figure 3.

After the fabric has thoroughly absorbed the water, blot the wet area with a white cloth or paper towel. Use your thumb to apply pressure on the test area for 30 seconds. If no color appears on the blotting material, apply one drop of very diluted detergent and test again. Some dyes are fast in water but not in detergents. If there are a number of colors on the textile, test each one. If any portion of the textile is not color-fast, it cannot be wet cleaned.

Water Soak

Wet cleaning heirloom textiles is a soaking process rather than an active agitation process. Fill a container with enough distilled water at room temperature to cover the textile. (Used distilled water to prevent mineral deposit on fabrics- rust spots from forming due to hardness.) Place the textile on the screen in a flat, unfolded position (figure 4). Lower the screen and textile into the water. Use the flat palm of your hand to gently push the fabric into the water. Allow the fabric to soak for about 45 minutes. If the water becomes cloudy or dirty, remove the fabric from the tub, refill the tub with clean water and soak again. Repeat this process until the water

remains clear. This water soaking process will often lift soils and build-up acids and no further cleaning will be necessary. If the article still appears soiled, however,



A fiberglass screen protects textile being wet cleaned.

Figure 4.

proceed to the detergent soak.

Detergent Soak

Prepare the detergent soak using one-half teaspoon of detergent to every one gallon of water. It is difficult to rinse detergents thoroughly from fragile textiles so it is important to use a weak solution.

Place a wet textile, supported by the screen, in the detergent soak for about 15 minutes. Gently move the water above the fabric with an up and down movement of the palm of the hand. Repeat the detergent soak if the water becomes discolored with the soil.

Rinsing

Rinse thoroughly in lukewarm, distilled water. To rinse, soak the textile at least four or five times for 10 to 15 minutes each time. Use an up and down movement of the palm of the hand to push clean rinse water into the fabric. Continue the process to remove all feel and smell of detergent. Again, remove the fabric from the container, supported by the screen, when changing the water.

Drying

Use the supporting screen to remove the item to a flat surface. Lay a clean, white or colorfast bath towel over the heirloom. Carefully flip the two, so the towel is under the textile and the screen is on top. Remove the screen and cover the textile with a second bath towel. Carefully blot excess water from the textile by gently pressing on the upper-most towel. Do not use paper towels since these often contain chemicals harmful to the textile.

Air dry flat textiles in a horizontal position. Do not use the dryer or hang them on a clothes line. Many fibers weaken when wet, and hanging causes undue strain on the fabric.

Garments are best dried on a dress form covered with a plastic bag and towels. Sleeves, bust area and other garment curves can be gently expanded with colorfast netting to reduce wrinkling.

Bleaching

Bleach textiles only when absolutely necessary. Bleaching does not remove dirt, but it does remove some stains. Bleaching, however, may make some stains appear darker by lightening the background. Never use chlorine bleach - It is too harsh and can hasten deterioration. If bleaching is a must, use an oxygen bleach, such as Snowy Bleach or Clorox XL. Make up a dilute solution and completely submerge the textile (on the screen) for 30 minutes. Rinse thoroughly. Bleach only immediately after wet cleaning, while the item is still damp.

Starch Removal

Remove all starch from cotton and linen textile heirlooms before you store them. The starch will cause the textile to turn yellow. Starch also attracts insects and rodents which can severely damage textiles. Soak the textile in water temperature of about 110° F to remove starch.

Ironing

Do not iron heirloom textiles. Heat and pressure are damaging to the fibers. If an item such as a christening dress is to be wet cleaned, soak the item in distilled water and then shape the item with netting to prevent wrinkles from forming during the drying process. If necessary, steam fabrics. Steam the item in a vertical position to avoid accidental drops of water that could cause spotting.

Dry cleaning

Heirloom textiles should be commercially dry cleaned only under advisement. The dry cleaner may ask you to sign a dry cleaning release form. Dry-cleaning machines produce friction and agitation during cleaning, and use heat to remove the solvent. These

conditions weaken most fabrics and can cause complete deterioration of fibers that are already very delicate. Cleaning solvents also remove natural oil and waxes that fibers need to stay flexible.

If you decide to dry-clean an heirloom textile, be sure to choose a drycleaner with a good reputation. Ask the cleaner to use a fresh or filtered supply of solvent. Specify that the textile should not be hot-aired or pressed after cleaning.

Dry cleaning may be preferable for some textile heirlooms. Dry cleaning is advisable for cleaning:

- fabrics stained with adhesives, paints and oils which are not water soluble.
- textiles with water soluble dyes
- garments with many layers or fabrics of many different colors.
- materials with tightly spun yarns (such as crepe),
- fabrics with a pile, such as velvet or carpeting.
- heirlooms made from feathers or fur.

Do not use dry cleaning for...

- items with rubber (as found in early elastics)
- removing perspiration chemicals from fabrics
- oil painted designs
- white silk and wool fabrics, which turn to shades of yellow or gray.

Repairing Textile Damage

After cleaning textile heirlooms, check for tears or holes. Ignoring this type of damage actually increases the rate of further deterioration. Use a backing or support fabric for fragile fabrics. A fairly sturdy fabric may require only needle and thread. Never use fusible fabrics to repair a treasured textile heirloom. The long term effects of adhesives are uncertain and the heat required for proper application may damage the fabric.

Choose a support material with a weight, color, and texture compatible with the textile heirloom. Select backing fabrics for sheerness, softness, and durability. Synthetic materials are more desirable than silk because they do not deteriorate as rapidly. Good choices include voile, nylon chiffon, organza and nylon tulle.

Nylon netting is a good repair fabric for flat laces. Tulle is best for mending gathered laces because it is not as stiff. Always launder the supporting fabric at least twice to remove sizing and excess dye, and to shrink the fabric.

Standard size pins and needles may be too large when working with sheer or thin historic fabrics. Size 00 insect pins (order through a school or scientific supply store) will cause less damage to the fabric. Thin beading needles are best for very sheer or fragile fabrics.

Use fine cotton or silk sewing thread or ravel lengthwise yarns from fabric which is similar in color, weight and texture. Avoid nylon monofilament thread, which can cut a fragile fabric. Using a thin needle, enter the fabric between yarns rather than puncturing them. Take stitches 1/4 inch long. Shorter stitches strain the fabric yarns. Take two or three back stitches instead of tying knots. Stitches taken in the lengthwise and crosswise directions (with the grain) show less than stitches taken on an angle.

To mend a hole in an heirloom fabric, apply a piece of backing fabric. Hand baste once or twice around the hole and through the backing. Then overcast the edges of the heirloom fabric, sewing into the backing textile with stitches parallel to the historic fabric grain. Do not use a sewing machine to repair fragile fabrics. The mechanical action can be very stressful (Figure 5).

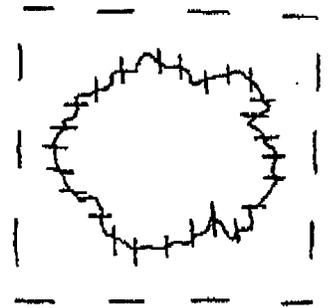


Figure 5.

Occasionally an aging fabric will lose the structural yarns in only one direction. This leaves a tangle of loose yarns.

Straighten these remaining yarns by soaking the fabric in distilled water and floating the yarns into proper alignment. After drying, the loose yarns can then be stitched to a backing fabric. The stitch actually reweaves the loose yarns, as it stitches the yarns down against the backing (Figure 6).

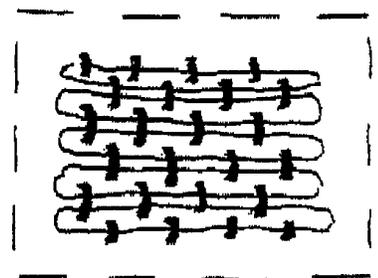


Figure 6.

Conclusion

After completing the conservation process according to the characteristics and condition of the item. Ask yourself the following questions. "Do I display, use and enjoy my heirloom textiles and probably shortened their life?" "Do I carefully pack them away and have them for a longer period of time?"

If the item is very fragile and already in poor condition, then store it carefully to preserve it for future generations. If the textile is a sturdy item in good condition, you may decide to display it. For information on storage and display refer to *"Heirloom Textiles: Storage and Display In the Home."*

Introduction to Preserving Memorabilia:

- Objects collected as souvenirs of important personal events or experiences
- Objects associated with a famous person or event, especially considered as collectors' items

Items could include: buttons, medals, patches, jewelry, flags/pennants/banners, metal signs/tags, dishes, pins, uniforms, t-shirts/hats, posters, trading/collector cards, toys, equipment (sports, craft, profession, etc.) and pencils/pens, the list could go on and on. Because each of these items is made from a different material there will be many conservation methods to research and use.

Related 4-H Project Areas: Fabrics and Fashions, Health, Recreation, Arts and Hobbies, any project area of interest can become a hobby for collectables.

Other Related Centennial Fair Exhibit Project Materials:

- 4H•HLTH•402 Collectables
- 4H•HLTH•403 Preserving Vintage Clothing and Textile Products – Part 1
- 4H•HLTH•404 Preserving Vintage Clothing and Textile Products – Part 2
- 4H•HLTH•405 Storage and Display of Heirloom Textiles in the Home
- 4H•HLTH•406 Preserving Photographs, Books and Paper Documents
- 4H•HLTH•407 Preserving Metal, Wood and Plastic Collectibles (not available)
- 4H•HLTH•408 Preserving Memorabilia
- 4H•HLTH•409 History Mysteries Part 1– Recording and retelling the history of 4-H and its people through stories
- 4H•HLTH•410 History Mysteries Part 2– Writing the Story – your treasures - from Clues
- 4H•HLTH•411 Documenting and Cataloging Collectibles (not available)

- 4H•HLTH•412 Displaying Collections and Collectibles (not available)
- 4H•PDL•111 Personal Development – Documenting our Heritage
- 4H•HLTH•413 Authentication Card

References and Resources:

Conservation Register -

<http://www.conservationregister.com/Caring.asp>

Kent State University - Care of Historic Costume and Textiles.

<http://dept.kent.edu/museum/staff/care.html>

Preservation Education Curriculum -

<http://www.nedcc.org/curriculum/lesson.introduction.php>

National Park Services Conserve-O-Grams - Conserve O Grams are short, focused leaflets about caring for museum objects, published in loose-leaf format. New topics are added as needed and out-of-date issues are revised or deleted. Semiannual supplements will be issued for an indeterminate period.

www.nps.gov/history/museum/publications/conserveogram/cons_toc.html

Smithsonian's Museum Conservation Institute

4210 Silver Hill Road
Suitland Maryland 20746

http://www.si.edu/mci/english/learn_more/taking_care/

Telephone: (301) 238-1240

FAX: (301) 238-3709

Museum Textile Services

PO Box 5004
Andover, MA 01810

<http://www.museumtextiles.com/clients.html>

Telephone: 978-474-9200

Textile Conservation Services

928 N. Alabama
Indianapolis, IN 46202

<http://www.textileconservation.com>

Telephone: 317.266.8398

FAX: 317.266.8399

Williams, D. and Jaggar, L. Saving Stuff – How to Care for and Preserve Your Collectibles, Heirlooms, and other Prized Possessions. Simon & Schuster, 2005. ISBN 0-7432-6416-9

Katz-Schwartz, J. Protecting Your Collectible Treasures: Secrets of a Collecting Diva. Martingale & Company, 2001. ISBN 1-56477-388-4