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|  | **TCS** Vijay | **DOC.NO: M.122.NC** |
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**Identification of Natural Resources Consumed**

This document details the process for identifying all natural resources consumed during the manufacture of food products under NIC Code 10101. Accurate identification is crucial for effective resource management, environmental compliance, and cost optimization.

1. Scope

This procedure applies to all processes and activities within the food manufacturing facility falling under NIC Code 10101, encompassing raw material acquisition, processing, packaging, and waste disposal.

2. Methodology

The identification process will follow a structured approach, employing a combination of direct measurement, data analysis, and material flow analysis.

**2.1 Direct Measurement: Direct measurement involves quantifying resource consumption at various stages of production. This includes:**

* Water: Measuring water usage for cleaning, processing, and cooling systems using water meters at key points. Regular readings should be recorded and logged.
* Energy: Tracking energy consumption from electricity, natural gas, and other fuels used in machinery, heating, and cooling. Utility bills and meter readings provide the necessary data.
* Raw Materials: Accurately recording the quantity and type of all raw agricultural products (e.g., grains, fruits, vegetables), packaging materials (e.g., paper, plastic, glass), and other ingredients used. This requires detailed inventory management and production records.

**2.2 Data Analysis: Data collected through direct measurement will be analyzed to determine consumption rates per unit of production. This allows for identifying high-consumption areas and potential areas for improvement.**

**2.3 Material Flow Analysis: A material flow analysis (MFA) will be conducted to map the entire flow of materials throughout the production process, from raw material acquisition to waste disposal. This visualization helps identify hidden resource consumption and potential waste reduction opportunities.**

3. Data Recording and Reporting

All data collected must be meticulously recorded using standardized forms and a central database. The database should allow for easy retrieval and analysis of data. Regular reports should be generated, summarizing resource consumption and identifying trends.

4. Compliance Notes

* Environmental regulations: Ensure compliance with all relevant environmental regulations concerning water and energy consumption, waste disposal, and the sourcing of raw materials. Specific regulations will vary depending on location and type of operation.
* Reporting requirements: Maintain accurate records to meet any reporting requirements mandated by local, regional, or national authorities.
* Sustainable sourcing: Prioritize the sourcing of raw materials from suppliers committed to sustainable practices.

5. Practical Guidelines

* Calibration of Measurement Instruments: Regularly calibrate all measuring instruments (water meters, energy meters) to ensure accuracy.
* Data Validation: Implement checks and balances to validate the accuracy of collected data.
* Employee Training: Train employees on the importance of accurate data recording and the procedures for resource conservation.

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