

DATA DICTIONARY FOR DE DFA DATATHON

Datathon Team Name: AVON MAET

DataWarehouse: Snowflake DW

Database: DFA23RAWDATA

Schema: AVONMAET

This data dictionary contains detailed information about the data elements or attributes used in a database. It serves as a reference guide for understanding the structure, meaning, and usage of each data element.

For Dimension Tables:

1) DIM_DATE

This table serves as the calendar table for the database which would help the Data Analysts and Scientists to easily perform time intelligence calculations.

Field Name	Data Type	Description
DATETIMEKEY	TIMESTAMP_NTZ(9)	The datetime of the event
DATETIMEVALUE	VARIANT	
YEAR	NUMBER(38,0)	The Year of the event
MONTH	NUMBER(38,0)	The month of the event
DAY	NUMBER(38,0)	The Day of the event
HOURL	NUMBER(38,0)	The Hour of the event
MINUTE	NUMBER(38,0)	The Minute of the event
SECOND	NUMBER(38,0)	The Second the event
DAYOFWEEK	NUMBER(38,0)	The Day of the Week of the event
DAYOFYEAR	NUMBER(38,0)	The Day of the Year of the event
WEEKOFYEAR	NUMBER(38,0)	The Week of the Year of the event

2) DIM_CROP_TYPE

This dimension table contains information on the various crop type being monitored by the Agricultural Monitoring Systems.

Field Name	Data Type	Description
CROP_ID	VARCHAR(10)	The Unique Identifier for the Crop Type
CROP_TYPE	VARCHAR(20)	The various crop types in the Database

3) DIM_GROWTH_STAGE

This dimension table contains information on the various Growth Stages for the crops captured by the Agricultural Monitoring Systems.

Field Name	Data Type	Description
GROWTH_STAGE_ID	VARCHAR(10)	The Unique Identifier for the Crop Growth Stage
GROWTH_STAGE	VARCHAR(20)	The various Growth Stages in the Database

4) DIM_IRRIGATION_METHOD

This dimension table contains information on the Method used for irrigation captured by the Agricultural Monitoring Systems.

Field Name	Data Type	Description
IRRIGATION_METHOD_ID	VARCHAR(10)	The Unique Identifier for the IRRIGATION METHOD
IRRIGATION_METHOD	VARCHAR(20)	The various IRRIGATION METHODS in the Database

5) DIM_LOCATION

This dimension table contains information on the Agricultural Location.

Field Name	Data Type	Description
LOCATIONID	NUMBER(18,0)	The Unique Identifier for the table
LOCATION_NAME	VARCHAR(30)	The Agricultural Location
SENSOR_ID	VARCHAR(10)	Identifier for the agricultural sensors.
LONGITUDE	NUMBER(9,6)	Longitude coordinates of the location
LATITUDE	NUMBER(8,6)	Latitude coordinates of the location

ELEVATION	NUMBER(8,2)	Elevation of the location above sea level
REGION	VARCHAR(20)	Geographical region where the location is situated

6) DIM_PEST_TYPE

This dimension table contains information on the Type of pest detected by the Agricultural Monitoring Systems.

Field Name	Data Type	Description
Pest_ID	VARCHAR(10)	The Unique Identifier for the Pest Type
Pest_type	VARCHAR(20)	The various Pest Types in the Database

7) DIM_SENSOR

This dimension table contains information on the Agricultural Sensors.

Field Name	Data Type	Description
Sensor_ID	VARCHAR(10)	Unique Identifier for the agricultural sensors

8) DIM_WATER_SOURCE

This dimension table contains information on the different sources of irrigation water.

Field Name	Data Type	Description
WATER_SOURCE_ID	VARCHAR(10)	The Unique Identifier for the WATER SOURCE
WATER_SOURCE	VARCHAR(20)	The various WATER_SOURCE in the Database

9) DIM_WEATHER_CONDITION

This dimension table contains information on the different weather conditions.

Field Name	Data Type	Description
WEATHER_CONDITION_ID	VARCHAR(10)	The Unique Identifier for the WEATHER_CONDITION
WEATHER_CONDITION	VARCHAR(20)	The various WEATHER_CONDITION in the Database

FACT TABLES

1) FACT_CROP

This table contains observations about the different crops, their growth stages, the yield of each type of crop and more.

Field Name	Data Type	Description
TIMESTAMP	TIMESTAMP_NTZ(9)	Date and time of crop data observation
CROP_YIELD_KGM2	NUMBER(8,2)	Crop yield in Kilogram per squared meter
CROP_ID	VARCHAR(10)	The Identifier for the Crop Type
PEST_ID	VARCHAR(10)	The Identifier for the Pest Type
GROWTH_STAGE_ID	VARCHAR(10)	The Identifier for the Crop Growth Stage

2) FACT_IRRIGATION

This table contains data and observation related to Irrigation, its methods, water sources etc

Field Name	Data Type	Description
SENSOR_ID	VARCHAR(10)	Identifier for the agricultural sensors
TIMESTAMP	TIMESTAMP_NTZ(9)	Date and time of irrigation data observation.
IRRIGATION_DURATION_SEC	NUMBER(38,0)	The duration of irrigation in seconds
IRRIGATION_METHOD_ID	VARCHAR(10)	The Identifier for the method used for irrigation
WATER_SOURCE_ID	VARCHAR(10)	The Identifier for the Water source used for irrigation

3) FACT_PEST

This table contain observations related to pest, pest type, description etc.

Field Name	Data Type	Description
TIMESTAMP	TIMESTAMP_NTZ(9)	Date and time of pest data observation
PEST_SEVERITY	VARCHAR(20)	The Severity of the pest infestation
PEST_DESCRIPTION	TEXT	Description of pest-related observations
PEST_ID	VARCHAR(10)	The Identifier for the Type of pest detected

4) FACT_SENSOR

This table contains observations related to the agricultural sensors.

Field Name	Data Type	Description
SENSOR_ID	VARCHAR(10)	Identifier for the agricultural sensors.
TIMESTAMP	TIMESTAMP_NTZ(9)	Date and time when sensor data was recorded.
TEMPERATURE	NUMBER(5,2)	Temperature recorded by the sensor in Celsius

HUMIDITY	NUMBER(5,2)	amount of water vapor present in the air
LIGHT_INTENSITY	NUMBER(38,0)	amount of power either emitted or reflected by a source
BATTERY_LEVEL	NUMBER(5,2)	On-Farm Energy Storage

5) **FACT_SOIL**

This table contains observations related to the soil, its moisture content, ph value and other details.

Field Name	Data Type	Description
TIMESTAMP	TIMESTAMP_NTZ(9)	Date and time when soil data was recorded.
SOIL_COMP	NUMBER(5,2)	The composition of the soil
SOIL_MOISTURE	NUMBER(5,2)	Soil moisture level as a percentage.
SOIL_PH	NUMBER(4,2)	Soil pH level.
NITROGEN_LEVEL	NUMBER(5,2)	The Nitrogen level percent in the soil
PHOSPHORUS_LEVEL	NUMBER(5,2)	The Phosphorous level percent in the soil
ORGANIC_MATTER	NUMBER(5,2)	The organic matter percent in the soil

6) **FACT_WEATHER**

This table contains observations related to the weather, the wind speed, precipitation etc.

Field Name	Data Type	Description
TIMESTAMP	TIMESTAMP_NTZ(9)	Date and time of weather data observation.
WIND_SPEED_MS	NUMBER(5,2)	Wind speed in meters per seconds.
PRECIPITATION_M	NUMBER(5,2)	Amount of precipitation in meters
WEATHER_CONDITION_ID	VARCHAR(10)	The Identifier for the WEATHER_CONDITION