FEATURE – NANO-FIBERS FOR SUPER CLOTH
INTRO: U.S. Department of Agriculture-funded researchers are creating cloth from nano-scale fibers that could have important uses. The USDA's Pat O'Leary has more. (1:59) (refeed from 5/08)

CONVENTIONAL FABRIC MADE FROM ORDINARY FIBER IS ONE THING. THEN THERE'S NANO-FIBER.
A nano-fiber is about 1/500 of human hair.

WITH NEW NANOTECHNOLOGY TECHNIQUES, SCIENTISTS ARE EXPLORING USES FOR MICROSCOPIC MATERIALS.

Margaret Frey, Cornell University: As the diameter of the fiber gets smaller and smaller, then the given weight of fiber has a more and more surface. It causes the fabric to become more absorbent. It also gives a lot of surface area where we can capture and detect biohazards.

CORNELL UNIVERSITY RESEARCHER MARGARET FREY, WITH A GRANT FROM THE U.S. DEPARTMENT OF AGRICULTURE, IS CREATING A 'SUPER CLOTH' THAT COULD HAVE IMPORTANT APPLICATIONS: FOR EXAMPLE, DETECTING HARMFUL BACTERIA, LIKE SALMONELLA, WITH A SINGLE SWIPE.

Frey: There's places where contamination a critical issue that needs to be identified very rapidly, so if you have had a hospital room that's had a contagious patient in it Perhaps the supervisor of the cleaning crew could go through behind them - sample all the surfaces and confirm that they are no longer able to detect anthrax, or sepsis …or pneumonia. Possibly quality control in food packaging: you could work out a system for sampling surfaces and then confirming that, 'Oh, we got some form of E. coli present or no we don't.'

THE CORNELL TEAM WANTS THE FABRIC TO REVEAL A BRIGHT COLOR ON DETECTION OF A HAZARD. THEY'RE WORKING ON SMALL, USER FRIENDLY FORMATS.

Frey: Having a rapid yes/no response and the possibility that this could be done by just the general public is another goal for this project. By incorporating nanotechnology, we got something that's very portable, able to do a lot of work on a very little piece of fabric - the end of a Q-tip, something like this.

THE RESEARCH IS FUNDED BY USDA'S COOPERATIVE STATE RESEARCH, EDUCATION AND EXTYENSION SERVICE. FOR THE U.S. DEPARTMENT OFAGRICULTURE, I'M PAT O'LEARY.