**Purpose**—The purpose of this paper is to obtain thermal sensations arise during skin-antibacterial modified foot sweat pad contact by subjective forearm test carried out on 14 males.

**Design/methodology/approach**—Sweat pads were designed for the foot and topsheet layers, constituting of polypropylene (PP) or polylactic acid (PLA) nonwoven fabrics, were modified by herbal antibacterial agents (cinnamaldehyde, geraniol, phenylethyl alcohol). Antibacterial agents were applied directly or within polymers which prepared by three different polymerization methods. Dry and wet pads (including water 50 percent of absorption capacity) were placed on the forearms of the subjects for a constant period under controlled environmental conditions. Liquid absorption and transfer characteristics of the topsheet layers were measured by standard methods (drop, absorption capacity, wetback tests) and moisture management tester parameters. Subjective coolness and dampness sensations arise during first touch of the pads were gathered and results were discussed according to liquid absorption and transfer characteristics of the sweat pads which differ according to topsheet fabrics and different antibacterial treatments.

**Findings**—The paper showed that, direct or polymerization-based antibacterial applications created significantly different coolness and dampness sensations when compared with raw PP and PLA fabrics. Significant relationships were obtained between coolness sensation and both dampness sensation and absorption capacity results.

**Originality/value**—Forearm test is normally applied on standard fabrics but in this study, it was applied on a disposable product which is used within foot clothing system.