

## **GUIDELINES FOR DETERMINING THE MICROBIOLOGICAL QUALITY OF FOOD**

Prepared January 2008

< = less than

> = greater than

g = gram

### **Disclaimer**

*It should be noted that these guidelines are not standards under existing legislation. The guidelines have been developed using information from Food Standards Australia New Zealand and Symbio Alliance industry expertise. The guidelines are not formal standards and no liability is accepted by Symbio Alliance for any occurrence arising from the adoption of these guidelines.*

### **Ready to eat foods in which all the components have been cooked**

The final product is fully cooked with no additional handling after cooking therefore microbial counts should be low.

Examples include –

- Complete ready to eat meals
- Pasta sauce
- Quiche, frittata and cooked egg based products
- Cooked ready to eat seafood
- Pate
- Cooked meats - unsliced

Test	Microbiological Quality			
	Satisfactory	Marginal	Unsatisfactory	Potentially Hazardous
Standard Plate Count (SPC)	<10,000/g	<100,000/g	>100,000/g	
<i>Escherichia coli</i> ( <i>E. coli</i> )	<3/g	3 to 10/g	>10/g	Pathogenic strains of <i>E. coli</i> should be absent
Coagulase positive Staphylococci	<100/g	100 to 1,000/g	1,000 to 10,000/g	>10,000/g
<i>Clostridium perfringens</i>	<100/g	100 to 1,000/g	1,000 to 10,000/g	>10,000/g
<i>Bacillus cereus</i>	<100/g	100 to 1,000/g	1,000 to 10,000/g	>10,000/g
<i>Vibrio parahaemolyticus</i>	<3/g	<3 to 100/g	100 to 10,000/g	>10,000/g
Campylobacter spp	Not detected in 25g			Detected
Salmonella spp	Not detected in 25g			Detected
<i>Listeria monocytogenes</i>	Not detected in 25g			Detected

## **Ready to eat foods which contain some components that have been cooked**

The final product may contain items that have been handled after cooking (sliced, mixed, piped) or may contain some components where no cooking process has been used.

Examples include –

- Sliced cooked meats
- Decorated cakes
- Sushi

Test	Microbiological Quality			
	Satisfactory	Marginal	Unsatisfactory	Potentially Hazardous
Standard Plate Count (SPC)	<1,000,000/g	<10,000,000/g	>10,000,000/g	
<i>Escherichia coli</i> ( <i>E. coli</i> )	<3	3 to 100/g	>100/g	Pathogenic strains of <i>E. coli</i> should be absent
Coagulase positive Staphylococci	<100/g	100 to 1,000/g	1,000 to 10,000/g	>10,000/g
<i>Clostridium perfringens</i>	<100/g	100 to 1,000/g	1,000 to 10,000/g	>10,000/g
<i>Bacillus cereus</i>	<100/g	100 to 1,000/g	1,000 to 10,000/g	>10,000/g
<i>Vibrio parahaemolyticus</i>	<3/g	<3 to 100/g	100 to 10,000/g	>10,000/g
Campylobacter spp	Not detected in 25g			Detected
Salmonella spp	Not detected in 25g			Detected
<i>Listeria monocytogenes</i>	Not detected in 25g			Detected

## **Fresh fruits and vegetables, salads and fermented foods**

The microbial levels are generally higher than for fully cooked products due to the normal microbial flora that may be present. SPC not used to evaluate microbial quality.

Examples include –

- Fresh fruit salad or fruits that are ready to eat
- Sandwiches and rolls
- Prepared salads
- Fermented meats

Test	Microbiological Quality			
	Satisfactory	Marginal	Unsatisfactory	Potentially Hazardous
<i>Escherichia coli</i> ( <i>E. coli</i> )	<3/g	3 to 100/g	>100/g	Pathogenic strains of <i>E. coli</i> should be absent
Coagulase positive Staphylococci	<100/g	100 to 1,000/g	1,000 to 10,000/g	>10,000/g
<i>Clostridium perfringens</i>	<100/g	100 to 1,000/g	1,000 to 10,000/g	>10,000/g
<i>Bacillus cereus</i>	<100/g	100 to 1,000/g	1,000 to 10,000/g	>10,000/g
<i>Vibrio parahaemolyticus</i>	<3/g	<3 to 100/g	100 to 10,000/g	>10,000/g
Campylobacter spp	Not detected in 25g			Detected
Salmonella spp	Not detected in 25g			Detected
<i>Listeria monocytogenes</i>	Not detected in 25g			Detected

## Dairy Products – including ice cream and edible ice products

Food Standards Australia New Zealand does have regulatory standards for some dairy based products.

Test	Microbiological Quality		
	Satisfactory	Maximum	Comment
Standard Plate Count (SPC)	50,000/g	100,000/g	SPC would not be applicable to cheese or yoghurt
Coliforms	10/g	100/g	
<i>Escherichia coli</i> ( <i>E. coli</i> )	<3/g	10/g	
Coagulase positive Staphylococci	<100/g	100/g	
Campylobacter spp	Not detected in 25g		
Salmonella spp	Not detected in 25g		
<i>Listeria monocytogenes</i>	Not detected in 25g		