# Purpose

1.1 To ensure that all measuring equipment used during manufacturing, storage and transportation are calibrated and where applicable verified to determine whether it is within acceptable operating limits.

# Scope

* 1. This document encompasses all measuring equipment namely:

Scales | Thermometers | pH Meter | Temperature Probes | Thermographic Recorders | Flow Meters

# Responsibility

3.1 [Name of Personal Responsible]

# Definitions

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| **Calibration** | The act of checking or adjusting (by comparison of a standard) the accuracy of measuring system. |
| **Verification** | Confirmation through the provision of objective evidence, that specified requirements have been fulfilled, including the application of methods, procedures, tests and other evaluations and monitoring to determine compliance with Dairy **[Company Name]**’s policy. |

# Instructions and Guidelines

## 5.1 Responsibilities

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| --- | --- | --- | --- | --- |
| **Whom** | **Where** | **When** | **Action** | **Records** |
| Person Responsible For Quality Control | All Areas | Internal and External Calibration/Verification  **Annually** | Based on risk, scales, mass pieces, reference thermometers, pH meter, temperature probes, thermographic recorder and flow meters will be examined by a third-party calibration company.  All calibrated equipment shall have a calibration sticker attached to the instrument reflecting the calibration date and date of next calibration | **REC 4.1** Calibration Certificates (Sheet) |
| Self-Verification  Scales: **Weekly**  Thermometer: **Monthly**  pH meter: **Daily with Buffer**  Flow Meter: **Daily** | All measuring equipment such as scales and thermometers will be checked for operating accuracy against reference devices that are calibrated by SANAS accredited certification bodies. | **REC 4.2** Scale Verification Records  **REC 4.3** Thermometer Verification Records  **REC 4.4** pH-Meter Verification Records  **REC 4.5** Flow Meter Verification Records |

## 5.2 Special Reference To

**5.2.1 Thermometer Verification Procedure**

1. All thermometers should be easily identified by a permanent identification number.
2. Fill a large beaker with ice and water and stir the mixture.
3. Insert reference thermometer probe into the beaker.
4. Insert thermometer probe into beaker next to reference thermometer probe.
5. Leave thermometers in ice solution for 1 minute, record readings of reference thermometer and thermometer being tested.
6. Record results on recording document.
7. Any readings differing more than 2oC from reference thermometer must be recorded on the recording document and corrective action taken.

**5.2.2 Scale Verification Procedure**

1. All scales should be easily identified by a permanent identification number.
2. Ensure scale is level by ensuring that the air bubble is in the centre of the spirit level circle (if required).
3. Tare scale and place calibrated mass piece onto the scale
4. Once the scale read out has stopped fluctuating, record the reading.
5. Repeat the procedure twice. Repeat with full range of mass pieces.
6. Complete documentation, by filling in the date and recorded weights.
7. Report any scales with noticeable deviations from calibrated weight piece to the Production Manager.

**5.2.3 Flow Meter**

1. The litres of all milk purchased should be added (use the invoices when milk was collected). Compare the litres with the flow meter reading.
2. If this deviates on a regular base with more than the average limit, the flow meter should be calibrated.

**5.2.4 Thermographic Recorder**

1. The thermographic recorder should be verified on a monthly basis.

**5.2.5 pH-Meter**

1. Use clean buffer (pH 4 and 7) at room temperature to check the reliability of the pH-meter every day before production starts.
2. If the reading differs with more than 0.2 the pH-meter should be recalibrated using clean buffer at room temperature.

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| **Executive Manager: [Name]** | **Date** | **Signature** |
|  | DD-MM-YYYY |  |