

قسم المراقبة الصحية على الأغذية  
كلية الطب البيطرى - جامعة أسيوط  
رئيس القسم : د. ا. د / على يوسف لطفى

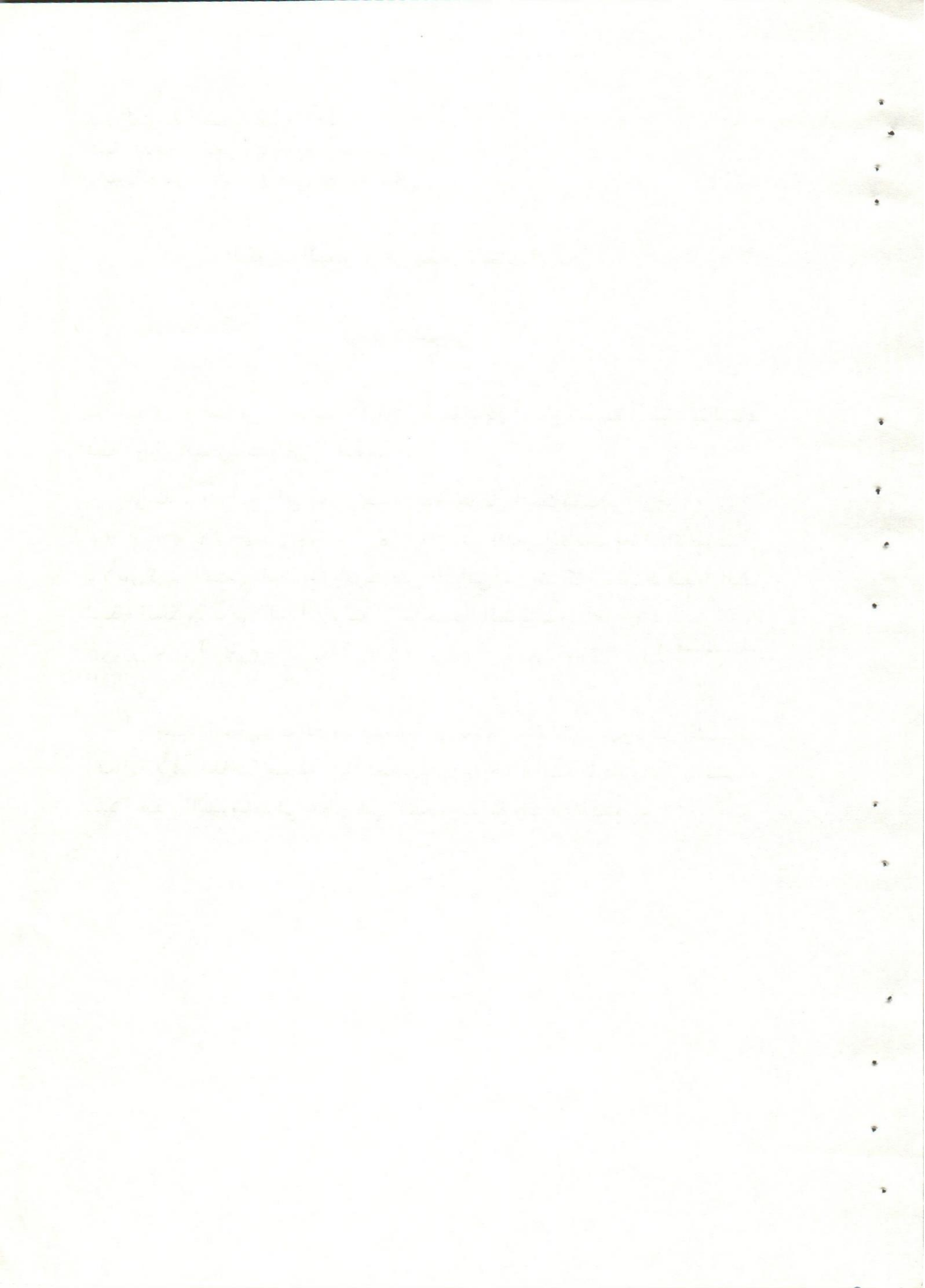
## المكورات المعوية فى بعض منتجات الألبان

### توفيق البسيونى

تم جمع ١٠٢ عينة من منتجات الألبان المختلفة من أسواق مدينة أسيوط وذلك  
لعد وعزل الميكروبات الكروية المعوية .

واسفرت النتائج على وجود هذه المجموعة من الميكروبات فى ٤٠.٩١ ٪ ،  
٧٠ ٪ ، ٨١،٨٢ ، ٥٤ ر ٥٥ ٪ ، ٨٧ ر ٥٥ ٪ من اللبن المجفف وغذاء الأطفال  
والأيس كريم والجبن المطبوخ والزبد على التوالى . وقد كان متوسط العدد الكلى  
لهذه الميكروبات فى الحرام أو سم ٣ الواحد من العينات هو ٣٢١ × ١٠ ،  
٢١٠ × ٨٠ ر ٤ ، ٢١٠ × ٣٣ ر ٦ ، ٢١٠ × ٤٧ ، ٢١٠ × ١٣٠ ر ٧ ، ٢١٠ × ٢١٠ على  
التوالى .

أن وجود الميكروبات الكروية المعوية فى منتجات الألبان لهودليل على  
أهمال الأشرطاطات الصحية أثناء تصنيع وتداول هذه المنتجات بجانب ما قد  
تشكله هذه الميكروبات فى خطر على الصحة العامة وفساد للمنتج .



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## **ENTEROCOCCI IN SOME DAIRY PRODUCTS** (With 3 Tables)

By  
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(Received at 12/12/1984)

### **SUMMARY**

A total of 102 samples of milk powder, baby foods, ice-cream, processed cheese and table butter were collected from Assiut City markets for the enumeration and isolation of existing enterococci.

Enterococci were detected in 40.91, 70, 81.82, 54.55 and 87.5% of the examined samples respectively. The mean value of enterococci counts was  $32.1 \times 10^2$ ,  $80.4 \times 10^2$ ,  $33.6 \times 10^2$ ,  $47 \times 10^2$  and  $130.7 \times 10^2$  in the examined samples respectively. Dairy products, of improperly handled, result in serious troubles to both, producers and consumers.

### **INTRODUCTION**

The enterococci may have a distinctive role as indicators of poor factory sanitation, owing to their relatively high resistance to drying, detergents or disinfectants, as well as to freezing temperature. Moreover, these organisms are also implicated in food spoilage (ANGELOTTI *et al.* 1963) and food poisoning outbreaks (GREVOKA, 1968; SEDOVA, 1970 and ERWA, 1972). Several investigators (ALEKSIEVA, 1974, 1976, 1977; EFTHYMIU *et al.* 1974; AHMED & EL-BASSIONY, 1979, SALLAM, 1979 and BATISH *et al.* 1982) have reported the occurrence of enterococci in dairy products. The data reported by SARASWAT *et al.* (1965) emphasize the value of enterococcus count as a sanitary index for butter.

The main object of the present investigation is to assess the incidence and sanitary significance of enterococci in some dairy products marketed in Assiut City.

### **MATERIAL and METHODS**

102 random samples of milk powder, baby foods, ice-cream, processed cheese and table butter were collected from Assiut City markets for the enumeration and isolation of existing enterococci.

Handling and preparation of each sample was done according to A.P.H.A. (1978).

#### **Enumeration and isolation of enterococci:**

Enterococcus selective differential agar medium was used for enumeration according to EFTHYMIU *et al.* (1974). Colonies were picked up for further confirmation according to published procedures (BAILY & SCOTT, 1974 and EFTHYMIU *et al.* 1974).

**RESULTS**

All results obtained from the examined samples of milk powder, baby foods, ice-cream, processed cheese and table butter are presented in Tables (1-3).

**DISCUSSION**

Results obtained and recorded in Table 1 point out that enterococci were present in 9 (40.91), 14 (70%), 18 (81.82%), 12 (54.55%) and 14 (87.5%) of the samples of milk powder, baby foods, ice-cream, processed cheese and butter respectively. Enterococci were previously isolated from milk products by EFTHYMIU *et al.* (1974), ALEKSIEVA (1976, 1977), SALLAM (1979) and BATISH *et al.* (1982). Table 2 shows the maximum, minimum and average counts of enterococci recovered from all examined samples.

In food microbiology, *Streptococcus faecalis* and *Strept. faecium* are of importance (FAO, 1979). The incidence of *Strept. Faecalis* and *Strept. faecium* are presented in Table 3. These organisms are known to be causative agents of infection in human beings and animals. Presence of enterococci in foods is indicative of contamination from faecal sources (ANGELOTTI *et al.* 1963 and BROOKS, 1974).

It is worth mentioning that milk products improperly handled provide a ready medium for transmission of enterococci to consumers. The value of enterococci counts as a sanitary index for dairy products was emphasized.

**Table (1)**  
**Frequency distribution of enterococci in dairy products.**

Products	No. of samples examined	+ ve samples	
		No.	%
Milk powder	22	9	40.91
Baby foods	20	14	70.00
Ice-cream	22	18	81.82
Processed cheese	22	12	54.55
Table butter	16	14	87.50

## ENTEROCOCCI IN DAIRY PRODUCTS

Table (2)  
Enterococci count/gm. or ml. in examined samples

Products	Counts		
	Min.	Max.	Average
Milk powder	100	86 x10	32.1x10
Baby foods	100	73.2x10 <sup>3</sup>	80.4x10 <sup>2</sup>
Ice-cream	80	27.2x10 <sup>3</sup>	33.6x10 <sup>2</sup>
Processed cheese	200	24.3x10 <sup>3</sup>	47 x10 <sup>2</sup>
Table butter	100	62 x10 <sup>3</sup>	130.7x10 <sup>2</sup>

Table (3)  
Incidence of Strept. Faecalis and Strept. faecium  
in examined samples.

Products	No. of samples examined	+ve Strept. faecalis		+ve Strept. faecium	
		No.	%	No.	%
		Milk powder	22	9	40.41
Baby foods	20	14	70.00	4	20.00
Ice-cream	22	18	81.82	10	45.45
Processed cheese	22	12	54.55	3	13.64
Table butter	16	14	87.50	4	25.00

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