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# Steps in Washing

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NORTH DAKOTA STATE UNIVERSITY OF AGRICULTURE AND APPLIED SCIENCE

### STEPS IN WASHING

Good laundering doesn't just happen! A good laundry program calls for good water, good methods and good equipment to make white clothes white and colored clothes bright and clear.

Water - The number one laundry problem of much of North Dakota is hard water. It is hard on clothes and on the water heater and hot water pipes. If water is much over 7 grains of hardness, it is well to install a water softening system utilizing the ion exchange method.

Where complete softening equipment cannot be installed, some hard water problems can be helped with packaged softeners. These softeners are of two types: Precipitating and non-precipitating. The precipitating type combines with hardness minerals to form solid, floating particles which are insoluble in water and which make it cloudy. The addition of the non-precipitating type, often called a water conditioner or water normalizer, leaves the water crystal clear. When wash water is softened with water conditioner, the conditioner should be added to the rinse water, too, for best results.

Iron is a problem in some areas. Where the problem is great, install a water softening system or a rust filter. If your water supply is rusty, use a synthetic detergent, not a soap. Soap tends to precipitate the iron, causing yellowing. Laundry bleaches do not help. In fact, chlorine bleach sets the stain.

Water Temperature - For maximum soil removal, plenty of hot water is needed - water between 140 and 160 degrees F. If water never goes beyond 120 degrees F., the cumulative effect is a dingy wash. Yet, use of temperatures of 100 to 110 degrees F. is advised for synthetics and wash and wear fabrics to minimize wrinkling and to preserve the wash and wear finish. However, laundry procedures which preserve wash and wear are not the best for good laundering. Hot water is necessary to get the garment clean. On occasions it may be necessary to use a hot machine wash, using a vigorous cycle for wash and wear. Check the temperature of the wash water with a candy thermometer. As much as 20 degrees can be lost between the water heater and the washer.

**Sort Clothes Carefully** — This is an important step in a good laundry program, regardless of type of washing machine. If not carefully sorted, clothes become dingy and gray.

### Make separate loads of:

1. White and color-fast articles - 8 or 9 of every 10 pieces in the wash are of this type. These items include sheets and pillow cases, bath towels, pajamas, cotton underwear, table linens, dish towels, shirts and housedresses with an average amount of soil.

Use water temperature of 140 to 160 degrees F. all-purpose detergent washing time of 10 to 12 minutes

Reduce washing time for housedresses, slips and aprons to 4 minutes. If there is not a full load of this variety of articles, add them to a small general load about 4 minutes before the end of the wash period. If liquid bleach is used, mix it well with a quart of water and add after clothes start to wash.

 Sturdy, heavy-soiled articles – this load includes work clothes, heavy T- and sweat shirts, slacks and childrens play clothes. Be sure to shake out dust and chaff, clean out pockets, overall cuffs and narrow tool pocket before work clothes are washed. Clean out pockets of childrens play clothes, too.

Use water temperature of 140 to 160 degrees F.
all purpose detergent. Add an additional amount
unless clothes are prewashed,
washing time of 10 to 15 minutes

3. <u>Lightly soiled colored fabrics</u> which might be affected by higher temperatures. Colored nylons should be included in this load.

Use water temperature of 120 degrees F. all-purpose or mild detergent washing time of 4 to 6 minutes

4. Sheer and delicate fabrics. If seams are likely to fray or fabric is delicate, place in a mesh bag which might be made of two large dishtowels. Then, put bag and all into the washer. If articles are not colorfast, wash by hand.

Use water temperature of 100 to 120 degrees F. all-purpose or mild detergent washing time of 2 to 4 minutes

If yours is an automatic washer use gentle agitation and spin to reduce set wrinkles.

Mend and Remove Spots and Stains — While sorting remove dress pads and pins. Shake out loose dirt and clean out pockets. Remove spots and stains since the laundry process may set the stain. (See USDA Home and Garden Bulletin No. 62, Removing Stains from Fabrics.) Close zippers and tie loose strings together. Fix rips, loose buttons, etc. before garments are put into the hamper.

**Pre-treat Heavily Soiled Areas** — Use a soft brush or finger tips to sponge areas, such as collars and cuffs, with a liquid detergent or a paste of detergent and water. Or dampen the soiled spot and rub detergent into it before putting the garment in the washer.

Load Washer Correctly - Do not overload the washer as it results in poor washing. Your instruction book tells you the capacity of your washer, possibly 8 to 9 pounds. Fill the washer loosely with a mixed load of large and small articles. For example, not more than 2 sheets with such smaller things as pillow cases, towels, pajamas. This allows fabrics to move about more freely and sets up more friction and flexing action, a very necessary part of the cleaning process. Put delicately constructed articles or nylon hose into a mesh bag to prevent snagging from hooks or buckles of other garments.

Socking - Mildly soiled clothes need no soaking. For extra soiled clothing, a 15-minute soak period in warm water and about half the regular amount of detergent to increase the wetting action of water are adequate. Some automatic washers provide a definite soak period in the laundry cycle that may or may not be used. If a conventional washing machine is used, soak garments in set tubs. While one load of clothes is washing, the next load may be soaking.

Use Enough Detergent - The amount of detergent to use varies with the size of the load of clothes, the temperature of the water, the degree of soil, the type of washer, the water volume and the hardness of the water. Measure detergent according to recommendations on the container, or follow the directions in the washer instruction book. Then, add more, about 1/3 cup, as conditions change, especially as water becomes harder or water temperature is lower or soil heavier. It will improve whiteness and brightness of fabrics. If you use an all-purpose sudsing detergent, be sure the suds cover the water and move actively through the washing cycle. This is about a 2-inch layer of suds. For front-loading washers, including combination washer-dryers, use enough low sudsing detergent so that some suds can be seen throughout the washing cycle. Too much suds in a tumbler type washer will reduce effective washing action. Too little detergent will not remove soil.

How Long Should Clothes Be Washed — About 10 to 15 minutes for the average load, depending on amount of soil and the machine. The notion that the longer clothes are agitated the cleaner the wash, is not true. With longer washing periods, clothes take up dirt from the water after having been clean, giving a gray wash. If clothes are not clean after being washed for this length of time, they should be put through a second washing.

Why Use Bleach - Bleach won't cover up poor washing techniques or misuse of laundry products, but it does make it easier for detergent to remove soil. It complements the action of detergent in keeping white clothes white and fast colors bright. When used, it must always be in the washing cycle. But action is more effective if the addition of bleach is delayed to a point part way through the wash cycle. Dilute measured bleach with at least 1 quart of water before adding, unless added by dispenser. Bleach can be used in every washing for heavily soiled items. With less heavily soiled things, bleaching every two or three weeks may be enough. Chlorine bleach should not be used on colors that are not color-fast, or on some resin-treated cottons. Oxygen bleach is safe for all fabrics and finishes. Follow instructions on container.

Thorough Rinsing Necessary — If you are using a conventional washer, two rinses are absolutely necessary for good results. The first rinse of hot, soft water dissolves and flushes away loosened soil from the clothes. The second rinse can be lukewarm water. It continues to dilute the soil in the water and fabric. If you rinse in laundry tubs instead of a machine, use a plunger to force water through clothes.

Fabric Softeners — Fabric softeners are used only in the last rinse. They make a fabric softer and fluffier, especially when it is line-dried. They make ironing easier and sometimes lessen wrinkling. They reduce static electricity in garments of man-made fibers so that the fabric does not stick together or cling to the figure. Some washers will dispense a fabric softener in the final minute of rinsing. In others you must add the fabric softener by hand in the final rinse. Always measure and use as directed on the bottle. The over-use of fabric softener may decrease moisture absorption which is not desirable in such things as baby's diapers.

**Storch** - Three types of starches are available today, true vegetable starches, soluble synthetic starches and the durable synthetic starches that last through several washings. The hot vegetable starches offer the most in economy. Follow the manufacturer's directions for using starch. It tends to keep fabrics clean longer and makes them easier to wash.

## LAUNDRY PROBLEMS AND THEIR SOLUTIONS

What causes yellowing and what will remove it?

Probable causes: Under-use of detergents Low water temperature

Over-crowding of the washing machine

Combination of above conditions

Perspiration and body oils not removed during laundering process oxidize and tum

yellow

Recommendations: (a) The quickest and most effective treatment is to wash clothes in hot water (140 degrees F. or hotter) with the recommended amount of detergent or more and the recommended amount of chlorine bleach, or -

- (b) Clothes can be reconditioned by using 1 cup of non-precipitating water softener, such as Calgon or Spring Rain, in 10 gallons of hot water. Wash clothes at least 10 minutes, then wash in regular detergent water, or -
- (c) If yellowing is caused by iron, a filter system or special ion exchange softener may need to be installed. In many cases, adequate amounts of detergent in the wash water and the addition of a nonprecipitating type of water softener in the rinse water will correct this problem. In this particular problem chlorine bleach will increase yellowing.
- What are the causes and cures for graying?

Probable cause: Poor laundering practices

Recommendations: Increase the amount of detergent

Plenty of hot water (140 degrees F. or hotter)

Load the washer with a mixture of large and small

pieces so there is maximum agitation

In hard water areas add non-precipitating water softener to the rinse cycle

What is the cause of black or gray spots and how remove them?

Probable cause: Hair or body oil, cold creams, etc. Extra heavy soil and machine grease

- Recommendations: 1. Increase the amount of detergent Use hot water (140 degrees F. or hotter), or -
  - 2. Recondition with 1 cup of non-precipitating water conditioner in 10 gallons of hot water. Wash for 10 minutes, then wash in regular detergent suds.

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