Guide and Explanation Document for Backend Table Configuration

Introduction

This document provides a comprehensive guide to understanding the backend configuration of our data storage system using Airtable. It outlines how data is organized, the structure of various sheets, and the integration of forms for efficient data collection and management. This setup is designed to streamline the process of recording and analyzing coffee batch information, including fermentation and drying processes.

https://mcgill-my.sharepoint.com/personal/dhevin_desilva_mail_mcgill_ca/_layouts/15/embed.aspx?UniqueId=9cd8d22b-0aae-4d7c-8cbf-8b4fd9beb9a2&embed=%7B%22ust%22%3Atrue%2C%22hv%22%3A%22CopyEmbedCode%22%7D&referrer=StreamWebApp&referrerScenario=EmbedDialog.Create

Database Structure

Our Airtable setup includes four primary sheets:

1. **Main**

2. **Batch**

3. **Fermentation**

4. **Drying**

These sheets are interconnected to ensure comprehensive data management and easy access to relevant information.

Detailed Sheet Overviews

1. Batch Sheet

Purpose: To collect and store information about each coffee batch.

Fields:

- **Batch Name:** A unique identifier for each coffee batch.

- **Coffee Variety:** The type of coffee (e.g., Arabica, Robusta, Special, Normal).

- **Harvest Date:** The date when the coffee was harvested.

- **Fermentation Method:** The method used for fermenting the coffee (e.g., Washed, Honey).

- **Form Submitted Date:** Automatically captures the date the form was submitted.

- **Form Modified Date:** Automatically updates when the form is modified.

- **Assignee:** The person responsible for submitting the form.

Process:

- Farmers submit details about the coffee batch, including its variety, harvest date, and fermentation method.

- Data is captured through a form and dynamically linked to ensure real-time updates and accuracy.

2. Fermentation Sheet

Purpose: To record detailed information about the fermentation process of each batch.

Fields:

- **Batch:** Links to the batch sheet.

- **Fermentation Status:** Indicates if the fermentation is new or ongoing.

- **Fermentation Method:** Pulled from the batch sheet.

- **Type of Water Used:** Specifies the water type used in fermentation.

- **Additives:** Any additives used during fermentation.

- **Check Time:** The time when fermentation is checked.

- **Temperature:** The temperature during fermentation.

- **pH:** The pH level of the coffee.

- **Brix Levels:** The sugar content during fermentation.

- **Humidity:** The humidity level during fermentation.

- **Weather Conditions:** External weather conditions during fermentation.

- **Notes:** Additional observations or notes.

- **Fermentation Start Date:** The start date of fermentation.

- **Fermentation End Date:** The end date of fermentation.

- **Barrel Status:** Relevant for honey fermentation to control temperature manually.

- **Barrel Open Time:** The time when the barrel was opened.

- **Barrel Close Time:** The time when the barrel was closed.

- **Assignee:** The person responsible for the fermentation process.

Process:

- After the batch is received, detailed information about the fermentation process is recorded, including environmental conditions, checks, and manual interventions.

3. Drying Sheet

Purpose: To capture data about the drying process of coffee batches.

Fields:

- **Batch:** Links to the batch sheet.

- **Drying Status:** Indicates if the drying is new or ongoing.

- **Is Drying Over:** Marks if the drying process is complete.

- **Check Time:** The time of the last check during drying.

- **Temperature:** The temperature during drying.

- **Humidity:** The humidity level during drying.

- **Weather:** Weather conditions during drying.

- **Notes:** Additional observations or notes.

- **Drying Start Date:** The start date of drying.

- **Drying End Date:** The end date of drying.

- **Assignee:** The person responsible for the drying process.

Process:

- Records details of the drying process, including periodic checks, temperature, humidity, and external weather conditions.

Main Sheet

Purpose: To aggregate data from the Batch, Fermentation, and Drying sheets for a comprehensive overview.

Fields:

- **Batch ID:** A unique identifier derived from the batch name.

- **Coffee Variety, Harvest Date, Fermentation Method:** Auto-populated from the batch sheet.

- **Fermentation Records:** Links to all fermentation records for the batch.

- **Drying Records:** Links to all drying records for the batch.

- **Average Data:** Calculates averages for temperature, humidity, and other relevant metrics.

Process:

- The main sheet provides a consolidated view of all data related to each batch, including fermentation and drying details.

- This allows for easy monitoring and analysis of the entire coffee processing cycle.

Form Configuration

The forms are configured to automate data collection and linkage across different sheets:

- **Batch Form:** Captures basic batch details.

- **Fermentation Form:** Collects detailed fermentation data, linking to the batch sheet.

- **Drying Form:** Records drying process details, linking to the batch sheet.