

Production and marketing information has been provided publicly by the U.S. Department of Agriculture for many years to aid in the decision-making process of buyers and sellers of agricultural commodities. There is little information, however, on the relative value of publicly funded agricultural reports. An improved understanding of preferences for USDA data and information has the potential to allocate scarce public resources in a manner that enhances quality of existing reporting efforts and inform the general public about current and future supplies of agricultural commodities.

The purpose of this study is to gain knowledge of the current preferences of county Extension agents for USDA market information in the livestock and poultry sector. Extension agents routinely work with agricultural producers, and agent preferences will reflect the type of information they are routinely asked for by those they regularly come in contact with.

Data and Methods

The study was designed to determine the relative importance Extension agents place on livestock data collected and disseminated by the USDA's Agricultural Marketing Service or its National Statistics Service through the use of best/worst scaling. Respondents to the electronically distributed questionnaire were provided a series of repeating questions asking them to choose the most important and least important report from a list of six to seven randomly selected reports. The reports included in the choice tasks were:

1. USDA-NASS' *Grain Stocks*, which is published quarterly and includes information on stocks of grain in on- and off-farm storage.
2. USDA-NASS' *Cattle on Feed*, which is published monthly and includes the total number of cattle on feed, placed and marketed in 1,000-plus head feedlots.
3. USDA-NASS' *Cattle*, which is published semiannually and includes information on the number of U.S. beef and dairy cattle by class.
4. USDA-NASS' *Cold Storage*, which publishes monthly information on stocks of red meat, poultry and other food products in public freezers.
5. USDA-AMS' *5 Area Daily Weighted Average Direct Slaughter Cattle Price*, which includes prices and volume of cattle sold in the major U.S. cattle feeding regions.
6. USDA-AMS' *National Daily Boxed Beef Cutout and Boxed Beef Cuts*, which disseminates information on the number of choice and select beef loads sold and the corresponding price for those loads.
7. USDA-AMS' *Estimated Daily Livestock Slaughter Under Federal Inspection*, which includes the number of cattle, swine and sheep at federally inspected slaughter plants.
8. USDA-NASS' *Quarterly Hogs and Pigs*, which contains information on the number of hogs farrowing in the quarter and weight breakdown of market ready hogs.
9. USDA-NASS' *Broiler Hatchery*, which is published weekly and contains information on the number of broiler egg sets and chick placements in the 19 leading states for broiler production.
10. USDA-AMS' *Superior Video Cattle Auction Feeder Cattle Weighted Average Report*, which is published weekly and contains information on sales from the previous week aggregated by region.
11. USDA NASS' *Chickens and Eggs*, which is published monthly and contains information on U.S. table egg and broiler layers, pullets and egg production.
12. USDA NASS' *Crop Progress* published weekly throughout the growing season containing information on livestock pasture and range conditions, and condition of field crops.

The questionnaire was distributed electronically to members of the National Association of County Agricultural Agents. The initial email distribution list contained 3,119 email addresses. Responses collected totaled 562 – for a response rate of 18.5 percent after accounting for undeliverable email addresses. Selected summary statistics are shown in Table 1.

The vast majority of Extension agents who responded were male (83 percent) with an average of 16.3 years of experience as agents. Sixty-one percent of respondents had livestock extension responsibilities primarily, and 12 percent focused primarily on row crop production.

U.S. Census Bureau regions were used to determine regions and are defined in the footnote to Table 1. The majority of respondents were in the Southern and Midwestern regions of the United State (84 percent). More than half of respondents were directly involved in a farming operation, with 44 percent involved in a livestock or poultry operation and 12 percent involved in a crop operation. Of the 44 percent of respondents directly involved in a livestock or poultry operation, only 6 percent purchased a private data subscription such as CattleFax, DTN or Feedstuffs, and only 1 percent of respondents directly involved in a cropping operation purchased similar subscriptions.

Best/worst scaling was used to determine the preferences Extension agents had for publicly available USDA data. Respondents randomly received one of three versions of the questionnaire, which varied in the number of questions posed and reports included per question. This type of analysis is described in detail in Lusk and Briggeman (2009). Results were estimated using a random parameters logit model. Statistical tests determined there were significant differences between the treatments used in this analysis.

Results and Discussion

The importance of each USDA report was estimated in relation to USDA-NASS' quarterly *Grain Stocks* report. Across each of the three survey versions, the weekly *Crop Progress* report published by USDA-NASS was, on average, the most important report. Furthermore, there were only three instances that a report was not significantly different from the quarterly *Grain Stocks* report: the monthly *Cattle on Feed* report in two of the three survey versions and the weekly *Crop Progress* in one version.

Estimated logit regression coefficients have no natural economic interpretation, but the coefficients can be used to estimate shares of preference for each report. These shares are shown in Table 2 by version. Although results from each of the three versions could not be statistically pooled, estimated shares of preference are remarkably similar across versions. In treatments 1 and 3, the weekly *Crop Progress* report was favored by more than three and four times, respectively, compared to the report with the next largest share (quarterly *Grain Stocks*).

In general, crop- and cattle-focused USDA reports garnered the largest shares. Pork- and poultry-oriented reports garnered noticeably lower shares of preference, possibly due to the degree of coordination and concentration present in those industries that is not as present in the cattle industry. Reports that were more focused on the downstream wholesale and retail sectors, such as the monthly *Cold Storage* and daily *National Daily Boxed Beef Cutout and Boxed Beef Cuts (Boxed Beef)*, were favored by less than 2 percent of respondents, regardless of treatment.

Information in the preceding paragraph gives results from all agent types, but it's possible Extension agents with primarily livestock responsibilities may believe certain reports are more important for USDA to maintain for the livestock and poultry industry than would agents with other responsibilities. As shown in Table 3, that is not the case, however. Rankings of results by shares of preference were largely consistent regardless of primary Extension responsibilities, although the magnitude of the share of preference did change.

Implications

Extension agents surveyed were consistent in their views of which reports are critical for USDA to maintain for the U.S. Livestock and poultry industry. The most important report to maintain was USDA-NASS' *Crop Progress* report, which contains more crop information than it does livestock information. Given that the vast majority of livestock and poultry are finished on a grain-based diet, this is perhaps not surprising. The weekly *Crop Progress* contains a wide variety of information on different crops as well as their respective conditions. The condition of crops included in this report plays a pivotal role in market volatility from week to week and spills over into livestock markets. Information contained in the *Crop Progress* report serves a wealth of interests and enables Extension agents the ability to help producers make better and/or more informed decisions on risk management strategies.

For reports that are solely livestock focused, the monthly *Cattle on Feed* report published by USDA-NASS was the most important. Given its effects on local cattle markets across the nation, a high ranking of this report might be

expected. Cattle-focused reports were more important than pork- and poultry-oriented reports, but this is not surprising due to more producers being involved in the cattle industry than the pork or poultry industries.

Among results that are somewhat surprising, however, is the lack of preference Extension agents expressed for pricing information from Superior Livestock video and Internet sales. This ultimately may be an indication that Extension agents regularly interact with producers who sell in local auction markets, and producers using Superior video/Internet auctions may less regularly interact with Extension agents.

This research did not control whether or not Extension agents were aware of certain reports. Agents' knowledge of certain reports could affect their preference for information, but agents were provided with a short description of each report that was included on each question. For the most part, reports that were more production and price oriented toward the farm level were viewed as more important by Extension agents. Given the clientele with which they regularly interact, such results might have been expected.

Although some reports were not preferred by agents, that does not mean the information contained in those reports is not important. Rather, these reports simply are not as highly valued by Extension agents who serve a wide spectrum of clientele at the local level. The ability to survey alternative clientele groups could result in vastly different results than presented here. Furthermore, agribusiness firms may view reports differently than Extension agents who interact regularly with agricultural producers – and are often agricultural producers themselves.

Our findings do not account for pricing or production information generated by federal/state partnerships that may have gained a larger share of preference than some reports included. Information generated by federal/state partnerships was not included in this analysis due to the federal government not paying the full cost of collecting and disseminating that information.

What this analysis does not account for is the cost to develop, collect and disseminate information on a specific topic by the USDA. Arguably, the weekly *Crop Progress* may be the costliest to deliver on a regular basis of the included reports, but the information contained in it is highly valued by Extension agents who serve a wide spectrum of interests. The Internet and other forms of electronic communication have diminished the cost to collect and disseminate information, but there still is a considerable investment in people and other resources to generate these market-sensitive reports. Other reports have a lower collection cost due to the information being gathered as a result of mandated federal inspection of slaughter. Some reports such as the semiannual *Cattle* inventory would have considerable cost due to the number of mail and phone surveys completed to generate a sufficient sample size to generate statistically meaningful reports.

In the end, the meaningfulness of a report is reflected in what is available to replace that report. In addition to adding knowledge of the current preferences of county Extension agents for USDA market information, this fact sheet hopefully serves as a broader input in future efforts aimed at assessing or improving public efforts to collect and disseminate commodity market information.

Table 1. Summary Statistics for Selected Variables

Variable	Mean	Standard Deviation	Minimum	Maximum
Female	0.17	0.38	0.00	1.00
Age	47.03	10.82	22.00	73.00
Experience as Extension Agent	16.28	10.28	0.00	48.00
Livestock/Poultry Extension Agent	0.61	0.49	0.00	1.00
Crop Extension Agent	0.26	0.44	0.00	1.00
Other Extension Agent	0.13	0.34	0.00	1.00
Region				
Northeast ¹	0.06	0.24	0.00	1.00
Midwest ²	0.27	0.44	0.00	1.00
Southern ³	0.57	0.50	0.00	1.00
Western ⁴	0.10	0.30	0.00	1.00
Directly Involved in Farming Operation:				
Livestock	0.44	0.50	0.00	1.00
Crop	0.12	0.33	0.00	1.00
Livestock Producers Purchasing Data ⁵	0.06	0.24	0.00	1.00
Crop Producers Purchasing Data ⁵	0.01	0.08	0.00	1.00

¹ Northeast region defined as: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.

² Midwest region defined as: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota and Wisconsin.

³ Southern region defined as: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, Virginia and West Virginia.

⁴ Western region defined as: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming.

⁵ Of agents who farm, percent who purchase non-USDA data.

Table 2. Relative Importance of USDA Reports

	Version 1	Version 2	Version 3
Quarterly Grain Stocks (base report)	13.5 percent	15.0 percent	13.0 percent
Weekly Crop Progress	42.3 percent*	24.8 percent	52.7 percent*
Cattle on Feed	13.2 percent	22.1 percent*	12.4 percent
Daily FI Slaughter	8.5 percent*	6.5 percent*	3.9 percent*
Daily 5 Area Fed Cattle Price	7.2 percent*	9.7 percent*	5.3 percent*
Semiannual Cattle Inventory	5.8 percent*	11.1 percent*	6.7 percent*
Quarterly Hogs and Pigs	3.3 percent*	3.8 percent*	2.1 percent*
Daily Boxed Beef Cutout	1.9 percent*	2.6 percent*	1.2 percent*
Cold Storage	1.6 percent*	1.7 percent*	0.9 percent*
Monthly Chickens and Eggs	1.1 percent*	0.9 percent*	0.6 percent*
Superior Video Cattle Auctions	1.0 percent*	0.6 percent*	0.6 percent*
Weekly Broiler Hatchery	0.8 percent*	1.0 percent*	0.7 percent*
Number of Respondents	198	184	180

* Denotes the relative importance of a report is significantly different from the reference report of quarterly *Grain Stocks* at the 5 percent level in each survey version.

Table 3. Relative Importance of USDA Reports by Primary Extension Responsibility

	Crop Agents	Livestock Agents	All Other Agents
Quarterly Grain Stocks (base report)	19.2 percent (2)	10.2 percent (3)	14.7 percent (2)
Weekly Crop Progress	56.7 percent (1)	35.6 percent (1)	52.6 percent (1)
Cattle on Feed	8.7 percent (3)	21.0 percent (2)	7.2 percent (3)
Daily Area Fed Cattle Price	3.9 percent (4)	8.4 percent (5)	4.5 percent (5)
Semiannual Cattle Inventory	3.9 percent (5)	10.2 percent (4)	4.3 percent (6)
Daily FI Slaughter	2.8 percent (6)	6.1 percent (6)	5.7 percent (4)
Quarterly Hogs and Pigs	2.0 percent (7)	2.8 percent (7)	3.8 percent (7)
Daily Boxed Beef Cutout	0.9 percent (8)	2.1 percent (8)	1.5 percent (10)
Cold Storage	0.7 percent (9)	1.3 percent (9)	2.1 percent (8)
Superior Video Cattle Auctions	0.5 percent (10)	0.8 percent (10)	1.5 percent (9)
Weekly Broiler Hatchery	0.5 percent (11)	0.7 percent (12)	1.3 percent (11)
Monthly Chickens and Eggs	0.3 percent (12)	0.8 percent (11)	0.7 percent (12)
Number of Respondents	145	341	74

Note: Rankings by agent type are presented in parentheses. The presented values are results from pooling survey responses across the three survey versions shown in Table 2.

References

Lusk, J.L., and B.C. Briggeman. 2009. "Food Values." *American Journal of Agricultural Economics* 91,1 (February):184-96.

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