

# **Ingredient Matrix CodeBuilder**

# **TECHNICAL GUIDANCE**

# **App Information**

- This is an R Shiny app built by Minnesota Department of Health (MDH) MN.IT.
  - https://ingredient-matrix-codebuilder.web.health.state.mn.us/

## Uses

 Develop programming code (SAS, R, or Python) to update menu-level datasets to include ingredient information for analysis.

## Notes

#### Ingredient and menu item names cannot have spaces or special characters

- The "Ingredients" column can also be used for categories/groups of food items (e.g., indicating which menu items are from the hibachi, or creating an "any salad" grouping).
- Code Logic:
  - If a patron reports ANY menu item that includes ingredient X, then Ingredient X = Yes.
  - If a patron denies ALL menu items that include ingredient X, then Ingredient X = No.
  - Otherwise, if a patron reports a combination of "No" and Unknown/blank responses regarding menu items that include ingredient X, then Ingredient X = blank.

# Develop an Ingredient Matrix (i.e., mapping)

## 1. Upload an existing matrix

- In the top left corner of the page, choose "Browse..." and navigate to your saved matrix.
- To successfully import, the ingredient matrix must be saved as a CSV file.
- The ingredient matrix must have "Menu item" (case sensitive, no quotation marks) in cell A1.

## 2. Build (or update) a matrix in the app

- Type, or paste in, the menu items (separated by commas, or each on its own line).
- Type, or paste in, the ingredients (separated by commas, or each on its own line).
- Add checkmarks to the corresponding boxes.

#### Example:

ptional) Upload foodborne ingredient atrix Browse	List menu items tempura, shrimp roll_avcorady roll_crispr_shrimp, tempura hbach_ucyeltable hbach_uchicken kids_hbach_chicken kids_hbach_chicken bernd_chick_terryab	List ingredient	s 11_any, chicken_any,		
▲ Download matrix		roll_any	hibachi_any	chicken_any	shrimp_any
empura_shrimp					8
roll_avocado		2		0	
roll_crispy_shrimp_tempura		8	0	0	8
nibachi_vegetable					
hibachi_chicken				2	
kids_hibachi_chicken				•	
ids_hibachi_shrimp		0	2	D	8
pento_chix_teriyaki				8	
alue for yes 1 Matrix Complete – Develop Code	Value for no	Select languag R O Pythor			

# **Develop Code**

- Choose a value for "yes" and a value for "no" for the code output, matching what is in your exposure database.
- When you are satisfied with your matrix, select your desired programming language (R, Python, or SAS).
- Click "Matrix Complete Develop Code"
- Copy the code. Minor edits (e.g., table names) may be required to match your existing code.

#### FOODBORNE OUTBREAK - INGREDIENT MATRIX CODEBUILDER APP

/alue for yes	Value for no	Select language	
1	2	○ R ○ Python ● SAS	
Matrix Complete – Develop Code			
Copy code			
PROC SQL;			
CREATE TABLE dat2 AS			
SELECT *,			
CASE			
	crispy shrimp tempura = 1 THEN 1		
	1_crispy_shrimp_tempura = 2 THEN 2		
END AS roll any,			
CASE			
WHEN tempura_shrimp = 1 OR ro	ll_orispy_shrimp_tempura = 1 OR kids_hibach	i_shrimp = 1 THEN 1	
	oll_crispy_shrimp_tempura = 2 AND kids_hibs	chi_shrimp = 2 THEN 2	
END AS shrimp_any			
FROM dat; QUIT;			
2011;			
lersion 1.0.0 (2024-07-02)			

## Download a Matrix (optional)

- After entering (or updating) your menu items and ingredients, you may wish to download the empty (or partial matrix), populate the matrix, and then upload it back into this tool.
- You may also wish to save your matrix as part of outbreak documentation.
- Click "Download matrix" to download the current matrix.

## Get Help

- If you need assistance with the CodeBuilder app, would like to chat with someone about building your matrix, or there is a problem with the app, feel free to contact us!
  - https://mnfoodsafetycoe.umn.edu/contact-us/