



Food Safety Program Validation

Food Standards Australia and New Zealand (FSANZ) states, "A food safety program is a written document indicating how a food business will control the food safety hazards associated with the food handling activities of the business." Once a food safety program has been written and fully implemented it is necessary to prove that it is effective. This can only be achieved by laboratory testing of the final product, to ensure conformance to the FSANZ Food Standards Code "Schedule 27 – Microbiological limits in food" (FSC) and/or the "Compendium of Microbiological Criteria for Food – October 2016" (Compendium). In some cases, such as raw meat and poultry, there are no criteria for microbial testing and therefore validation of the food safety program is not warranted. The following applies to those food products which are covered by either the FSC or the Compendium.

Food Safety Program Microbial Validation

To validate the food safety plan the final end product in packaging, as supplied to the consumer, is required to be analysed by a National Authority of Testing Authorities (NATA) accredited biological testing laboratory. The analyses performed will depend on the food type. There are three groups of microorganisms that are used to evaluate a food safety program; these being spoilage bacteria, indicator bacteria and pathogenic bacteria.

Spoilage bacteria are determined by a standard plate count (SPC), also known as an aerobic plate count or total viable count. This is a non-specific test of the microbiological quality of a food. The SPC does not appear in the Food Standards Code as it is not directly related to health risks nor is it a direct indicator of poor hygiene or faecal contamination. It does appear in the Compendium for all applicable food types. The FSANZ guidelines state SPC testing is not applicable in foods such as fresh fruits and vegetables (including salad vegetables), fermented foods and foods incorporating these (such as sandwiches and filled rolls). It would be expected that these foods would have an inherent high plate count because of the normal microbial flora present.

Indicator bacteria appear in both the FSC and the Compendium. These tests include the family of bacteria known as Enterobacteriaceae and also the more commonly known *Escherichia coli* (*E. coli*). Enterobacteriaceae is only referenced in the Compendium, whereas *E. coli* appears in both documents. These organisms, particularly *E. coli*, are found in the intestinal tract of animals and humans. Their presence can indicate that contamination of the food from faecal matter has occurred and there is a possibility that other pathogenic microorganisms which can be found in faeces of animals or humans are present in the food.

The list of pathogenic bacteria that are detailed in the FSC and Compendium include *Salmonella*, *Campylobacter*, coagulase positive staphylococci (golden staph), *Clostridium perfringens* and others. These bacteria can cause illness, be it food poisoning or other serious conditions.

Biotech Laboratories' staff can assist you in the selection of applicable spoilage, indicator and pathogenic bacteria that need to be evaluated to validate your food safety program.