INDICES OF Food SANITARY QUALITY AND SANITIZERS

M.Sc.(Microbiology) Semester IV

Unit -IV

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Quality is a concept based on a number of product attributes that basically determine their level of suitability to a concrete and predetermined use.

- **Indicator organisms** can be employed to reflect the **microbiological quality** of foods relative to product **shelf life** or their **safety** from foodborne pathogens. In general, indicators are most often used to assess **food sanitation.**
- Group of microorganisms are commonly tested for and used as indicators of overall **food quality** and the hygienic conditions present during **food** processing, and, to a lesser extent, as a marker or **index** of the potential presence of pathogens (i.e. **food** safety)like Coliforms, Escherichia .

INDICATORS OF FOOD SAFETY

- Microbial indicators are employed more often to assess food safety and sanitation than quality.
- Ideally, a food safety indicator should meet certain important criteria. It should

1. be easily and rapidly detectable.
2. be easily distinguishable from other members of the food biota.
3. have a history of constant association with the pathogen of concern
4. always be present when the pathogen of concern is present.

Growth:

1) like most other non pathogenic G(-) bacteria, coliforms grow well on many media and in many foods.
2) grow at **-2°C ~ 50°C**. In foods, growth is poor or very slow at 5°C.
3) grow over a pH range of **4.4-9.0**.
4) grow on minimal medium – carbohydrate (e.g. glucose) + inorganic nitrogen (e.g. NH_4SO_4).
5) grow well on nutrient agar and produce visible colonies within 12-16 h at 37°C.

2. Enterococci

- Features of the classical enterococci that led to their use as **pollution indicators for water** arethe following:

1. **do not multiply in water**, especially if the organic matter content is low.

2. generally **less numerous in human feces than *E. coli***, with ratios of fecal coliforms to enterococci of 4.0 or higher. The classical enterococcal tests presumably reflect **more closely the numbers of intestinal pathogens** than fecal coliforms.

3. The enterococci **die off at a slower rate** than coliforms in waters and thus would normally outlive the pathogens.

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