Basics on biofilm

Biofilm is a sticky film of nutrients created by bacteria when they attach to a solid surface.

• To say which comes first in a poultry watering system — the interventions or the biofilm — is to pose a chicken and egg problem.

• Bacteria exist in all water — even municipal water. These bacteria actively seek food.

• Some bacterial cell attach to the wall of a pipe and begin to exude a sticky film of polysaccharides and carbohydrates, called biofilm.

• Bacteria choose where to attach based on a variety of factors, including nutrient levels.

• Other bacteria cells are attracted to biofilm.

• Bacteria that are part of the biofilm colony actually turn on a different set of genes so that they react in new and different manners than they did before they embedded in biofilm.

• Each bacterial cell has a job or function within the colony.

• Bacteria can feed off of biofilm.

• Bacteria also can feed off of nutrients in the water.

• Many surfaces attract and concentrate nutrients, and many bacteria have the capacity to detect and move toward high concentrations of nutrients.

• In a poultry watering system, bacteria can form a biofilm before an intervention with medications or vitamins.

This information came from a variety of Web sites, including the Center for Biofilm Engineering at Montana State University; Cornell University's Biofilm Tutorial; and Stanford's Biofilm Research Center.