United States Department of Agriculture (USDA) Agricultural Marketing Service (AMS)



Market Analysis & Reporting Services (MARS) API & Livestock Mandatory Price Reporting in Microsoft Excel User Guide, v1.1

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Change History

Date	Change	Version
11 APR 18	Initial Draft	1.0
17 APR 18	Added Livestock Mandatory Price Reporting Web Service	1.1
	to Excel Section	

1 MARS To Excel Overview

This overview provides instructions to basic Excel users on how to connect to the Market Analysis & Reporting Services (MARS) Application Programming Interface (API) and access the desired data. This document goes step by step.

1.1 Purpose of MARS API to Excel Help Guide

Both Microsoft Excel 2016, and 2013 (with the optional Power Query Tab installed) support data calls to web based API. The Microsoft 2013 Power Query Tab can be downloaded here. In Excel 2016, the Tab is called "Data". These instructions show how to link data sources to the MARS API from Excel file and automatically refresh to pull the latest data.

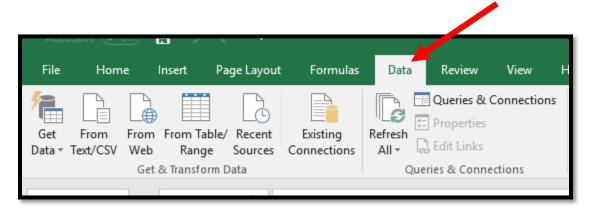


Figure 1 MS Excel Data Tab Toolbar

1.2 Document Audience

This overview was written to assist basic Excel users in configuring their Microsoft Excel 2013 or 2016 to pull MARS data automatically into their own environment or network.

2 Usage

In order to know specifically what reports are available, it is recommended that a Table of Contents be pulled from the MARS API before beginning your query.

2.1 Starting a new MARS API request

To start a new MARS API connection, click "From Web" on the Data Tab in Excel.

¹ https://www.microsoft.com/en-us/download/details.aspx?id=39379

Enter the following URL to retrieve the table of contents from the MARS API: https://marsapi.ams.usda.gov/services/v1/reports. Click "OK". The screen will pause for a few seconds while the request is made to the MARS API. The screen will refresh.

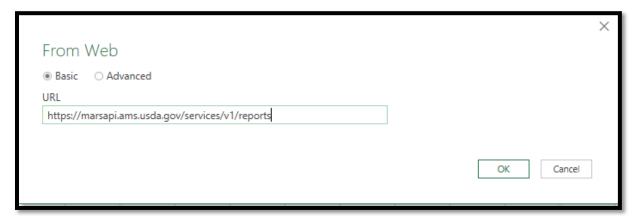


Figure 2 "From Web" Menu.

The first time a Data Source is configured to access the MAR API, a key is required.

Select the Data Tab >> Queries and Connections >> Right click on one of the queries displayed in the right pane and select >> Edit. Once in the Query Editor, select Data Source Settings >> Select Global permission. Select Edit Permission >> Select Basic >> Select Edit.



Figure 3 Access Web Content Form

Select the "Basic" Tab and enter the MARS API key that is associated with your E-Auth account into the User name field. Each registered user has a personal API key that can be found at My Market News² in the user profile. Click "Connect". The API key specified should be entered in

² https://mymarketnews.ams.usda.gov

the username field of the Basic authorization with no password. Select "Connect" when finished.

The page will refresh and the Query Editor will launch.

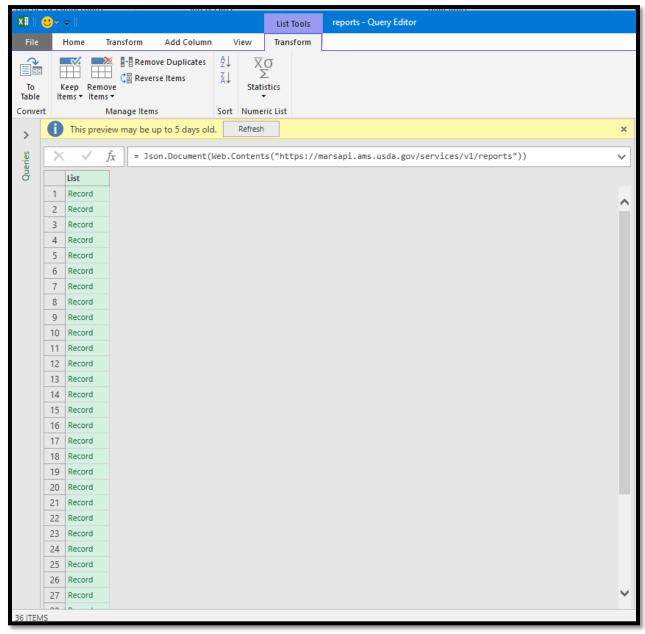


Figure 4 Microsoft Query Editor

Place your mouse of the column heading titled "List". Right click your mouse and select "Copy Entire List"

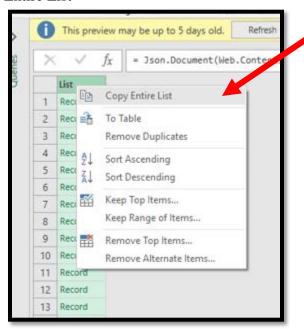


Figure 5 Click Copy Entire List

Click the "To Table" button



Figure 6 Click To Table Convert

A menu will appear. Click "OK"



Figure 7 To Table Selection Menu

The screen will refresh. There will be an icon to the right of "Column1".

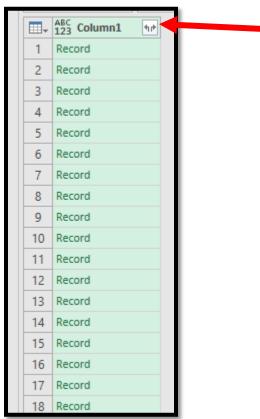


Figure 8 Column Selection



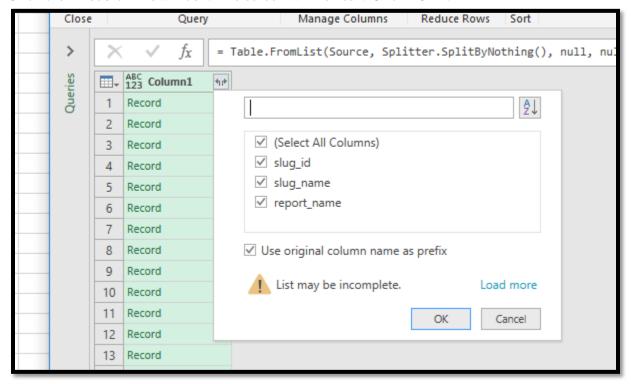
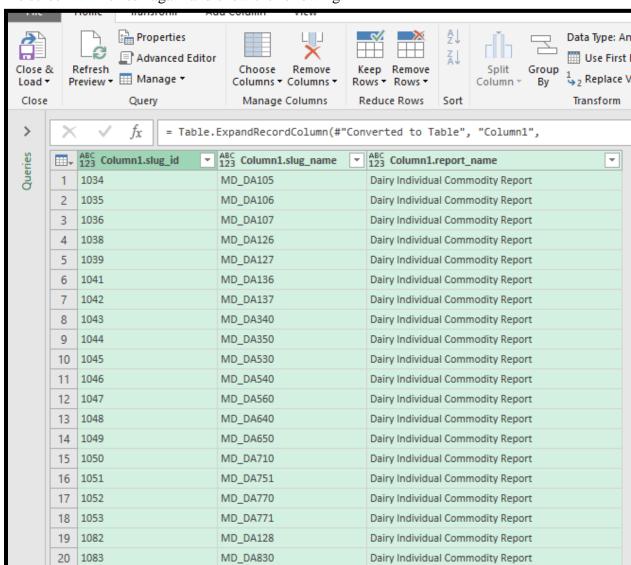


Figure 9 Column Selection Options



The screen will refresh again and show the following:

Figure 10 All Columns Shown

21

1084

Click the "Close and Load" button. This will load all data into a new Excel worksheet.

MD_DA810



Figure 11 Close and Load Button

Dairy Individual Commodity Report

The worksheet will pause for a few second while the data is pulled from the MARS API. The screen will refresh and look like:

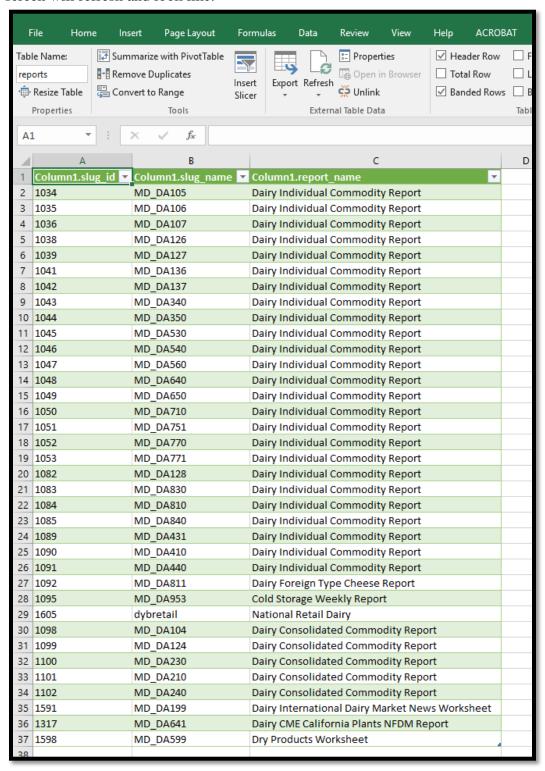


Figure 12 Columns of Data Shown In Excel Worksheet

Now that we have a complete list of all available reports, you can now pull a specific report. Let's go ahead and pull the "Cold Storage Weekly Report".

2.2 Pulling a specific report from the MARS API

Click on a new Worksheet in the Excel file. Click "From Web" on the Data Tab. Using the example3 on the MyMarketNews website, we will use this string (https://marsapi.ams.usda.gov/services/v1/reports/1095). The 1095 is Slug ID for the Cold Storage Weekly Report. If you wish to pull a different report, replace the Slug ID with the desired report number. Click "OK".



Figure 13 From Web Input Form

This screen will show, while all the data is pulled:



Figure 14 Connecting Status Menu

³ https://mymarketnews.ams.usda.gov/mars-api/reports

The Query Editor menu will display:

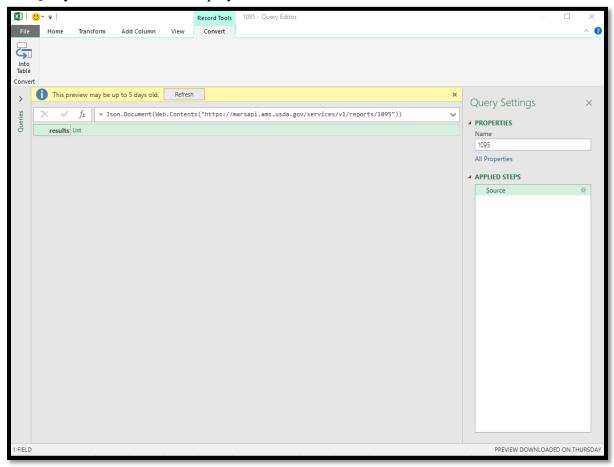
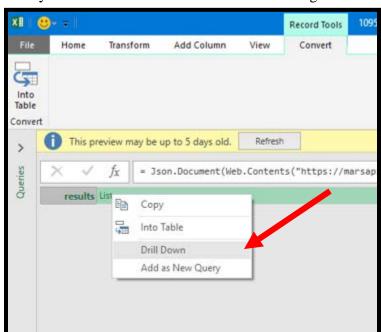


Figure 15 Microsoft Query Editor Displayed



Place your mouse on the column titled "List" in green and right click. Select "Drill Down".

Figure 16 Selection of Drill Down

The screen will refresh and display as below.

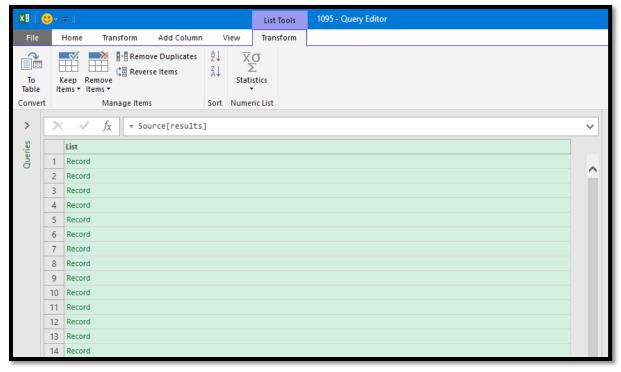
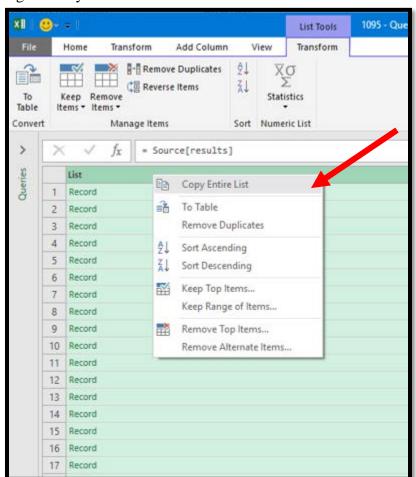


Figure 17 Transform Tab of Query Editor



Right click your mouse over the Column titled "List" and select "Copy Entire List"

Figure 18 Transform Tab "Copy Entire List" Option

Click the "To Table" button



Figure 19 To Table Convert Button

A menu will appear. Click "OK"



Figure 20 "To Table" Menu

The screen will refresh and display as below.

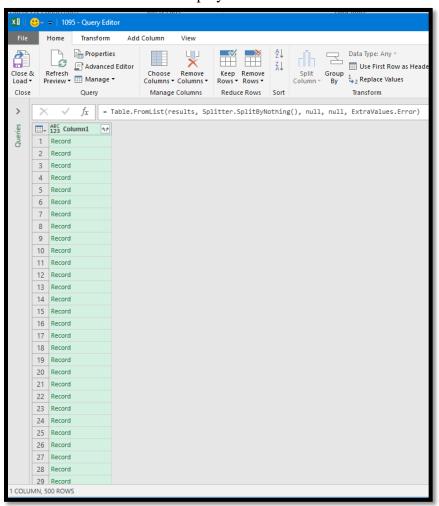


Figure 21 Query Editor with data shown

The screen will refresh. There will be an icon to the right of "Column1". Click the "Double Arrow" icon. The screen will refresh. Click "OK".

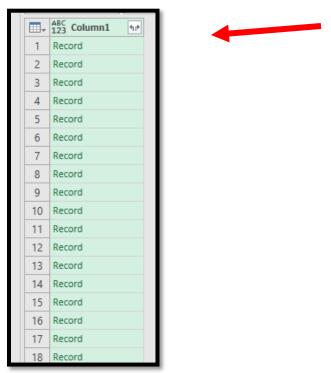


Figure 22 Click Double Arrow to expand

The screen will refresh and show. Click "OK". If you want to exclude columns from importing, de-select the columns here and click "OK"

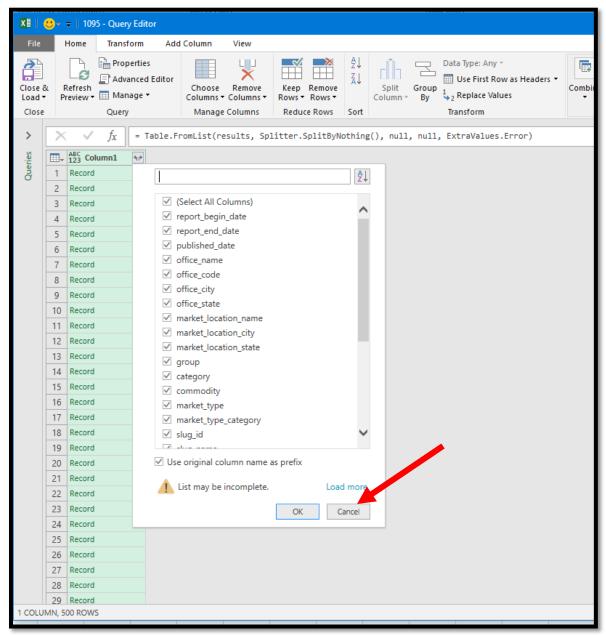


Figure 23 Column Selection Menu

The screen will refresh and appear like this.

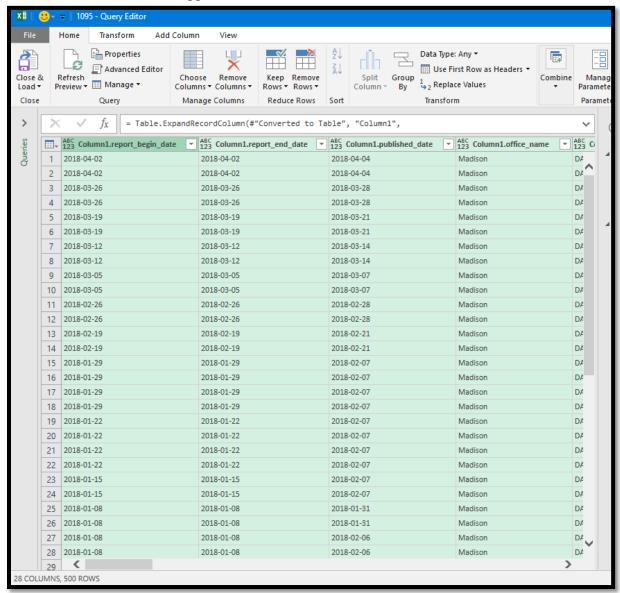
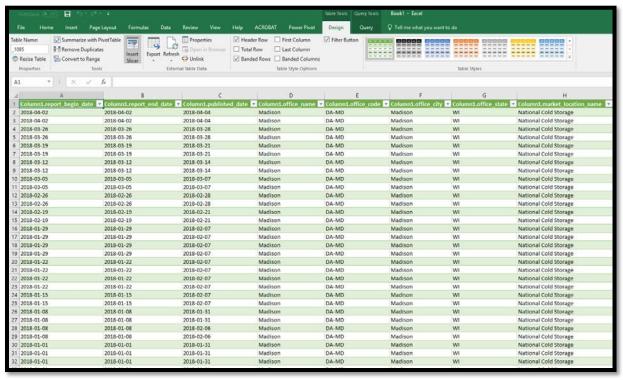


Figure 24 Columns of Data Shown

Select "Close and Load" button.



The screen will refresh and appear as below. You have successfully pulled data from the MARS API. You are free to manipulate, modify, or delete data here. This is your local copy of this data.



At any time, if you want to refresh the data, click the "Refresh" button. The Excel file will automatically pull the data again from the MARS API.



3 Livestock Mandatory Price Reporting System Web Service to Excel

3.1 Overview

The Livestock Mandatory Price Reporting System (LMPRS) offers a public facing Web Service that allowd users to query for publicly released aggregated data reports. The Help Guide for this web service is available online⁴.

This web service is dated, has limited filtering capabilities, and only offers XML data extraction. It is expected that later in 2018, LMPRS data will be available in MARS via My Market News. Once on MARS, our customers can pull this data through the API in a Json format.

This guide explains how to create query strings using the URL to request data and provides provides several examples on how to tailor the data to the desired results. The examples use the LM_CT100 5 Area Daily Weight Average Direct Slaughter Cattle – Negotiated report, but these instructions apply to any LMPRS report.

3.2 Implementation

By referencing the Help Guide, there are several working examples to pull from. Users are free to tweek the URL to the data query they desire.

The URL for pulling "LM_CT100, 5 Area Daily Weighted Average Direct Slaughter Cattle – Negotiated" for data between 01/08/2018 and 01/12/2018, below is:

https://mpr.datamart.ams.usda.gov/ws/report/v1/cattle/LM_CT100?filter={"filters":[{"fieldName":"Report%20date","operatorType":"BETWEEN","values":["01/08/2018","01/12/2018"]}]}

You will enter this URL into your browser and all of the data associated with that report between those dates will appear. The figure below shows what you will see.

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⁴ https://mpr.ams.usda.gov/mpr/webServiceGuide.pdf

⁵ https://mymarketnews.ams.usda.gov/

To save, click Select File, Save As

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- results export*Times**P018-04-17 08:1932 CDT*>
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Figure 25 LMPRS Data shown in XML format

The filename will populate with your selected data set. Save to a local location. Select "Save".

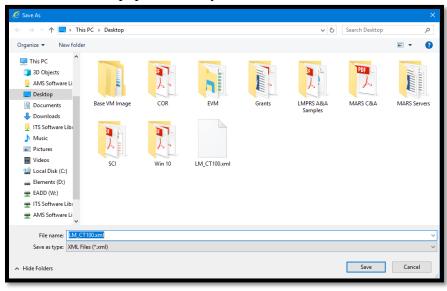


Figure 26 Save XML File down to your local machine

Open Microsoft Excel with a blank Worksheet.

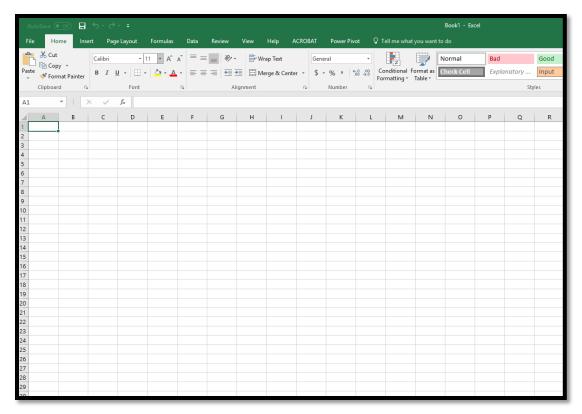


Figure 27 Excel with blank worksheet

Select File >> Open >> Browse >> Select XML file. Select Open.

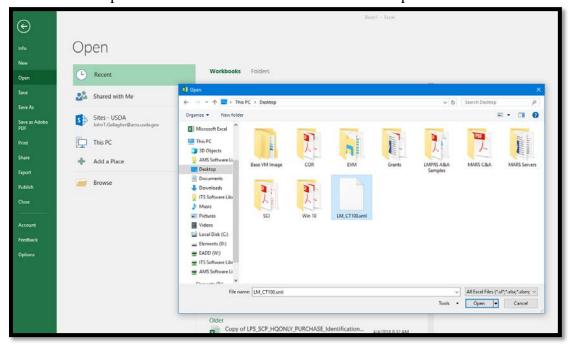


Figure 28 Select XML file

A menu will appear. Leave the default selection and select "OK".

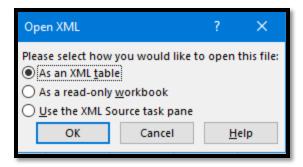


Figure 29 Leave default selection and select OK

Data will automatically import and display as below:

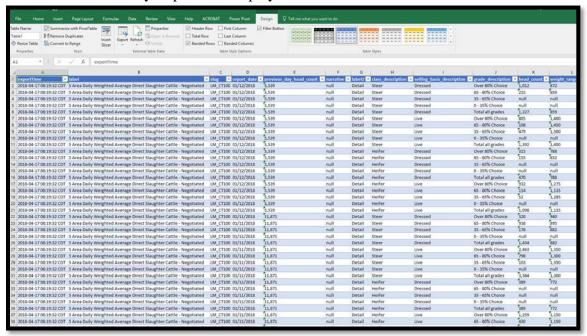


Figure 30 Imported XML Data showing.

The import of LMPRS data into the spreadsheet is static. It is not dynamically connected to LMPRS, as is the MARS API is. The AMS team is working to incorporate LMPRS data into the MARS API so that in the future, users will be able to have both voluntary and mandatory in one location. This incorporation will be completed by the end of 2018.