

New method to detect *Salmonella*

Researchers at the University of Arkansas, the United States, have developed a new method that can detect the presence of *Salmonella* bacteria within two hours. Current detection requires swabbing the meat and culturing the bacteria for three days. In the new process, a 'chicken soup' is prepared by shaking chicken meat and a buffer in a plastic bag. The soupy buffer mixture is placed in a test tube filled with small magnetic beads coated with antibodies that bind a specific *Salmonella* strain. This mixture is washed with another buffer, using a magnet to pull the beads over to one side with the *Salmonella* bound to the antibody. An enzyme that attaches to the *S. typhimurium* bacteria is then added. Excess enzyme is washed off by again using the magnetic beads to keep the antibody-bacteria-enzyme sandwich intact.

When phenyl phosphate is added to the above mixture, the enzyme attached to the bacteria reacts with the chemical to yield phenol, which can be detected using an electrode. This reaction takes place within an hour and the amount of phenol produced is directly proportional to the amount of bacteria in the sample. An important feature of this method is that as few as 5,000 bacteria can be detected within two hours using an electrode the size of a pen. (Website: <http://www.meatandpoultryonline.com/content/news/>)