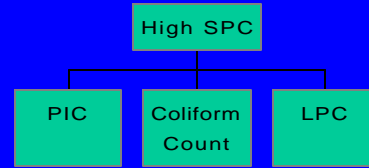


Localizing a SPC Problem

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Localizing a SPC Problem



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Preliminary Incubation Count

- Incubate raw milk at 55 °F for 18 hours
- Psychrotrophic bacteria grow
32 - 68 °F
- Claim improved correlation to sanitation vs SPC, reflects milk keeping quality
- Little use in localizing problem

Coliform Count

- High levels reflect contamination on the cow's teats at milking and often careless use of water in preparation
- Very high levels occur in refrigeration failure
- Incubate 1 ml on VRBA at 98.6 °F for 48 hours
- Aim < 25/ml

- Coliform mastitis does not usually contribute to the coliform count !





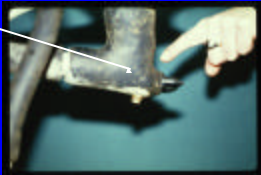
Laboratory Pasteurized Count

- Incubate raw milk at 145 °F for 30 mins
- Only thermoduric bacteria survive; originate from soil & silage and grow in soil films in milking equipment
- Udder pathogens do not survive
- Incubate 0.1 ml at 98.6°F for 48 hours
- Aim < 50 / ml

So what are the Psychrotrophs & Thermodurics ?

| | |
|--|---|
| <ul style="list-style-type: none"> • Psychrotrophs <ul style="list-style-type: none"> - Gram neg rods - Pseudomonads - Achromobacter - Alcaligenes enterobacter - Acinitobacter - Flavobacterium - Bacillus spp - Clostridia spp | <ul style="list-style-type: none"> • Thermodurics <ul style="list-style-type: none"> - Micrococci - Microbacterium - Strep spp - Lactobacilli - Bacillus spp - Clostridia spp |
|--|---|

Machine Hygiene

- Dead ends & joins 
- Sample at points along milk-line to localize
- Incubation
 - inadequate slope
 - long milking time
 - milk filter >4 hours

Coliform Count

| | | Low | High |
|---|------|-----------------|------------------------------------|
| L | Low | No herd problem | Wet or dirty teats |
| | High | Wash-up problem | Dirty teats / Wash-up / Incubation |
| P | | | |
| C | | | |

Non-udder pathogens in Bulk Milk

| <u>% Samples</u> | <u>Pathogen</u> |
|------------------|-----------------|
| 6.1 | Salmonella |
| 4.6 | Listeria |
| 9.2 | Campylobacter |
| 6.1 | Yersinia |
| 3.8 | E.coli |

Jayarao 1999