

Mimeographed Circular M-288

June, 1957

CLEANING MARQUISSETTE CURTAINS

A Comparison of Home Laundering and Dry Cleaning

By

Dorothy Saville

HOME ECONOMICS RESEARCH



CLEANING MARQUISSETTE CURTAINS

A Comparison of Home Laundering and Dry-cleaning

By

Dorothy Saville

The choice between laundering and dry-cleaning cotton and rayon marquisette curtains is usually based upon:

- (1) results obtained with the particular fabrics,
- (2) time required to do the work,
- (3) facilities available, and
- (4) cost.

Because of the need for information on the relative merits of these two cleaning methods, the Oklahoma Agricultural Experiment Station conducted tests to determine: (1) how the two methods of cleaning (home laundering and dry-cleaning) affect the appearance and durability of sheer rayon and cotton marquisette curtains, and (2) how the frequency of cleaning these curtains might affect their appearance and durability.

MATERIALS AND METHODS

Two cotton and two rayon fabrics, all white in color, were used in these tests. The cotton fabrics were quite similar in appearance; but the rayons, although the same price, were somewhat different in appearance. None of the fabrics was known to have a special finish. Twelve panel curtains from each of the cotton fabrics and 12 from each rayon fabric were used, making a total of 48 panels.

The curtains were first hung in a girls' dormitory, where they remained for six months. They were later removed to the home economics building on the Oklahoma A. and M. College campus. The curtains were in actual use for about three years; but, because of the change in location, three years and nine months elapsed between the time they were first put in use and the end of the test. In both locations, the curtains were hung at south windows. The lower one-third of the curtains hung below Venetian blinds and was fully exposed to sunlight.

Time intervals for having the curtains cleaned were established in advance. One group was cleaned each three months for a total of 12 times during the test; another group was cleaned each 6 months for a total of six times; and another group was cleaned once a year for a total of four times. Actually this latter group received one extra cleaning because of excessive soiling during the first six months of use. At each

cleaning period, two curtains of each fabric were dry-cleaned and two were laundered, making a total of eight panels laundered and eight dry-cleaned each cleaning period.

The curtains to be laundered were placed in laundry bags and washed in a conventional machine with a spinner. The wash cycle was five minutes and the washing and rinsing were done at about 100 F.^o Following a second rinse in light starch solution, the fabrics received a final spinning. In the last laundering the starch was omitted. The washed panels were all dried on stretchers adjusted to a dimension considered suitable for each of the four fabrics.

The dry-cleaning was done in a commercial plant which used a special dry-cleaning detergent and a petroleum product as the solvent. The cotton marquisettes were sized. All of the curtains were pressed. The plant did not have special facilities for cleaning curtains and could not shape them on a frame.

Measurements were made on each fabric for breaking strength and shrinkage. An unused fabric served as a control for each fabric. Observations were made on appearance, whiteness, drape, crispness, evenness of hems, and hole damage.

RESULTS

Whiteness

It was apparent in the early use of the curtains that those which were dry-cleaned did not retain whiteness as well as those which were laundered. This was especially true of the dry-cleaned cotton curtains which became excessively discolored. This discoloration was an all-over yellowing and darkening. Some of the curtains became water-stained, a type of staining which could not be removed in dry-cleaning. Discoloration of rayon curtains was not considered too objectionable.

Observations of curtains cleaned at three months, six months and one year indicated no apparent difference in whiteness of curtains cleaned at different frequencies. However, those curtains cleaned more often did have a "fresher" appearance, because of the effect of cleaning on the drape of the curtain.

Hand

Although a sizing was added to the cotton marquisettes in the dry-cleaning, the curtains developed poor hand due to loss of crispness in the fabrics. The rayon curtains retained much the same hand throughout the test.

Because the laundered curtains (both rayon and cotton) were starched, they had better crispness than the curtains which were dry-cleaned. There was more difference between the crispness of the cotton than the rayon curtains, regardless of the cleaning process.

Dimensions and Shape

When the four fabrics were washed and flat pressed without tension, the

shrinkage lengthwise was about 4 percent for the two rayon fabrics and 6 percent for the cotton fabrics. The shrinkage crosswise was about three times higher than the lengthwise shrinkage in three of the four fabrics. One rayon fabric had only 2 percent more shrinkage crosswise than lengthwise.

Shrinkage was not a reliable guide in establishing measurements for the laundered curtains. For example, one rayon fabric with high shrinkage could be effectively shaped to a larger dimension than curtains of the other rayon fabric with less shrinkage. The appearance of the marquisesettes gave no indication of the amount of shrinkage to expect or of the dimensions to which the curtains might be successfully shaped in laundering.

The high shrinkage found in these four fabrics is typical of rayon and cotton marquisesettes which have no finish to control shrinkage. The laundered curtains were dried on stretchers, since that was the only way a semblance of the shape, dimension and texture of the new curtains could be obtained.

The dry-cleaned panels did not shrink as much as the laundered ones. However, the dry-cleaned panels were pressed in the finishing and were not nearly as even in shape as were the laundered panels which were dried on stretchers.

Mechanical and Pest Damage

Most damage to the fabrics (exclusive of exposure) was probably due to curtains blowing against screens and getting caught as windows were closed, to silverfish, and, on the laundered curtains, to pin-point tears from pinning the curtains to the stretchers.

The laundered curtains had more holes and breaks than those which were dry-cleaned. This was due to pin-point damage and presumably to silverfish. The rayon curtains were damaged more than the cotton ones.

Damage caused by silverfish was not easy to detect. In fact, slight damage often did not show up in the fabric until the curtain was laundered.

Strength

The results on breaking strength are inconclusive because of the loss of several rayon curtains early in the project and because of delay in making breaking strength tests on the used curtains. However, the results on strength give certain indications of what might be expected for similar fabrics in similar use.

In the unused fabrics, the difference in warp strength of the cotton and rayon fabrics was small, but the rayon marquisesettes had much higher strength in the filling (crosswise) direction. In the used curtains, the rayon ones still had much higher strength in filling direction than the cotton ones. It is likely one would have greater difficulty handling rayon curtains with low strength in laundering than

cotton curtains since rayon is lower in strength when wet.

Although the filling strength of the cotton curtains dry-cleaned was not as high as that of the laundered curtains, the difference was probably too small to affect the length of service of the curtains, if the same method of cleaning were to be used. The low filling strength of the dry-cleaned cotton curtains would have made it difficult if not impossible to put the curtains on stretchers.

The strength of rayon curtains was less affected by the method of cleaning. The rayon fabrics cleaned by both methods had good strength after three years of use, but some of the laundered curtains had too many holes in them to be safely laundered again. In this and in a previous study of a large number of curtain marquisettes, the wearing out of rayon curtains was due to holes in the fabric more than to deterioration of the fiber.

The frequency of cleaning was not an important factor in loss of fabric strength.

SUMMARY

Both cotton and rayon curtains retained good whiteness when laundered. The rayon curtains were not as white dry-cleaned as when laundered but were considered acceptable in appearance. In this test, dry-cleaning was not considered a satisfactory method for cleaning the cotton curtains. However the curtains were soiled and water stained more than would be expected under normal conditions. It is generally recognized that dry-cleaning solvents are not satisfactory for removal of some types of soil.

The hand and crispness were better in curtains laundered than in those dry-cleaned because of the difference in the sizing used. Although sizing was added to the cotton curtains in dry-cleaning, it did not give the needed fabric body for good appearance.

The ends and sides of the laundered curtains were more even than those dry-cleaned because the laundered curtains were dried on curtain stretchers. The dry-cleaned curtains were pressed, but the dry-cleaner had no facilities for shaping the panels.

There were differences in the dimensions to which curtains of the four marquisettes could be stretched for drying on stretchers. The fabrics had no special finish which might have given better dimensional stability.

More holes appeared in the rayon than in the cotton curtains. Also, the laundered rayon curtains had more holes than those which were dry-cleaned. Much of this damage was assumed to be due to silverfish.

Although the results on breaking strength cannot be considered conclusive, the method and frequency of cleaning affected appearance of the curtains more than deterioration. In considering the over-all effects of method of cleaning, laundering was better than dry-cleaning. Dry-cleaning was satisfactory for the rayon curtains (in whiteness, hand, retention of strength) but unsatisfactory for the cotton curtains.