

## MILK TESTS

Every dairy company carries out a series of milk quality tests on all milk supplied.

### **Bactoscan Test**

The bactoscan test assesses the number of live bacteria in a milk sample using sophisticated internationally accepted electronic methods. A high bactoscan reading indicates bacterial contamination which may be due to poor hygiene in the milking plant or the vat or during the milking procedure or mastitis. Poor pre-cooling and chilling will allow the bacterial to grow faster.

### **Thermoduric Count**

This is a plate count of heat resistant bacteria which survive pasteurisation at 72 degrees Celsius for 15 seconds. The milk sample is pasteurised then plated in a similar way to the SPC.

Milkstone and perished rubber are the most common sources of thermodurics in the milking plant. They gain access to the plant from soil, water, dust, vegetation and fodder.

### **Coliform Count**

This test measure the number of coliform bacteria in the milk sample. It uses a specific agar which only allows coliforms to grow. Plates are counted after 24 hours because coliforms grow quickly. A high count indicates poor hygiene. The source of the bacteria may be dung or water. Poor cooling allows them to grow faster.

### **Somatic Cell Count (SCC)**

This test is used to measure the number of somatic cells (white blood cells) present in the milk sample. They are an indication of mastitis and because it affects milk quality.

The cell count is measured either directly (electronically) or indirectly (by milk viscosity).

### **Colostrum**

Colostrum is the milk from the first eight milkings of lactation. It has high levels of protein which protect the calf from disease. The level of these proteins is measured by a technique called immuno-diffusion.

Milk with high colostrum levels can cause manufacturing problems.

### **Senses Test**

The tester smells, tastes, and looks at the milk sample to detect a wide range of physical, biological and chemical contaminants. Some of these are agricultural chemicals, feed taints, blood, colostrum, and gross bacterial contamination.

The tanker driver will detect really bad contamination and leave the milk in the vat, thus avoiding contamination of the milk from others suppliers which is already in the tanker.

### **Inhibitory Substance Test**

This test is for substances that inhibit or reduce the growth of bacteria in milk. It is done by adding a standard bacterium to a milk sample. The presence of an inhibitory substance will stop the bacteria growing. This is indicated by a lack of colour change.

The main source of inhibitory substances is antibiotic residues from such things as mastitis treatment, pessaries, drugs or injections.

### **Sediment Test**

This measures physical contamination of milk (dung, cow hair, skin, dust) resulting from unhygienic milking procedures, poor cow preparation or open vat lids. The milk sample is drawn through a special filter which retains the sediment. The filter is then compared to a standard chart.

Article end.