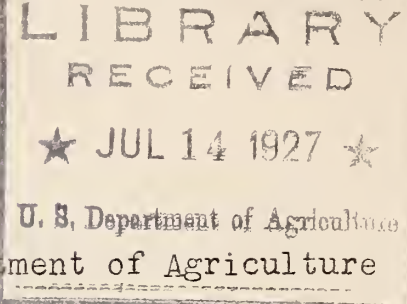


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RESEARCH IN TEXTILES AND CLOTHING

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In planning the clothing and textile work of the Bureau of Home Economics two somewhat different types of studies have been found necessary: (1) compilation and interpretation of results in this and other closely related fields, and (2) research studies for better application of existing facts and solutions of the more pressing problems.

In the beginning we have of necessity emphasized the first group of studies. Resident and extension agencies were needing material to help in the solution of the many problems coming to them. Also if we were to plan where to use our own effort to best advantage and be in a position to advise intelligently state and other agencies interested in initiating research, summaries were needed of all available information in the field. Much of this compiled material has been directly applicable to home problems. This has gone out to you during the three years this section has been functioning in the form of the following publications and illustrative material:

Bibliographies:

- "Government Publications on Textiles and Clothing" (a list of all the available government publications contributing to this field).
- "Footwear" (a bibliography of references to books and periodical literature in English dealing particularly with the fitting and selection of shoes).

Bulletins:

- Farmers' Bulletin 1449 - Selection of cotton fabrics.
- " " 1474 - Stain removal from fabrics: Home methods.
- " " 1497 - Methods and equipment for home laundering.
- " " 1516 - Principles of window curtaining.
- " " 1530 - Fitting dresses and blouses.
- Miscellaneous Circular 90 - Score cards for judging clothing selection and construction

Submitted for publication:

- Present trends in home sewing. (A report of a survey of homemakers).
- Children's rompers. (A brief popular circular).

Lantern slide series:

- What shall I wear? (Treats of costume design for the mature woman).
- First aid in window curtaining (to accompany Farmers' Bulletin 1516).
- A guide to fabric selection (illustrates the points to be considered in choosing fabrics).

In preparation -

- Clothing the children (a slide set calling attention to the hygienic aspects of children's clothing).

While these are in one sense the result of compilation, one can easily see the amount of original work involved in some, in checking points of difference, determining application and method of presentation and working out the illustrations so essential a part of some of these bulletins. Much of the value of certain of these has come from the help you in the states have given us.

Miss O'Brien has asked me to call your attention particularly to Miscellaneous Circular 90, "Score Cards for Judging Clothing Selection and Construction." This is the result of cooperation of the extension personnel and we hope is proving useful to you. It represents a summary of the score cards submitted by clothing specialists from almost all the states. We do not yet consider it a finished product and if the clothing specialists have found ways in which it can be made to better fit their needs we would welcome their suggestions and be glad to incorporate them in a revision of the circular.

This is only one example of the way you can help. We not only need you in the collection of certain data but we want you to suggest problems needing study and possible ways of interpreting them in terms that will be applicable to the women of your states.

In order to get at some of the problems, the home sewing survey was started some two years ago with your help. This followed and supplemented a similar survey made by the Extension Section of the American Home Economics Association. These results have been compiled and the report is now ready for publication.

In this effort has been made to get definite information on the factors influencing the amount of home sewing being done. The results show that a large percentage of the women studied were still making garments for women and children. Nearly three-fourths were making nine or more kinds of garments. As was expected, more of those living in the small communities than those living in the larger ones were sewing, and a larger percentage of those having a low income than of those having the larger incomes. However, it was interesting that the higher percentage appeared in the \$2,000 to \$2,999 salary group rather than the lower salary groups. It was shown in a very striking fashion that fitting was one of the greatest difficulties which the women said they encountered in making garments. As a result of this, we have just issued Farmers' Bulletin 1530, "Fitting Dresses and Blouses." Another difficulty which was mentioned in a very large number of cases was choosing becoming and practical designs. The women apparently often buy ready-to-wear garments because they can see how the completed garment will look on them. This seems to us to show that there is much to be done by extension agencies and others in the teaching of the principles of design.

In deciding upon our research program the limit of funds and personnel have left no opportunity for imagination to run riot. The compilation of the laundry bulletin showed how little real scientific data was available on laundry processes. As a result an extensive study is being made of the effect of the temperatures used in the various processes of home laundering on the efficiency of the process and the life of the fabric. This has involved solving some of the fundamental problems connected with the methods for such studies. The various artificial soiling mixtures reported in the literature have been tried out and one developed

which we think will be adaptable to the work undertaken in any home economics laboratory. Studies have been made on the various methods for determining the amount of soil removed by different washing methods and here, too, we hope to make recommendations which can be used by other home economics workers with ordinary laboratory equipment. We realize that many laboratories are interested in developing work of this kind and have had in mind the solving of some of these fundamental details of laboratory method and equipment upon which more extensive studies can be based. This is a field in which there is opportunity for cooperative projects, and we would be very glad to help in the organization of these, if any of the colleges wish to start research studies along this line.

Another laundry problem about which there were many conflicting statements is starching. Studies on the refinishing of cotton in home laundering so as to simulate more nearly the original finish have been under way for over a year now. Sizing mixtures of various compositions have been studied with particular attention to the possible utilization of the most available starches. In this we have cooperated with the Bureau of Plant Industry in their work of developing a more extensive use of rice starch and the possibility of utilizing the starch from the dasheen. In order to be sure of the source and method of treatment of the starches it was found necessary to prepare them in our own laboratories. Also, it has been necessary to develop laboratory methods, since the terms applied to the properties of sizes and sized material have been very vaguely defined and no methods of measuring them worked out. We have been particularly interested in developing methods of determining stiffness, pliability, and adhesiveness of these mixtures.

Infants' clothing is also being studied by scientific methods. Though much has been said for and against first one fiber and then another for infants' clothing, nobody knows just which is most desirable for the different kinds of infants' garments. To answer at least partially some of these questions, the effect of fabrics of different composition and weave on the skin temperature of babies is being investigated.

In connection with our work on infants' clothing, we are trying to get data from various parts of the country on the weight of clothing being placed on babies during different seasons of the year, and the nature of the garments being used. A number of the colleges are helping with this, but we have few figures from the western part of the country, especially those states lying between the Mississippi Valley and the coast states. If any members of the conference are interested, we would appreciate their help very much during a typical summer month or a typical winter month in their communities. Blanks and instructions for taking these weighings will be sent upon request to the Division of Textiles and Clothing.

Taking advantage of the present interest in the pre-school child, the design of clothing for children is being examined from the standpoint of health, habit formation, ease of laundering, and attractiveness. Information has been collected from institutions, mothers, and those interested in the making of or sale of clothes for children. Much useful information has been obtained which will be issued in small, illustrated circulars. It is hoped that next year studies can be continued and extended in connection with a nursery school to be developed

cooperatively by a number of agencies in Washington.

The most recent study undertaken has to do with cotton material. This is really a part of a cooperative study inaugurated by the Cotton Textile Institute in cooperation with the Department of Commerce and the Bureaus of Agricultural Economics and Home Economics of the Department of Agriculture. To our bureau has been assigned the task to find out whether the home use of cotton materials has been decreasing and if so, why. You may be helping in the filling in of the schedules we have sent out to discover if possible what have been the changes in demand for cotton in clothing and in household articles and the reasons for the changes. We are compiling in addition a list of the uses to which cotton may be put in the home, with suggestions of new uses to which this material seems to lend itself especially well.

A worker has been in New York during the past three months studying the design of cotton fabrics with a view to learning how these meet or fail to meet the requirements of women's and children's garments in vogue at the present time. She is working in close cooperation with manufacturers through the Cotton Textile Institute and other trade associations.

In this connection the Bureau has been studying the results which can be obtained by using the best American made cotton fabrics for dresses designed in accordance with the present vogue. One apparently important factor in the decreased use of cotton for dresses, even in communities and climates where it is most appropriate, is that the ready-to-wear manufacturers do not produce attractive, medium-priced, cotton dresses. The cost of labor is, of course, a determining influence in this. It is our belief that there are certain inherent qualities in cotton which adapt it to certain uses better than any other fiber. These we feel should be emphasized and fabrics and garments planned which will capitalize these qualities.

Additional studies are needed on the influence on wearing qualities of the grade of the cotton fiber and of manufacturing process, and of methods of household care. These we hope to undertake as soon as sufficient funds are available. There is a terrific waste involved in the short life of many articles of clothing at the present which would be avoided if materials of better wearing quality were available.

In connection with the cost-of-living studies, information has been collected on the average quantities and costs of clothing purchased by farm families. These are primarily summaries but back of them lies a story of careful planning and home sewing to get the clothing for the sum indicated.

A preliminary report on the "Average Clothing Expenditures of 86 Farm Families of Franklin County, Vermont, during 1923-24," has been issued. This report shows the expenditures for each article of clothing purchased during the year for husbands and wives and for sons and daughters of seven different age groups. There is also shown the average number of persons purchasing each garment, the average number of articles of each kind purchased per person and the average cost of each article.

For 2,010 farm families from seven states (Alabama, Kansas, Kentucky, Missouri, New York, Ohio, and Vermont), the material has been analyzed to show the total yearly expenditure for clothing for each of the fifteen age and sex groups and the relative expenditure for each group in terms of the husband's expenditure. And also the distribution of the total expenditures among six different classes of clothing.

In order to determine the influence upon clothing expenditures of the size of the family income, the schedules (except those of Kansas) are classified in 4 different groups according to the size of the expenditure per family for all items of the family living. The influence of climate, of marriage, and of size of family upon clothing expenditures have also been investigated. The average number and cost of homemade and of purchased garments for each of the four value of living groups and for all groups and for all groups combined has been ascertained for 728 farm families.

On the basis of this study of actual clothing expenditures, suggested clothing budgets are being developed for the farm operator, for the homemaker, and for sons and daughters of seven different age periods. These budgets conform to a standard of living for the farm comparable to the "health and decency" level of the industrial family. Further, on the basis of this study of actual clothing expenditures, clothing expenditure scales by sex and age are being developed.

Early in 1928 all the work on this clothing study will be brought together and will be issued in a popular clothing circular and in a technical bulletin.

The reports given in the Textile Research Section of the American Home Economics Association at the recent meeting in Asheville indicated increase of interest in this field and in the number of laboratories. Most of this work however is in the nature of testing materials. While this is useful, it is also desirable that more studies be started further back with the purpose of developing materials better suited to household uses, as well as offering help in care of clothing and household textiles.

A number of the states reported research in this field which shows the necessity for cooperation with specialists in physics and bacteriology, as well as with textile chemists. Some of the more interesting were an economic study in Kansas on state institutions for women to determine minimum clothing costs. These institutions offer a laboratory for work which has not been developed and home economics has a contribution to make to such studies. Kansas is also making a series of studies on the protective ratio of different clothes fabrics, in still air and in currents of different velocities. Iowa has an interesting study on the influence of shoes on the feet of high school girls. They report that only one girl out of 311 had normal feet. Most of the defects presumably came from badly fitting shoes.

