Methods of Preparation of Milk Samples (500 ml) for

Training to Detect Important Off Flavors of Milk (definite)

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| **Defect** | **Method of Preparation** |
| Acid | Add 10 ml of cultured buttermilk. |
| Bitter | Add 1 ml of a 2% suspension of quinine sulfate. |
| Feed | Suspend 1/2 cup silage or alfalfa hay in 2 cups water in a side arm flask. Stopper the top of the flask. Place tubing on the side arm and extend it into the milk. Heat slowly to drive volatiles into the milk where they will condense. **Remove the tubing from the milk before removing the flask from the heat source or the milk will be drawn back into the suspension.** |
| Flat/Watery | Add 50-75 ml of water. |
| Foreign | Add 1 ml laundry bleach. Be aware that flavor changes with time. |
| Garlic/Onion | Option 1: Add 2 drops of garlic or onion juice.  Option 2: Add 0.1g of garlic or onion powder. |
| Malty | Add 10 ml malt extract or soak 2 teaspoons Grape Nuts® cereal in 100 ml milk for about an hour; filter and use to flavor the sample. Addition of 5–10 ml of cultured buttermilk is also recommended. |
| Metallic/Oxidized | Add 2 drops of 1% cupric sulfate to the milk and expose to direct sunlight for 15 minutes or place very close to a fluorescent lightbulb and expose for about an hour. |
| Rancid | Heat 750 ml of raw milk to 161oF or 72oC for 15 seconds. Pour pasteurized milk into an empty gallon jug and shake vigorously for 15 minutes. Place in refrigerator overnight. Mix with pasteurized homogenized milk to desired intensity.  Definite score = 10% of total sample is rancid milk (e.g., 3.785 L (1-gal) sample at an event would include 378.5 ml (12.8 oz) of rancid milk). |
| Salty | Add 0.5g table salt |