

The Michigan State College presents another in the Cooperative Extension Series. Today's program is brought to you by the School of Home Economics and features the Department of Clothing, Textiles, and Related Arts. We have with us today Ms. Sarah Brier. And now we take you to the Cooperative Extension Office where Clint Ballard is waiting to tell us about today's program. How do you do friends, I'm Clint Ballard, representing the Extension Service of the Michigan State College. The purpose of this series of Extension programs is to bring to the citizens of Michigan useful, practical, timely information that has some bearing upon the problems of the farm or the home. For today's program, we take you to the School of Home Economics, Department of Textiles, Clothing, and Related Art, where Miss Sarah Brier, will conduct a demonstration under the title, Fabrics and Fires. Hello, we're awfully glad you could join us to talk about fabrics and fires. We're going to burn some fabrics for you this morning, fabrics with which you're familiar in your clothing and in your household grid. With me this morning is Lorraine Davidson who is a graduate assistant in our department and she will help in the demonstration by timing the rate of ignition and the rate of flaming of the fabrics which we shall burn. In Michigan, in 1951, there were 16,000 fabric fires, pardon me, in dwellings, amounting to five millions of dollars of damage. Now some of these fires were caused by flaming fabric. Much of the clothing that we wear will burn, but most of it burns slowly so that the wearer can remove the garment before he suffers serious burns however there are some fabrics which are quite commonly used which will ignite in one or two seconds and burn quickly over the whole garment in two or three seconds now there are several things that influence the rate of burning of a fabric. One of these is the fabric content. Cotton and rayon burn more quickly than do wool and silk which have a natural flame resistance. Nylon doesn't flame, it melts and the drip from this melting may cause serious burns. Another factor in the flaming of fabric is the construction or the method by which the fabric was woven and the treatment after weaving. For instance, this tightly woven cotton denim would burn much more slowly than this piece of cotton net, which has an open construction and a great many air spaces to support the flames another treatment which can be given a fabric is brushing which means that the fibers in the yarns are brushed so that they appear on the surface of the fabric in a matted way now if a fabric like this were held close to a flame the flame would run over the fabric in a very short time this is a hazardous fabric and now we're ready to burn some fabrics for you the method that we should use this morning is not a standard test method the standard test method involves a small piece of equipment which is enclosed and which is operated mechanically and which would be hard for you to see this adaptive method that we use will make it easy for you to see the comparative rate of burning of fabric the sample size is a 2 by 12 inch which is supported by this small clamp now I'll apply the flame to the fabric and then Miss Davidson will time the rate of ignition on this clock and the rate of burning of the fabric on this clock you'll notice that the ignition clock is has only 12 seconds on it where the burning clock has 30 seconds because it usually takes the fabric longer to burn than it does to ignite. The first fabric which we shall burn for you this morning is a wool blanket fabric which has been brushed so that there are long fibers on the surface now I'll hold the flame under the fabric and you'll notice that I say now that means that Lorraine is going to start the stopwatch then when the fabric catches fire I'll say another now and Lorraine will record the number of seconds it took the fabric to ignite after the fabric has ignited I'll withdraw the flame and we'll allow the flame to burn up the fabric to this five inch mark. Then we'll put the flame out and you'll notice that I say now again and Lorraine will stop the stopwatch and then she'll show you how many seconds it took the fabric to ignite and to burn over five inches of the material. And I think we're set to go. Remember that I told you that wool was

naturally flame resistant now you see it's very hard to get the flame going now and the flame has extinguished itself before it moved up to the five inch mark now we won't have a flaming time for this fabric because it did extinguish itself however Lorraine can tell us how long it took the fabric to ignite. It took 10 seconds for the fabric to ignite. And that's quite a long period of time in relation to fabric burning and this fire could probably put out before it did too much damage in the home. Next we'll burn a piece of cotton flannelette which I know you're familiar with in children's clothing and in sleeping garments. Cotton is a cellulose fiber and will burn rather quickly. Ready Lorraine? Now, now, and now. How many seconds did that take Lorraine? Two seconds to ignite, three seconds to flame. You'll notice that the cotton burned much, ignited much more quickly than the wool did and it took a very short time for the flame to move up to the 5-inch mark. This is a piece of nylon marquisette, which would be used as a glass curtain fabric. Remember that I told you that nylon usually doesn't support a flame, but will melt and drip, and this drip from nylon can cause serious burn damage. Our flame is getting a little bit low there. I think we can use that one. Now, place the flame under the fabric. Now, you'll notice how the nylon seems to pull away from the flame and melt and drip. We really won't have an ignition time or a rate of burning from nylon, but remember that nylon can be dangerous if the molten nylon drips onto the skin. This is a piece of rayon, Marquisette, such as would be used in glass curtains where the nylon would be used. Rayon is also a cellulose fiber and will burn rather quickly. Ready, Lorraine? now, now, and now. The very openness of this weave makes it burn rather quickly. How was the time on that one, then? One second to ignite and two seconds to burn. That's comparable to the cotton flannelette which we burned. Now, we'll go into the dress fabrics now and burn a piece of Bemberg Shear which is very popular for summer dresses for ladies. This is made from cupramonium rayon and will burn rather quickly. Now, now, now. How many seconds did that take to ignite Lorraine? One second to ignite and two seconds to burn. Also a very quickly burning fabric. A new fiber that you all are familiar with I know on the market today is orlon and this is a piece of brushed orlon or orlon fleece such as is used in coatings. You can see the flat backing of the fabric and the loose fibers on the surface. We'll ignite this now, now, and you see that although it, the fabric did ignite rather quickly, it doesn't burn too quickly to remove now. How many seconds for that one to ignite. Two seconds to ignite, nine seconds to burn. This is one of the longest burning fabrics that we've demonstrated for you this morning. Now I'd like to show you a piece of cotton foil which is also very popular in the summertime for wash dresses. I believe I have a five inch mark on my side. There. Now we'll ignite this one now, now, and now. How many seconds did that one take, Lorraine? One second to ignite, two seconds to burn. You'll notice this burned rather quickly and I had a more difficult time in putting the fabric out. piece of oil line net which is commonly used for drapery material. We'll see how that compares with the cotton and the nylon which we burn. Now you see this oil line won't support a flame but melt like nylon does so we won't have any timing for that one. Now we have shown you a few of the fabrics and how they burn. The The important thing we want to stress to you is to select a fabric of the right construction and fabric content for the end use you wish to put the garment. Don't pick a brush fabric to wear near an open flame or a very high heat. We've shown you a few fabrics and how they burn. We're very glad you were with us this morning. and we hope you've learned quite a few things about fabric and fire. We want to thank Ms. Sarah Brier and her assistant, Lorraine Davidson, for appearing on our program. Certainly this demonstration has brought to us information well worth knowing. And we want to take this occasion to invite the view of our television audience to tune in on us daily Monday through Friday each week the same time and same station. Remember our Monday and Tuesday program has to

do with problems of the farm and many of them are of general interest. Our Wednesdays program features some phase of 4-H club work. Our Thursday and Friday program has to do with problems of the home. Now we deal with timely topics in all of these programs. At this time I want to bid you goodbye for the extension service of the Michigan State College. This has been another in the Cooperative Extension Series. Today's program has been brought to you by the School of Home Economics and was arranged by the Department of Clothing, Textiles, and Related Arts. We had with us today, Ms. Sarah Brier. Join us tomorrow when the School of Home Economics will again be featured. This has been a video recording of Michigan State College Television.