Fabric Grain

As you read about how fabrics are made, you will see the words *warp*, *weft*, *course*, and *rib*. These words describe the direction of the yarns or the grain of the fabric. Grain is very important to the fit and hang of a garment.

In woven fabrics, the warp yarn is the lengthwise grain. This grain direction has the greatest strength, straightest hang, and least give. The weft, or filling, yarn is the crosswise grain.

Filling yarns run over and under the warp yarns, back and forth, from selvage to selvage (the lengthwise finished edge of the fabric). Warp and weft yarns, forming the lengthwise grain and the crosswise grain, should always be at right angles to each other.

*Bias* refers to the diagonal corner-to-corner line across a square of fabric. It is a direction, not a grain line. Bias is the direction of greatest elasticity and give in a woven fabric. Woven fabrics are described as being on-grain when the lengthwise and crosswise yarns cross exactly at right angles. Clothing made from on-grain fabric looks nice, fits well, wears well, and is comfortable. When the yarns are pulled out of line or are crooked, the fabric is off-grain. Fabrics are on-grain when they are taken off the loom. But the different finishes with which fabrics are treated may cause the fabrics to become off-grain. Sometimes fabrics may also be pulled off-grain when they are wound onto a bolt at the factory.

Knits do not have the lengthwise and crosswise yarns that cross at right angles. Therefore, knits do not have grain as woven fabrics do. But ribs (lengthwise row of yarn loops that cross the course) is similar to the crosswise grain of woven fabric. However, it has more give and in this way it resembles the bias of the woven fabric.

In most garments, the lengthwise grain, or rib, of a fabric will be placed on the up-and-down, or lengthwise, direction of the body. This makes clothes last longer and hang nicely. The crosswise grain, or courses, usually goes from side to side or around the body. Fabric usually has more give crosswise, so this grain will be comfortable when worn across the body. Fabric is cut on the bias to give a certain look to garment parts like collars or pockets. Sometimes an entire garment may be cut on the bias.