

# **Scottish Food Enforcement Liaison Group**

## **Report of the Food Quality Sub Committee**

### **Survey of Restaurant Desserts**

Report Prepared by:

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# 1. Introduction

- 1.1 This survey was initiated by the Scottish Food Enforcement Liaison Committee (SFELC) through its Food Quality Sub-Committee (FQSC) to consider the bacteriological quality of desserts being supplied to the public in restaurants.
- 1.2 The SFELC was set up in 2002 with the purpose of co-ordinating specific issues relevant to the enforcement of the Food Safety Act 1990.
- 1.3 The committee provides a forum for the discussion of topics relevant to the current problems and may initiate surveys or projects or co-ordinate specific investigations initiated by the Local Food Liaison Groups that have been set up in five geographical areas.
- 1.4 Membership consists of Public Analysts, Environmental Health Officers, professional groups, consumer and industry representatives and the Food Standard Agency Scotland.
- 1.5 The committee acts under the following terms of reference:
  - a) contribute to the development of the FSA strategies in Scotland to improve their effectiveness;
  - b) aid and contribute to the consistency of Local Authority Food Law Enforcement in Scotland;
  - c) consider new enforcement mechanisms and approaches and produce recommendations for implementation;
  - d) assist in the maintenance of an effective enforcement infrastructure;
  - e) consider all the relevant matters relating to food and animal feeding stuffs;
  - f) consider any other issues relevant to the way the Food Standards Agency works with local authority enforcement;
  - g) comment on draft legislation and guidance produced by the Food Standards Agency;
  - h) review the work of the Sub-committees, working parties, and any other groups set up under the auspices of the Scottish Food Enforcement Liaison Committees.
- 1.6 The Food Quality Sub-Committee of SFELC considers matters relating to food labelling and compositional standards and co-ordinates all national food surveillance projects, including microbiology, on behalf of enforcement authorities in Scotland.

## **2. Summary**

- 2.1 The survey was carried out during April 2002 - March 2003. One hundred and fifteen samples were taken. Of these, only one sample was found to be unsatisfactory.

## **3. Background**

- 3.1 A survey of restaurant desserts carried out by the West of Scotland Food Liaison Group in 2000.

The conclusion of the survey was that:

- a) Of the 39 samples received 7 (18%) were found to be unsatisfactory. The bacteriological quality of one of these samples was such that it was considered as unacceptable/potentially hazardous.
- b) This level of contamination would support the suggestion that restaurant desserts present a risk to public health.

The survey report recommended that:

- a) Monitoring of restaurant desserts should continue to form part of the routine surveillance of food by Local Authorities.
- b) Consideration should be given to conducting a national survey of restaurant desserts.

The purpose of this survey was to implement the second of these two recommendations.

## **4. Sampling**

- 4.1 Samples consisting of at least 100gms were collected from restaurants/catering establishments where cold sweets are served to the public. Samples were then placed in appropriate containers, labelled, and details relating to the samples were recorded on the sample pro-forma in the space provided.
- 4.2 Samples were then required to be placed in a coolbox and delivered to the laboratory as soon as possible, and preferably, under normal circumstances, no later than 6 hours after sampling in accordance with a written protocol.
- 4.3 For the purposes of this survey a proforma, as illustrated in Appendix 1, was completed for each sample. The sampling protocol required details relating to the sample type and display temperature along with recording of the temperature of the sample on arrival at the laboratory. Details relating to sample display are provided in Table 1.

## **5. Examinations & Methods Used**

### **5.1 Total Viable Count at 30°C (TVC 30°C)**

Samples were examined using the spread plate method described in BS 5763: Part 5 (1994), or an equivalent accredited method to allow counts to be made in the range  $10^3 - 10^7$ /gm.

### **5.2 Staphylococcus aureus**

Samples were examined in accordance with the method described in BS 5763: Part 7 (1994) (Enumeration of *S.aureus* by colony count) or an equivalent accredited method to allow counts to be made in the range  $20 - 10^4$ /gm.

### **5.3 E.coli**

Samples were examined in accordance with the method described in BS 5763: Part 13 (1995) (Enumeration of *E.coli* using membranes) or an equivalent accredited method to allow counts to be made in the range  $20 - 10^4$ /gm.

### **5.4 C. perfringens**

Samples were examined in accordance with the method described in BS EN 13401:1999 (Enumeration of *C.perfringens*) or an equivalent accredited method to allow counts to be made in the range  $10 - 10^4$ /gm.

### **5.5 B. cereus and Bacillus spp.**

Samples were examined in accordance with the method described in BS EN ISO 7932:1998 (Enumeration of *B. cereus*) or an equivalent accredited method to allow counts to be made in the range  $10^2 - 10^6$  /gm.

*B. cereus* count were calculated based on confirmation of suspect colonies in accordance with the above method. The *Bacillus* species count was calculated based on the total colony count from the selective media used.

## **6 Results and Discussion**

The results are given in Table 1. The key to the table is on the last page of the table.

### **6.1 TVC 30°C**

Under the terms of the PHLS Guidelines for Food Examiners (1), desserts may be categorised 1 - 5 depending on their nature. Many desserts contain ingredients such as cheese or live yoghurt, which would require them to be classified as Category 5. No “Unsatisfactory” level is set for this category of sample.

Accurate categorisation of desserts can be difficult to establish, as recipe information is often difficult to ascertain. For this reason, no attempt was made to classify the samples into the appropriate PHLS Category and the results of the TVC30°C are given for information only.

The purpose of this survey is to consider public health issues. Although TVC can be used as a means of assessing whether foodstuffs have been mishandled or subjected to temperature abuse, there is no direct link between TVC and health risk.

## 6.2 **Staphylococcus aureus**

Under the terms of the PHLS Guidelines for Food Examiners, dessert samples with *S.aureus* counts of  $10^4$ /gm would be considered unsatisfactory. Samples with *S.aureus* counts  $>10^4$ /gm would be considered unacceptable/potentially hazardous.

| Total No of Samples | Unsatisfactory "Failures" | Unacceptable "Failures" |
|---------------------|---------------------------|-------------------------|
| 115                 | 0 (0%)                    | 0 (0%)                  |

## 6.3 **E. coli**

Under the terms of the PHLS Guidelines for Food Examiners, dessert samples with *E.coli* counts  $>100$ /gm would be considered unsatisfactory.

| Total No of Samples | Unsatisfactory "Failures" |
|---------------------|---------------------------|
| 115                 | 0 (0%)                    |

## 6.4 **Clostridium perfringens**

Under the terms of the PHLS Guidelines for Food Examiners, dessert samples with *C.perfringens* counts of  $10^4$ /gm would be considered unsatisfactory. Samples with *C.perfringens* counts  $>10^4$ /gm would be considered unacceptable/potentially hazardous.

| Total No of Samples | Unsatisfactory "Failures" | Unacceptable "Failures" |
|---------------------|---------------------------|-------------------------|
| 115                 | 0 (0%)                    | 0 (0%)                  |

## 6.5 **Bacillus cereus and Bacillus Species**

Under the terms of the PHLS Guidelines for Food Examiners, dessert samples with *Bacillus cereus* and *Bacillus* species counts of  $10^4$  -  $10^5$ /gm would be considered unsatisfactory. Samples with *Bacillus cereus* and *Bacillus* species counts  $>10^5$ /gm would be considered unacceptable/potentially hazardous.

| Total No of Samples | Unsatisfactory "Failures" | Unacceptable "Failures" |
|---------------------|---------------------------|-------------------------|
| 115                 | 0 (0%)                    | 1 (0.9%)                |

## **7 Conclusions**

- 7.1 Of the 115 samples received only one (0.9%) was found to be unsatisfactory. The bacteriological quality of this sample was such that it was considered as unacceptable/potentially hazardous.
- 7.2 This level of contamination is less than the earlier study had suggested to be the case, and would not support the suggestion that restaurant desserts present a particular risk to public health.

## **8 Recommendations**

- 8.1 Monitoring of restaurant desserts should continue to form part of the routine surveillance of food by local authorities.

## **9 References**

- 9.1 WSFLG "Survey of Bacteriological Quality of Restaurant Desserts" March 2001
- 9.2 PHLS Digest Vol. 3 No 3 pp 163-7

# APPENDIX 1

## SCOTTISH FOOD ENFORCEMENT LIAISON COMMITTEE

### FOOD QUALITY SUB COMMITTEE

#### Survey of Bacteriological Quality of Restaurant Desserts

April 2002-March 2003

#### SURVEY SAMPLE DATA PRO-FORMA

Page 1 of 2

### SECTION 1

Authority: \_\_\_\_\_

Sample Number \_\_\_\_\_

Contact Name \_\_\_\_\_ Telephone Number \_\_\_\_\_

Type of Product \_\_\_\_\_

### SECTION 2

Where was Sample Obtained from? (e.g Chilled Display Cabinet, Refrigerator, Sweet Trolley)

\_\_\_\_\_

Temperature of Display/Storage Unit \_\_\_\_\_ Date Sample Taken \_\_\_\_\_

### SECTION 3

Was the Dessert Bought in? \_\_\_\_\_ YES/NO (IF NO GO TO SECTION 4)

If Bought in, Give Detail of Manufacturer/Supplier/Wholesaler \_\_\_\_\_

Use-By Date \_\_\_\_\_

### SECTION 4

Was the Dessert Made In-House \_\_\_\_\_ YES/NO Date of Preparation \_\_\_\_\_

Any Relevant Additional Information \_\_\_\_\_

# SURVEY SAMPLE DATA PRO-FORMA

## *Survey of Bacteriological Quality of Restaurant Desserts*

Page 2 of 2

**Temperature on Arrival at Laboratory**      *(Tick Appropriate Box)*

|      |        |      |
|------|--------|------|
| <5°C | >5-8°C | >8°C |
|      |        |      |

**Results**      *(Record Actual Result in Appropriate Box)*

|                            |                   |                                    |                                    |                                    |                                   |                  |
|----------------------------|-------------------|------------------------------------|------------------------------------|------------------------------------|-----------------------------------|------------------|
|                            | <10 <sup>3</sup>  | >10 <sup>3</sup> -10 <sup>4</sup>  | >10 <sup>4</sup> -10 <sup>5</sup>  | >10 <sup>5</sup> -10 <sup>6</sup>  | >10 <sup>6</sup> -10 <sup>7</sup> | >10 <sup>7</sup> |
| Total Viable Count at 30°C |                   |                                    |                                    |                                    |                                   |                  |
|                            |                   |                                    |                                    |                                    |                                   |                  |
|                            | <10               | >10 - 10 <sup>2</sup>              | >10 <sup>2</sup> - 10 <sup>3</sup> | >10 <sup>3</sup> - 10 <sup>4</sup> | >10 <sup>4</sup>                  |                  |
| S.aureus                   |                   |                                    |                                    |                                    |                                   |                  |
| E.coli                     |                   |                                    |                                    |                                    |                                   |                  |
| C.perfringens              |                   |                                    |                                    |                                    |                                   |                  |
|                            |                   |                                    |                                    |                                    |                                   |                  |
|                            | > 10 <sup>2</sup> | >10 <sup>2</sup> - 10 <sup>3</sup> | >10 <sup>3</sup> - 10 <sup>4</sup> | >10 <sup>4</sup> -10 <sup>5</sup>  | >10 <sup>5</sup> -10 <sup>6</sup> | >10 <sup>6</sup> |
| Bacillus species           |                   |                                    |                                    |                                    |                                   |                  |
| Bacillus cereus            |                   |                                    |                                    |                                    |                                   |                  |

**Please return completed forms to:**

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**TABLE 1**

| <u>Product Description</u>  | <u>Storage Type</u> | <u>TVC at 30</u> | <u>S.aureus</u> | <u>E.coli</u> | <u>C.perfringens</u> | <u>Bacillus Species</u> | <u>Bacillus cereus</u> | <u>Storage Temp °C</u> | <u>Arrival Temp °C</u> |
|-----------------------------|---------------------|------------------|-----------------|---------------|----------------------|-------------------------|------------------------|------------------------|------------------------|
| Chocolate Slice             | 1                   | 1                | 1               | 1             | 1                    | 1                       | 1                      | 2                      | 3                      |
| Chocolate Lumpy Bumpy       | 2                   | 1                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 1                      |
| Rum Baba                    | 3                   | 1                | 1               | 1             | 1                    | 1                       | 1                      |                        | 1                      |
| Belgium Apple Lattice       | 5                   | 3                | 1               | 1             | 1                    | 1                       | 1                      | 5                      | 1                      |
| Raspberry Cranican          | 1                   | 4                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 1                      |
| Nuts About Chocolate        | 4                   | 1                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 1                      |
| Lemon Meringue Pie          | 1                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 2                      | 2                      |
| Crème Brulee Cheesecake     | 1                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 2                      |
| Chocolate Cheesecake        | 2                   | 3                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 1                      |
| Toffee & Pecan Cheesecake   | 2                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 1                      |
| Banoffie Pie                | 2                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 1                      |
| Lemon Cheesecake            | 2                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 2                      | 1                      |
| Chocolate Orange Mousse     | 2                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 1                      |
| Chocolate Choux Bun         | 2                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 2                      | 1                      |
| Chocolate Fudge Cake        | 2                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 1                      |
| Mango & Passionfruit Mousse | 2                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 2                      | 1                      |
| Chocolate Gateaux           | 2                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 1                      |
| Chocolate Fudge Cake        | 5                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 5                      | 1                      |
| Chocolate Malt Cake         | 1                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 1                      |
| Sticky Toffee Sponge        | 2                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 2                      | 1                      |
| Chocolate Gateaux           | 1                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 2                      |
| Chocolate Mousse            | 1                   | 2                | 1               | 1             | 1                    | 1                       | 1                      |                        | 2                      |
| Vanilla Cheesecake          | 1                   | 3                | 1               | 1             | 1                    | 1                       | 1                      | 2                      | 3                      |
| Apple Crumble               | 2                   | 2                | 1               | 1             | 1                    | 1                       | 2                      | 2                      | 3                      |
| Vanill                      | 2                   | 2                | 2               | 2             | 1                    | 1                       | 1                      | 1                      | 3                      |
| Carrot Cake                 | 1                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 3                      |
| Apricot & Apple Crumble     | 2                   | 2                | 1               | 1             | 1                    | 1                       | 1                      |                        | 1                      |
| Carrot Cake                 | 5                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 5                      | 1                      |
| Caramel Apple Pie           | 2                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 1                      |                        |
| Fruits of Forest Cheesecake | 2                   | 3                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 1                      |
| Strawberry Cheesecake       | 2                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 1                      |
| Summer Fruit Pudding        | 2                   | 2                | 1               | 1             | 1                    | 1                       | 1                      | 1                      | 1                      |

