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## NEW OVERALL MICROBIOLOGICAL INDEX

### Introduction

As part of our ongoing efforts to improve our service, based on our own experience and client feedback, Food Consulting Services has decided to revise the way in which the Overall Microbiological Index is calculated. We have always “weighted” this index to reflect the difference in “seriousness” of the various microbiological findings.

### Surface Swabs

To start, we evaluate all major food processing areas and equipment (such as food work tables, nylon cutting boards, slicing machines, mixers, plates, jugs, sieves and the like) to determine whether they have been effectively sanitised.

This is a good test for measuring how well items have been sanitised (because a very low count is quite achievable).

### *E.coli*

For foods and hands we focus on organisms of concern, firstly *Escherichia coli*.

Its presence on a food handler’s hands usually implies unhygienic practices such as cross-contamination if staff have not washed their hands properly when they have been to the toilet, handled raw foods and so on.

It can also be found in contaminated water, in which case the water is illegal.



### **Staphylococcus aureus**

For hand-swabs we also test for *Staphylococcus aureus*. This is a microbe found on the scalp, in the ears and within the nose of a certain percentage of the population, called “carriers”. Here it usually causes no problems but if it gets into high-risk foods some strains can produce a toxin that causes a rapid form of food-poisoning and will not—unlike the bacteria—be removed by further cooking because it is heat-stable. It can also come from raw meat.

### **New Index**

For many years, Food Consulting Services has recognised the above facts by penalising a contaminated food or (especially) hand swab more than a contaminated surface swab (which in this case is purely an indication of poor sanitation).

However, this system created anomalies with very small clients and could lead to situations where clients with contaminated food or hands still achieved an **A** symbol on the Microbiological graph—which causes confusion.

We have therefore now enhanced the Overall Microbiological Index to increase and simplify the marks deducted for a contaminated food (21 percentage points from the Index per sample) and hands (31 percentage points per sample). Similarly, water samples contaminated with *E.coli* will lose 25 percentage points per sample.

Thus, even if all other samples comply and only one food is contaminated the Overall Microbiological Index will be at 79%. For a contaminated hand swab, the Index would be 69%. This reflects the fact that *E.coli* on someone’s hands may be spread to multiple foods before the hands are washed again (since its presence in the first place shows the staff member is not washing their hands as they should).

The various sub-indices for surfaces, foods, hands and water or ice samples remain unchanged, since they have always reflected the direct proportion of contaminated results per sample-type. Thus, one out of four contaminated hands yields a Hand Swab (sub)Index of  $(4-1) / 4 = 75\%$  and two contaminated foods out of three a Food (sub)Index of  $(3-2) / 3 = 33\%$

Clients with only contaminated surface swabs will achieve more or less the same for all scores as before.

### **Common Food Borne Pathogens:**

#### *Staphylococcus aureus*

*Staphylococcus aureus* is a type of bacteria commonly found on the skin and hair as well as in the noses and throats of people and animals. These bacteria are present in up to 25 percent of healthy people and are even more common among those with skin, eye, nose, or throat infections.

*Staphylococcus* can cause food poisoning when a food handler contaminates food and then the food is not properly refrigerated. Other sources of food contamination include the equipment and surfaces on which food is prepared. These bacteria multiply quickly at room temperature to produce a toxin that causes illness. *Staphylococcus* is killed by cooking and pasteurisation.

#### Symptoms:

- Nausea
- Vomiting
- Diarrhoea
- Loss of appetite
- Severe abdominal cramps
- Mild fever

## GET TO KNOW FCS



NAME: Yolandi Nel

POSITION AT FCS: Laboratory General Manager

COUNTRY OF BIRTH: South Africa

HIGHEST QUALIFICATION: BSc. Microbiology

FAVOURITE NON WORK ACTIVITY: Cake art and baking

FAVOURITE MUSIC/MUSICIAN/GROUP/BAND: Rock music

THE COUNTRY YOU WOULD LIKE TO EXPLORE THE MOST: Scotland/Wales



NAME: Bronwyn Thaver

POSITION AT FCS: Assistant Quality Manager

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FAVOURITE NON WORK ACTIVITY: Cooking and trying out new recipes

FAVOURITE MUSIC/MUSICIAN/GROUP/BAND: House music, John Legend, Milky Chance

THE COUNTRY YOU WOULD LIKE TO EXPLORE THE MOST: Vietnam, Malaysia

### Accreditation and affiliations

*FCS received ISO/IEC 17025 accreditation through SANAS in August 2001. Being an accredited laboratory means that we not only have the confidence in our personnel, our quality of testing and the test results we provide to our clients, but also that we are competent in our duties and that our clients and other laboratories can have confidence in the services we render. Our testing methods are assessed on the same principles as other accredited laboratories throughout the world.*