FEATURE – NANOTECHNOLOGY MAY BE USED FOR FOOD SAFETY

INTRO: U.S. Department of Agriculture scientists are working on microscopic technology that could detect food borne pathogens. USDA's Bob Ellison has more. (1:26)

A MICROSCOPIC SENSOR THAT DETECTS HARMFUL BACTERIA ON FOOD HAS BEEN DEVELOPED BY A U-S DEPARTMENT OF AGRICULTURE SCIENTIST AND UNIVERSITY COLLEAGUES. WORKING OUT OF THE USDA AGRICULTURAL RESEARCH SERVICE FACILITY IN ATHENS, GEORGIA RESEARCHERS HAVE PRODUCED A BIOLOGICAL SENSOR THAT DETECTS SALMONELLA.

Bosoon Park, USDA ARS: We are working on pathogenic detection in the food. So we just developed some nanotechnology based on the bio nanosensor, which can detect the pathogenic bacteria such as salmonella.

THE SENSOR IS PART OF THE LARGER NANOTECHNOLOGY FIELD. THROUGH NANOTECHNOLOGY MOLECULAR OR EVEN ATOMIC LEVEL MATERIALS CAN BE STUDIED AND MANIPULATED.

Park: A nano bio sensor can detect even very low concentrations. So basically we are trying to develop a new concept nano based biosensor, which can detect very low concentration of antigens.

THE BIOSENSORS THAT PARK AND COLLEAGUES DEVELOPED USE FLUORESCENT DYE MOLECULES ATTACHED TO SALMONELLA ANITBODIES. THE ANTIBODIES ATTACH TO SALMONELLA BACTERIA AND THE DYE LIGHTS UP SO THE BACTERIA CAN BE SEEN.

Park: There are many different prospective areas such as food quality and safety and animal health monitoring.

SALMONELLA INFECTED FOOD CAN CAUSE SEVERE DIGESTIVE PROBLEMS AND IS SOME CASES DEATH. FOR THE U-S DEPARTMENT OF AGRICULTURE, I'M BOB ELLISON.