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Farm Data Dashboard
The Farm Data Dashboard includes 7 main tabs:

- NASS (Quickstats)
- ARMS
- Fetch Climate
- Use cases
- AgMIP
- Documentation
- Download

ARMS Data Description
Agricultural Resource Management Survey (ARMS) is USDA's primary source of information about production practices, financial conditions, and resource use of America's farm businesses. They are also responsible for the economic well-being of America's farm households. ARMS is a nationally acclaimed survey, administered using several phases - sample screener, field-level, and farm-level phases - targeting about 5,000 fields and 30,000 farms each year.

The field-level phase collects information on production practices and costs (fertilizer, pesticide, labor, tillage, seed, etc.) for target commodities. The farm-level phase collects financial information for farm businesses and a variety of financial and demographic information (age, education, occupation, off-farm income, etc.) for farm operators and their households. The survey collects information from 48 States and is designed to be representative of the continental U.S and to support State-level estimates for 15 key agricultural States.

Why Does ARMS Information Matter?
ARMS data support official statistics and policy-relevant economic research regarding farm financial performance, farm household well-being, and conservation/environmental programs. In turn, the statistics and research inform public and private decision makers weighing alternative policies and programs affecting the farm sector, farm families, and the environment. In fact, the results of this survey are the only source of information available for an objective evaluation of many critical issues related to agriculture and the rural economy.

Who Conducts the Survey?
The Economic Research Service (USDA-ERS) and the National Agricultural Statistics Service (USDA-NASS) share funding and management responsibilities for this annual survey.
What Does ARMS Dashboard look like?

The ARMS tab (as shown above) utilizes parameters based on the concept of What (Select Commodity block), Where (Select Location block) and When (Select Time block).

- ‘What parameters’ refer to a commodity, data item or subject area.
- ‘Where parameters’ refer to a location or geographic level such as the state, county, district, or the entire United States.
- ‘When parameters’ refer to time and frequency - such as a year, quarterly, monthly, etc.

A user may create requests in combination with the “What” and/or “Where” and/or “When” parameters from the list boxes. Once the parameters have been set, the request is built in the API Request textbox.

Each selection in the ARMS tab causes an update of the status counter (displayed below).
Accessing data of ARMS

Result data from blob
ARMS data is available as archive with separate files in CSV format. Each of this files is represent the appropriate database table. User can find this archive in “Downloads – Databases” section of Innovation Challenge Dashboard.

![Image]

Result data from ARMS UI
A user can get data from UI. For this the user should select some parameters in list boxes like on the picture below:

![Image]

For getting the data, user should push to “Get Data” button. In this case the data will appear in table like on picture below:
For customized tables, we have added paging and sorting parameters – in order to create some <PageSize> elements for table.

**Table column definitions**

The “What” (Commodity) block

<table>
<thead>
<tr>
<th>Column name</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject</td>
<td>The primary subject of interest (e.g., CORN, CATTLE, LABOR, TRACTORS, OPERATORS).</td>
</tr>
<tr>
<td>Estimate</td>
<td>Assessment in special report</td>
</tr>
<tr>
<td>RSE</td>
<td>The relative standard error is the standard error the estimate expressed as a percent of the estimate.</td>
</tr>
<tr>
<td>Topic header</td>
<td>The topic title</td>
</tr>
<tr>
<td>Units</td>
<td>The unit associated with the statistic category (e.g., ACRES, $ / LB, HEAD, $, OPERATIONS).</td>
</tr>
</tbody>
</table>

The “Where” (Location) block

<table>
<thead>
<tr>
<th>Column name</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>State (state_name)</td>
<td>This is the name of the state.</td>
</tr>
</tbody>
</table>

The “When” (Time) block

<table>
<thead>
<tr>
<th>Column name</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>The numeric year of the data.</td>
</tr>
</tbody>
</table>
In table we shows not all data from source by current request.

<table>
<thead>
<tr>
<th>Header name</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>decimal_d</td>
<td>Number of decimal digits to display</td>
</tr>
<tr>
<td>element_name</td>
<td>The name of the group</td>
</tr>
<tr>
<td>fips_st</td>
<td>The state code</td>
</tr>
<tr>
<td>report_num</td>
<td>Report number</td>
</tr>
<tr>
<td>series</td>
<td>Group code</td>
</tr>
<tr>
<td>series_element</td>
<td>The group element</td>
</tr>
<tr>
<td>series_header</td>
<td>Group header</td>
</tr>
<tr>
<td>subject_num</td>
<td>Code of the subject</td>
</tr>
<tr>
<td>survey_abb</td>
<td>Code of the research</td>
</tr>
<tr>
<td>topic_abb</td>
<td>Theme code report</td>
</tr>
<tr>
<td>topic_seq</td>
<td>Topic serial number</td>
</tr>
<tr>
<td>unit_desc</td>
<td>Unit of measure</td>
</tr>
<tr>
<td>unreliable_est</td>
<td>Error estimate</td>
</tr>
</tbody>
</table>

The ARMS API resource supports four different output formats: JSON, XML, CSV, and ZIP (CSV):

Button Details:

1. Get Data – Retrieves data by requesting the API Request string, and creates a table using this data.
2. Copy to Clipboard – Copies requests from the API Request string box.
3. Clear – Clears the API Request string box and clears all of the list boxes to the default state.
4. Download CSV, Download JSON, Download XML, Download ZIP (CSV) – Download the API request string data in your desired format.

Result data from ARMS API
The user may change a request in the API Request String textbox without it affecting the selected list boxes on the NASS tab.

List of API parameters

**ARMS Crop Production Practices**

<table>
<thead>
<tr>
<th>parameter</th>
<th>description</th>
</tr>
</thead>
</table>

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Creating API request string using list boxes on ARMS UI – Example:

1. Survey = CROP Production Practices
2. Report = Pesticide Use
3. Subject = Corn
4. Row group = All Farms
5. Sub group = All Farms
6. US/States = COLORADO
7. Year = 2010
Once you have selected your desired parameters, you will receive an API Request like on previous picture.

*Long URL in API Request*

If the API Request textbox contains a long URL (about 2000 characters), then the GET request is not acceptable. In this situation, POST request will be used. Additionally, the hint will appear, to explain that POST request should be used.
Example of using ARMS API from python script

```python
# The script MUST contain a function named getDataFromUrl
# which is the entry point for this module.
#
# The entry point function can contain up to one input arguments:
# Param<str> url string
def getDataFromUrl(url):
    import urllib.request
    with urllib.request.urlopen(url) as urlVal:
        s = urlVal.read()
        print(s)
    return
```

Example of using ARMS API from R script

For simple access to ARMS API, usage of "RCurl" library is recommended:

```r
library(RCurl)

src<- read.csv(text=getURL(url))
```