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## Assessment of Beef Cattle Extension Publication Use via Internet Download Monitoring

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**Abstract:** Publication download monitoring allows Extension professionals the ability to determine client interests. Downloads from a beef cattle Extension website were monitored from January 1, 2010 to September 1, 2011. Trends in Internet download monitoring of the MSUcares site were assessed. Basic beef cattle production publications were most downloaded. Beef cattle reproduction was identified as a key topic area of interest to website users. Popularity of Spanish language publications indicated an increased need for Spanish language translations Extension publications. This information provides a basis for developing future publications, trainings, and Web-based resources that are most in demand by clientele.

### Introduction

In recent years, beef cattle producers have increased computer usage, and many have turned to the Internet as a source of information for beef cattle operations. In a society where there is a desire to quickly find answers, the Internet is often the fastest means of uncovering the answer to a question. However, a simple search on a standard search engine may provide access to false information from unreliable sources. Therefore, many beef cattle producers choose to turn to their state's Extension website for accurate information. The Mississippi State University Extension Service (MSU-ES) provides many educational materials electronically on its MSUcares <<http://msucares.com>> website, and portable document format downloads of topics related to beef cattle production are available for download as well on the beef cattle Extension website <<http://msucares.com/livestock/beef>>.

### Publication Download Monitoring

In determining the popularity of beef cattle Extension publications, it is important to understand not only the number of times a publication was downloaded, but also the number of times the website containing that publication information was accessed. Previously, the popularity, or lack thereof, of Extension publications from search engines was evaluated using Google Analytics (Rader, 2011). It was noted that when the author performed a search for "how to garden," the first Extension authored site was ranked 82nd in the search listing. Many people only view the first few pages of a search listing and may not ever view a listing ranking this low. However, when beef cattle-related topics were searched, publications from Mississippi State University's Extension Service topped the list.

To assess trends in Internet download monitoring of the MSUcares site, two software packages were used. The number of PDF downloads was analyzed using Web Trends software, and the number of page views was analyzed using Google Analytics, a Web analytics program that provides detailed tracking of website traffic (Patton & Kaminski, 2010). The output from each software package was used to compare beef cattle Extension publications to both the overall amount of publication downloads from the MSUcares website, as well as to other Extension publications within the beef cattle website.

## Most Downloaded Publications

From January 1, 2010 to September 1, 2011, there were 7,145,511 total PDF downloads from the msucares.com website. The top 5 most downloaded publications were:

1. *Guía del cultivo del tomate en invernaderos* (Spanish language version of the *Greenhouse Tomato Handbook*) 250,369 downloads
2. *Beef Cattle Facilities: Building and Construction Plans* 141,095 downloads
3. *Dairy Cattle Judging* 139,043 downloads
4. *Homemade Rabbit Cages* 133,742 downloads
5. *2011 Weed Control Guidelines for Mississippi* 110,264 downloads

On the Beef Extension Publications page, 124 beef cattle publications were accessible during the evaluation period, ranging in topics from reproduction to end product. The Beef Cattle index page had 18,604 pageviews, with users spending an average of 62 seconds on the page. Considering only beef cattle-related publications, the most popular download was *The Estrous Cycle of Cattle*, with 12,347 views, followed by *Body Condition Scoring of Beef Cattle* (12,302 views). The remainder of the top 5 most downloaded beef publications were *Beef Cattle Calving Management* (9,451 views), *Understanding the Ruminant Digestive System* (8,727 views), and *Mississippi Beef Cattle Producer Guide to Coping with Drought Conditions* (6,946 views).

Topic areas for the 10 most popular beef cattle publications were:

1. Reproduction (40%)
2. Nutrition (20%)
3. Forage (20%)
4. Management (10%)
5. Disaster recovery and preparation (10%)

The most viewed publications typically dealt with basic production topics. For example, the most viewed reproduction topics were *Understanding the Estrous Cycle*, *Estrus Detection*, and *Estrus Synchronization*. Additionally, the Spanish language version of the *Mississippi Beef Quality Assurance* manual was a relatively popular publication, with 2,699 views. This, along with the most popular download from the entire MSUcares site being a Spanish language download, indicates that there is an increasing need for Spanish language translations of Extension publications.

## Discussion

Previously, the trends in usage of this website (<http://msucares.com/livestock/beef>) were evaluated (Parish, 2011). It was noted that the beef cattle Extension website as compared to the entire MSUcares website had fewer single-page visits in which the visitor left the site from the initial entrance page, also known as "bounce rate." This indicates that the beef cattle Extension website has excellent website quality as compared to the MSUcares website, which may also be related to the quality of the articles available for download. With several of the top publication download rankings falling under the beef cattle category, it is evident that there is a strong demand for beef cattle information relative to other information offered on MSUcares.

## Conclusions

Internet download monitoring offers Extension specialists and agents a better understanding of the topics of interest to producers and provides insights for further publication and training opportunities. Download monitoring over time could be used to identify changing clientele information needs over time. Extension personnel should also consider that specific topics for which there are no downloadable resources on a website may also be important for meeting clientele information needs, but these needs would not necessarily be revealed by download monitoring.

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