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A. Linfield

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STUDY OF MATERIALS

by

Azalea Linfield
Extension Specialist in Clothing

EXTENSION SERVICE

South Dakota State College
W. F. Kumlien, Director
Brookings, S. Dak.

Cooperative Extension Work in Agriculture
and Home Economics, South Dakota State
College and U. S. Department of Agriculture
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STUDY OF MATERIALS

In selecting materials the purchaser should know not only what quality or grade of material may be demanded for a certain price but be able to determine as well whether that quality has been actually secured in payment of the price.

In order to select materials wisely both knowledge and experience are required. You must be able to distinguish the different fibers; you must know the standard materials, and weaves, and their suitability for different purposes; you must be able to judge the durability and quality of fabrics in relation to price; and you must know how to detect substitutes and adulterations.

A familiarity with standard materials is essential to intelligent buying. Standards are fabrics which have been known for years and their qualities have been tested and proven. Other qualities and materials can be judged from these standards.

STANDARD COTTON MATERIALS

Batiste - A sheer lustrous cloth in white and dainty colors. Used for waists, thin dresses, collars and cuffs.

Calico - Plain weave with design printed on one side. Used for inexpensive dresses, aprons, because of its low cost, durability and ease with which it is laundered.

Cambric - Plain weave with smooth finish on one side. Used for linings and underwear when moderate weight is desired.

Canton Flannel - Soft nap on one side. Used for children's underwear and for coat interlinings because of its durability and warmth.

Chambray - Plain weave, dyed in yarn. Used for dresses, and aprons.

Corduroy - Corded ribbed with velvety finish on one side. Used for suits, heavy dresses and skirts.

Flannelette - Soft cloth with nap on both sides and figures printed on plain backgrounds. Because of its warmth, low cost and ease of laundering, used for nightgowns, underwear and children's wrappers.

Cretonne - Plain weave, with a printed design. Used for curtains and bed coverings.

Dimity - Plain weave with variations - Because of daintyness, used for dresses, waists and curtains.

Gingham - Plain weave with warp and woof of various colored threads to form plaids and checks. Used for dresses, aprons and shirts. Launderers well.

Galatea - Heavy firm weave, with design printed on one side. Used for children's clothes, outing suits, when a cloth of strength and durability is desired.

Lawn - Plain weave of fine material, usually well sized. Used for dresses, waists, collars, cuffs and curtains.

Longcloth - Soft, firm fabric with a close weave. Used for children's dresses, aprons and underwear.

Muslin - Plain weave made in several qualities, bleached and unbleached, used for sheets, dresses and underwear when durability is chief desire.

Nainsook - Plain weave, closely woven, used for underwear.

Percale - A firm, closely woven cloth. Used for dresses, shirts, and aprons because of low cost, durability, and ease of laundering.

Pique - Ribbed material - Used for dresses, shirts and children's coats.

Poplin - Plain weave, poplin variety. Used in dresses, summer suits because of its durability and ease of laundering.

Sateen - Shiny finish on one side - Used for linings, undergarments because of its durability.

Voile - Loosely woven, thin material used for dresses and waists.

STANDARD WOOL MATERIALS

Bedford Cord - Bedford cord weave, a soft material. Used for babies' coats, skirts and dresses.

Broadcloth - Closely woven fabric with a smooth glossy surface. The fibers are pricked to make a nap, which is then pressed down, leaving a beautiful finish - Used for suits and dresses.

Cashmere - Soft loosely woven pliable material used for dresses and baby coats.

Challie - Plain weave, light weight, loosely woven, pattern printed, used for baby dresses, waists, kimonos.

Cheviot - A twilled weave with both rough and smooth finish - Used for suits and coats.

Flannel - Plain weave - Used for children's clothes, petticoats and dresses because it is soft, warm, inexpensive and not irritating to the skin.

Gabardine - Closely woven, diagonal thread, well matched.

Serge -

a. French - closely woven, softer and finer than either of storm serges - Design brought out by weave.

b. Storm - coarser than French - Used for suits and dresses.

Tweed - Rough, unfinished, coarse material, because of its durability and warmth used for suitings.

STANDARD SILK MATERIALS

China Silk - Plain weave, thin material not very durable - Used for waists, and scarfs.

Canton Crepe - Fancy weave - excellent for dresses because of its durability and does not crush readily.

Crepe De Chine - Fancy weave giving a crinkly effect, soft shiny silk - Used for dresses, blouses, drapes, because of its durability and softness.

Satin - Satin weave; smooth shiny surface; softer material than satin - Used for dresses, coat and suit linings.

Moire - Silk with a watered effect. This watered effect is made after the cloth is woven. Used for trimmings and hat coverings.

Panne Velvet - Silk velvet with nap pressed down. Used for dresses, suits and hats.

Pongee - Plain weave - soft, pliable material. A durable and in-expensive silk used for children's clothes as well as grown-ups.

Taffeta - Shiny silk usually with a good deal sizing - Used for dresses, skirts and hats.

STANDARD LINEN MATERIALS

Butcher's Linen - Heavy, coarse weave - Used for butcher's aprons and for dress skirts.

Crash - Plain weave, coarse and loosely woven - Because of durability used for draperies, aprons and curtains.

Dress Linen - Plain weave - Used for dresses and suits, laundries well but crushes very easily.

Damask - Pattern is in warp lines, that is, threads of design run lengthwise. Best linen is sized very little. Used for tablecloths and napkins because of its beauty and power to shed soil.

Huckaback - Uneven weave - Used for toweling because of its rough surface which easily absorbs moisture and causes skin to glow.

Handkerchief Linen - A fine, firm weave - Used for babies' dresses and handkerchiefs.

COTTON

Cotton, the most commonly used of all textile fibers, is the lint taken from the cotton seed. There are many varieties of the cotton plant. The value of the fiber depends somewhat on the variety, but the desirable qualities, color, length, strength, smoothness, fineness, pliability, and uniformity are greatly effected by the climate, soil and cultivation. The best grades of cotton, are used for the manufacture of fine sewing threads, cotton laces, sheer cotton goods, imitation silks, and silk mixtures. The coarser grades are used for making sheeting, gingham, undergarment cloth, percales, calicos, and shirtings.

The supply of cotton usually equals the demand, so that the finished product may be put on the market at reasonable prices.

Mercerization - A modern product is mercerized cotton, made by treating the fiber or the cloth with strong alkali and then rinsing it under tension. To obtain a high degree of luster, the best quality of cotton is required. Mercerized cloth is stronger, heavier and more silky looking, than the same cloth not mercerized. The high luster is not effected by repeated washings.

Characteristics of Cotton

1. Cotton is strong and elastic.
2. Burns easily on account of the natural oil in it.
3. Free from impurities and bleaching cleanses it still more. It can be stored for a long time without deterioration, unless sizing and starches or certain dyes are present.
4. Absorbs water slowly and does not give it up quickly, consequently it remains damp a long time. To render cotton absorbent the cotton wax is removed.
5. Moist cotton is stronger than dry cotton. When cotton is heated as under a very hot iron, its strength is less. Alternate moisture and heat do not hurt cotton unless heat is too great.
6. Cotton crushes and creases easily. The surface of napped goods and blankets easily flatten down and take on a rough, shabby look unless often brushed and shaken.

7. Cotton soils readily. It has a fuzzy surface and contains a natural oil which catches dirt quickly.
8. Cotton gives off lint. This makes it less desirable for toweling and dining room service than linen.
9. Cotton shrinks in water. This is a natural property but is augmented in weaving. The strain on the warp threads in the loom stretches the yarn to its full length, and the sizings and starches hold it there. Warm water and soap in the laundry loosen the finish and the yarn contracts. The shrinking must be taken into consideration when cutting garments.
10. Cotton launders well. It can be boiled without injury to fiber.
11. Cotton takes starch well, thus it can always be kept looking new and fresh.
12. Cotton is a better conductor of heat than wool or silk, consequently when thin it is a satisfactory summer garment.
13. Cotton is not attacked by moths or insects like wool. Mildew will form if cotton is left in a warm moist place.
14. Cotton takes dyes well. Materials which are yarn dyed usually retain their color better. Yarn dyed materials are gingham, madras, and chambray, which have the same colors and patterns on both sides of the cloth. If the thread is of one color and dyed so that white specks are left, it has been piece dyed, that is, woven and then dyed. Examples: Galatea and oil-boiled calico.

Another method of dyeing which we find is printing the design on the material. Examples: Percale, calico, figured voiles and challies.

WOOL

Wool comes from backs of sheep and is the second fiber in amount used for clothing. Wool fibers are not very strong, but are very elastic and curly and possess a scale-like structure. The scaly surface gives wool the property of felting or matting together of the wool fibers by the interlocking of the projecting edges of the scales. This quality of shrinking or felting is utilized in making some classes of goods. On account of their variations the industry may be said to include:

1. Materials made from soft dull, loosely twisted yarn of uncombed, short stapled wool, such as blankets, sweater materials, broadcloth, and many flannels, which are generally termed woolens.
2. Cloths from carefully combed, long, more or less lustrous wool made into closely twisted yarns, and woven into serges, covert cloths, mohairs, which are generally called worsteds.

CHARACTERISTICS OF WOOL

1. Wool fiber is covered with fine scales. Friction or moisture cause these scales to mat together. This is called shrinking.
2. Wool is a strong fiber. It feels soft yet is wiry and springy. This is the reason woolen garments hold their shape.
3. Natural wool is elastic. Elasticity adds to the strength of the cloth and to its comfort as a covering for the body but this quality is impaired by careless laundering.
4. Wool is a poor conductor of heat. Therefore it retains body heat and is a warm fabric.
5. Wool is a light weight fiber. Garments made of wool are light in weight.
6. Wool absorbs moisture readily. Woolen undergarment will absorb perspiration readily. But woolen underwear requires frequent laundering to keep it sanitary and it is the hardest fabric to launder and is the least cleanly of any of the fibers.
7. Wool dyes readily and holds the dye. This property makes wool or worsted the most satisfactory garment for out of door use.

ADULTERATIONS OF WOOL

1. Cotton is finished to look and feel like wool. It is substituted for wool in many blankets, flannels, eiderdown, or knitted goods.
2. Several threads may be of cotton as found in cheap shepherd's plaid.
3. Reworked wool, called shoddy is found in many woolen garments on the market today. Shoddy consists of odds and ends obtained from the factory, the tailor and the rag picker. This is added to new wool. The objection to the use of shoddy is that often materials sold for high prices and supposed to be of new wool are made for the most part from old short wool and the customer is not receiving what he asks for and pays for.

TESTS FOR WOOLENS AND WORSTEDS

1. Hold cloth up to the light. Is it closely, firmly woven? If it is sleazy the cloth will not hold its shape.
2. Ravel out warp and wool threads. Try breaking them if warp is strong and wool weak, the material will not wear well.
3. Break threads. Wool pulls apart with kinky ends, while cotton breaks with a snap.
4. Wool tears with a dull muffled sound. It has a rough kinky edge. If cotton is present it tears more easily. The ends will be unlike.

5. Brush surface of napped cloth briskly. Does nap loosen, and drop off? If so, cloth will wear threadbare and shabby.

6. Burning test - Wool burns very slowly and gives off odor of burning feathers. If cotton is present it will burn with a flame.

SILK

The filament which is obtained from the cocoons of the cultivated silkworm makes the costliest and most beautiful textile fabric. A variety of materials are made from it, ranging from filmy chiffon and lace to the heaviest plushes and grosgrains, and from soft dull finishes to the most crisp and glossy ones. The popularity and demand for it at a low price have caused adulterations of it and substitutes of other fibers for it. Women's lack of knowledge is a large factor in the unreliability of purchased material.

CHARACTERISTICS OF TRUE SILK

1. Softness - True silk when gum is removed has an unusual degree of softness.

2. Weight - Lowest among textile fibers when gum is removed consequently light weight fibers can be made from it.

3. Endurance - Pure silk will last for years even though given hard wear.

4. Heat conductor - It is not a good conductor of heat, consequently even when it is wet it feels warm in contact with the body.

5. Cleanliness - Sheds dust quickly.

6. Heat - Intense heat degenerates silk. Always have iron moderately warm when pressing.

7. Laundering - It does not felt, mat or shrink like wool. Silk turns yellow by washing in hot water and drying in the sun.

ARTIFICIAL SILK

This class of fabric is made from cotton or wood pulp. The pulp is treated chemically and made to resemble silk.

1. Artificial silk is usually harsher and stiffer than true silk.

2. Has a more brilliant luster than true silk.

3. Not as strong nor as elastic as true silk.

4. When wet, loses much of its strength.

LINEN

Linen has been called the textile of luxury as its expense in fine grades stands in the way of its common use. In olden times it supplied many of the family needs but in the present day cotton has largely supplanted it for common uses. Linen is made from the long, lustrous fiber obtained from the stock of the flax plant grown in European countries and to some extent in America.

IMITATIONS AND ADULTERATIONS

1. Finishes, such as sizing or high polishes are put on cotton, making it resemble linen.

2. Sizing is used to make linen seem heavier and of better quality.

3. Cotton is combined with linen, which is often sold as all linen.

4. Mercerized cotton is substituted for linen and sold as linen.

TESTS

COTTON

1. Tests for sizing.

Rub the cloth vigorously. If sized, a fine dust will be loosened. Hold up to light and notice the filling or sizing between the threads in the weave.

2. Thumb test for strength of weave.

Quickly and firmly stretch the cloth lengthwise, then crosswise over the thumbs. Do the threads stretch, pull, or loosen? Will this material pull on the seams when made into a garment? Try breaking a thread; notice the strength. Ravel a thread out; notice whether the fibers are long or short. Thread made of long fibers are best.

3. Burning test.

Ends of cotton threads will spread out when burning. Cotton burns readily, leaves fine gray ash, has odor of burning leaves.

WOOL

1. Testing for cotton.

Ravel out warp and woof threads. Break the threads. Wool pulls apart with kinky ends while cotton breaks.

2. Burning test.

Wool burns very slowly and gives off odor of burnt feathers and leaves a large amount of ash. If cotton is present there may be some flame.

SILK

1. Weave test.

Stretch the cloth lengthwise and crosswise over the thumbs. Do the threads pull or shift? Do they spring back to the original shape? Will this silk pull on the seams when made up?

2. Test for true silk.

Burn the sample of silk. True silk burns slowly, the ash curling up in little tiny balls on the edge of the burning material. An odor like burning feathers is given off.

3. Test for weighted silk.

Burn the sample - If the sample holds its shape after the silk is burned, it contains weighting.

NOTE: - Test taffeta, messline and crepe de chine to show the comparative difference.

Artificial and imitation silks do not give off odor of burning feathers when burned. They flame up more than silk. They do not leave the droplet form of ash found when burning true silk.

LINEN

1. Burning test.

Linen fibers are longer and rougher than cotton, therefore, they burn more slowly. The ends of burning cotton spread out in every direction. The ends of linen stand erect and compact.

2. Oil test.

Drop oil on linen and cotton from which sizing has been removed. Linen becomes transparent; cotton becomes opaque. Notice difference upon holding these two tests up to the light.

3. Rub linen briskly.

If the surface becomes rough and fuzzy it has cotton in it.

4. Break a thread of linen and of cotton.

The broken end of linen is erect and the fibers close together. The ends of the cotton thread are spread out in all directions.

5. Tearing test.

Tear piece of linen and cotton. Linen is harder to tear and has uneven torn edge. It gives dull sound when tearing. Cotton tears easily with shrill sound and has smooth edge. A little practice on this test is necessary before one is sure of results.

Equipment: Have women bring samples of cotton, wool, silk, and linen to be tested.

REFERENCES

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- "Linen", Extension Bulletin 329, Oregon Agricultural College, Corvallis, Ore.
- "Silk" Extension Bulletin 332, Oregon Agricultural College, Corvallis, Ore.
- "Wool" Extension Bulletin 331, Oregon Agricultural College, Corvallis, Ore.
- "Cotton" Extension Bulletin 330, Oregon Agricultural College, Corvallis, Ore.
- "Dressmaking," Jane Fales.

STUDY OF MATERIALS

(Fourth Meeting of Demonstration Series)

by

Azalea Linfield

Extension Specialist in Clothing

Demonstrator No. I. Standard Materials (Textile Game)

Supplies Needed	Illustrative Material	Steps during Demonstration	Points to be brought out.
<p>Tablet Pencils Samples of standard material</p> <p>COTTON</p> <ol style="list-style-type: none"> 1. Longcloth 2. Nainsook 3. Lawn 4. Organdy 5. Batiste 6. Calico 7. Gingham 8. Percale 9. Tissue gingham 10. Chambray 11. Kindergarden cloth 12. Canton flannel 13. Flannelette 14. Velvetten 	<p>Cotton balls Silk cocoons Raw wool Flax</p>	<ol style="list-style-type: none"> 1. Group the women in a circle. Give each one a piece of tablet paper and a pencil. Have them number up to the number of samples you have. Pass around the different samples which are numbered and let each one write down the name of the piece of material. Have each one work individually. When finished have each one correct her paper. It would make it more interesting if a small prize was offered to the winner. 2. In correction the papers, discuss the following points: 	<p>This game shows that a great many women do not know even the common makes of material which they deal with every day. A good deal of the clerk's time and much more satisfaction in purchasing is gotten if the buyer knows what she wants. To know material is an economical necessity, especially now when woollens are adulterated with cotton and shoddy, when silks are heavily weighted. It is important that the buyer knows what she is getting for her money.</p>

Demonstrator No. I. Standard Materials (Textile Game)

Supplies Needed	Steps during Demonstration	Points to be brought out.
WOOL 1. Broad cloth 2. Serge (french, storm) 3. Gabardine 4. Poirer twill 5. Tricotine 6. Duvetine 7. Velour	1. Longcloth 2. Nainsook 3. Lawn 4. Organdy 5. Batiste 6. Calico 7. Percale	Long cloth (firm, closely woven & (heavy thread Nainsook (closely woven, finer (thread, soft and pliable, (sometimes has mercerized (thread. Lawn (plain weave, fine material, (well sized. Organdy (much stiffer than lawn (usually more closely woven. Batiste (plain weave, soft, dainty (material, slightly mer- (cerized. Calico (27 inches wide, similar to & (percale but cheaper grade. Percale (36 inches wide, better (grade than calico.
SILK 1. Georgette crepe 2. Crepe de chene 3. Canton crepe 4. Pongee 5. Satin 6. a. Cotton back b. Silk back 7. Messaline 8. Panne velvet 9. Chiffon velvet 10. Taffetta	8. Chambray 9. Plain gingham 10. Gingham & tissue Gingham	Chambray (dyed in yarn, wool thread is & always white. Little dress- Gingham ing used in finishing. & (plain weave with warp and Tissue wool thread of various colors to form plaids and checks. (usually has slight mercerized thread, giving silk bread effect.
LINEN 1. Damask 2. Dress		

Demonstrator No. II. TESTING MATERIALS

Supplies Needed	Steps during Demonstration	Points to be brought out.
<p>Pieces of:</p> <p>Cotton</p> <p>Wool</p> <p>Silk</p> <p>Linen for testing</p> <p>Olive oil</p> <p>Matches</p> <p>Pie tins or some non-inflamable material</p> <p>Cheap hat pins or pinchers.</p>	<ol style="list-style-type: none"> 1. See that every two or three women are furnished with the supplies listed in column one. 2. Give each test under cotton, wool, silk and linen and have each lady test her sample. 3. Cotton tests. <ol style="list-style-type: none"> 1. Sizing 2. Strength 3. Burning 4. Wool tests <ol style="list-style-type: none"> 1. Testing for cotton 2. Burning test. 5. Silk tests <ol style="list-style-type: none"> 1. Test for true silk 	<p>Cotton material is often heavily sized, that is starched to make it appear more closely woven and firmer.</p> <p>"A chain is no stronger than its weakest link". Both warp and woof threads should have the same strength. Threads which break easily have not much strength.</p> <p>In burning cotton gives off the odor of burning leaves.</p> <p>As cotton is much cheaper fiber than wool, wollen cloth is often adulterated with it. Warp and woof threads will have to be tested separately because cotton can often be found running one way and wool the other. Also test several threads each way as sometimes cotton threads are in between wool threads.</p> <p>The more weighting silk has, the shorter will be its life. Taffetas and messalines are usually heavily weighted. Often we find a piece of taffeta so heavily weighted that it will cut at the seams while being made up.</p>

Demonstrator No. II. TESTING MATERIALS

Steps during Demonstration	Points to be brought out.
2. Test for weighted silk	<p>There are artificial silks on the market made from wood pulp, etc. These will flame up very rapidly do not leave the droplet form ashes. They are called fiber silks and must not be confused with weighted silks. Weighted wilks are pure silks and metallic salts.</p>
6. Linen tests.	<p>Linen no longer responds to the "spit test" as cotton can be so highly mercerized that it reacts to the test the same as linen does. You cannot be sure of any linen test until the sizing is removed.</p>