# Web Usability Testing for ARMS Data Products

**Statement of Work**

**[Date]**

## Background

The Economic Research Service is one of four agencies in the Research, Education, and Economics (REE) Mission Area of the U.S. Department of Agriculture. The agency has approximately 500 employees and is the main source of economic information from USDA. Its mission is to inform and enhance public and private decision-making on economic and policy issues related to agriculture, food, natural resources, and rural development. To accomplish this mission, ERS economists and social scientists develop and disseminate economic, social scientific, and statistical information to the public. The program encompasses research; analyses of food and commodity markets; policy studies; development of estimates, forecasts, and other economic and statistical indicators; and development of data sets compiled from diverse sources.

ERS disseminates its information to the public through a variety of outlets, including the ERS web site (www.ers.usda.gov), which provides access to all ERS publications, economic and statistical indicators, and data sets. In the past two years ERS has seen a rapid growth in the role that a wide range of Internet services play in supporting its core work. [**www.ers.usda.gov**](http://www.ers.usda.gov/) has become part of a comprehensive suite of online services offered by the agency for its external customers. Referred to as "ERS Online," these services now include electronic newsletters covering 50 different topic areas, extranets that provide private workspaces for ERS staff to collaborate with other federal agencies and private organizations, and the Amber Waves e-zine.

One of ERS Online’s most important services is to provide external customers with access to more than 9,000 data sets. Foremost among these services are the suite of tools that provide selective access to data from the Agricultural Resource Management Survey (ARMS). ARMS is USDA's primary source of information on the financial condition, production practices, resource use, and economic well being of America's farm households. Sponsored jointly by ERS and the National Agricultural Statistics Service, ARMS began in 1996 as a synthesis of the former USDA cropping practice, chemical use, and farm costs and returns surveys, which dated back to 1975. ARMS data are essential to USDA, congressional, administration, and industry decision-makers when weighing alternative policies and programs that touch the farm sector or affect farm families (http://www.ers.usda.gov/Briefing/ARMS/ ).

ERS wants to ensure continued citizen-focused tools and resources to its many varied constituencies and to meet its mission is expanding and improving the quality of the information. To ensure current and future ARMS online data products support their constituencies, ERS plans to conduct a series of formal usability tests.

## Goals

ERS requires contractor services to organize and facilitate web usability testing for current and future ARMS online data products. These one-on-one tests will be conducted with representatives from the actual user population for ERS data products. Research indicates that usability testing works best when researchers work with users one-on-one, gathering data from what some researchers call “Level 3 Verbalizations.” In a “Level 3” usability test, participants receive instruction to articulate their preferences moving through a web site but are asked, as well, to provide reasons they have selected specific strategies. [[1]](#footnote-1) Research also shows that participants do report out loud what they are thinking as they do a task, but only when they are properly instructed and practiced. What participants say is influenced by their interpretation of our role, our instructions to them, their interpretations of these instructions, and our reactions to their reactions.[[2]](#footnote-2)

Usability can be a “product differentiator” because usable products translate into greater success for an organization that pays attention to user needs.[[3]](#footnote-3) But usability demands a co-coordinated and cohesive effort from everyone involved in product development. A goal for ERS is to develop and share a usability testing “success story” or “case study” to enable managers and others within the organization to see lessons learned --- how usable structure resulted in product improvement.

## Tasks

This project has three tasks. The contractor shall provide reports and documentation for all tasks in written and electronic format and will provide monthly written progress reporting.

### Task 1: Project Kick-off & Planning

**FFP: $\_\_\_\_\_\_\_\_\_\_\_\_\_**

The contractor shall elicit information from ERS project stakeholders in order to elicit high-level requirements for the first round of ARMS data product usability testing and use this information to prepare a draft test plan and script.

### Task 1 Deliverables Date due: [Date]

The contractor shall:

1. Attend a project kick-off meeting with key ERS web staff to: 1) review project expectations, 2) review scheduling and deliverables, and 3) define the “top-level” requirements and expectations for current and future ARMS data products in terms of who needs to use them, what they need, what the data products are expected to accomplish. The contractor’s role in this meeting is to listen for specific tasks and tailor a draft testing plan to a script that the contractor will use in an initial round of user testing. The contractor will use the meeting as a way to gather task-based information about current and future ARMS data products and impart instructional strategies to support team members in later site testing. The contractor will also introduce ERS to the heuristic testing tool that will be used by ERS evaluators during the upcoming tests.
2. Provide a 3 – 5 page draft testing plan to ERS for review and hold a meeting with ERS web staff to review the draft test plan. The draft test plan will be based on the information provided in the kick-off meeting, as well as a review of the existing ARMS online data products:
   1. ARMS Briefing Room (<http://www.ers.usda.gov/Briefing/ARMS/>)
   2. Crop Production Practices (<http://www.ers.usda.gov/data/cropproductionpractices/>) and
3. Provide a minimum of one round of revisions to the plan based on ERS feedback to create a final document.

### Task 2: 1st Round of Usability Analysis & Staff Review Session

**FFP: $\_\_\_\_\_\_\_\_\_\_\_\_\_**

The contractor shall conduct usability testing of the existing ARMS online data products and hold a

de-briefing session with ERS project stakeholders to review and prioritize testing results.

### Task 2 Deliverables Date due: [Date]

The contractor shall:

1. Conduct usability testing of the existing ARMS online data products (ARMS Briefing Room, Crop Production Practices Data, and Farm Financial Management Data) with five members of the ERS Online user population during the week of August 18, 2003.
2. Organize a review session with key ERS project stakeholders to assess qualitative data gathered during the usability tests. Project stakeholders will review and prioritize the results of the tests based on a list of key usability heuristics (rules of thumb) provided by the contractor. During the review session, project stakeholders will have identified the top ten problems to be addressed regarding the ARMS data products. These evaluation findings (in-house checklist) will support the ERS development team in improving the data products.

### Task 3: 2nd Round of Usability Analysis & Staff Review Session

**FFP$\_\_\_\_\_\_\_\_\_\_\_\_\_**

The contractor shall conduct usability testing of a prototype for a revised ARMS online data tool and hold a de-briefing session with ERS project stakeholders to review and prioritize testing results.

### Task 3 Deliverables Date due: [Date]

The contractor shall:

1. Conduct usability testing of a prototype for a revised ARMS online data product (either testing a paper / mocked-up or partially-functioning online prototype) with five members of the ERS Online user population.
2. Organize a review session with key ERS project stakeholders to assess qualitative data gathered during the usability tests. Similar to Task 2, the contractor will facilitate a meeting with project stakeholders to evaluate the biggest challenges faced by the users of the new ARMS tool.
3. The contractor will facilitate project stakeholders in measuring improvements since the benchmarks were taken in Task 2, build a brief success story / case study, and list further opportunities for improvement.

### Task 4: Summary/Lessons of Success

**FFP$\_\_\_\_\_\_\_\_\_\_\_\_\_**

The contractor shall work with the usability team in fashioning and delivering a complete “success story” or “case study” so others in the organization can benefit from the lessons learned during the two rounds of ARMS usability testing.

### Task 4 Deliverables Date due: [Date]

The contractor shall:

1. Take “lessons learned” to build an instructional presentation to enroll ERS management, staff, and contractors in usability benefits.
2. Present, in a one-hour presentation with follow-up conversation, results of testing and impact for ERS management, staff, and contractors. The presentation will include remarks by the contractor and others on the development team.

## Place of Performance

Work will be performed at a government facility in the Washington, DC area provided by ERS,   
on dates identified by ERS. ERS will be responsible for providing representative users.

1. Joe Dumas, *Usability Testing Methods: Think-aloud Protocols*, Essays on Usability (Usability Professionals Association, 2001), 121. [↑](#footnote-ref-1)
2. Dumas, 128. [↑](#footnote-ref-2)
3. Lesley Trenner and Joanna Bawa, *The Politics of Usability: A Practical Guide to Designing Usable Systems in Industry*, Springer 1998. [↑](#footnote-ref-3)