

Catalogue no. 11-522-XIE

**Statistics Canada International
Symposium Series - Proceedings**

**Symposium 2005 :
Methodological Challenges for
Future Information needs**



2005



**Statistics
Canada**

**Statistique
Canada**

Canada

RESPONDENT RELATIONS CHALLENGES FOR OBTAINING AGRICULTURAL DATA

Kenneth D. Korporal¹

ABSTRACT

The Agriculture Division at Statistics Canada is responsible for collecting, compiling, analyzing and publishing a diverse range of information on the agricultural sector in Canada. The data collection process is becoming increasingly more challenging due to a number of factors, including: ageing of the farm population, decreasing number of farmers, increasing farm sizes, financial crises arising from BSE (mad cow disease) and the avian influenza, and from extreme climatic impacts causing drought conditions in some areas and flooding in others. There also seems to be rising levels of concern about privacy and confidentiality. These and numerous other socio-economic pressures and frustrations facing farmers across the country are presenting increasing challenges to obtain respondent participation in agricultural surveys. This paper will describe how agriculture is an industry in transition, how difficulties faced by the agricultural sector impact data collection issues, and how our subsequent responses and actions are addressing these challenging issues.

KEY WORDS: Agriculture; Respondent relations; Respondent burden; Agriculture surveys; Agricultural data; Farmers; Farm operations; Data collection

1. INTRODUCTION

The Agriculture Division of Statistics Canada is responsible for collecting, compiling, analyzing and publishing a diverse range of information on the agricultural sector in Canada. The agriculture program at Statistics Canada has scheduled agricultural surveys including annual, quarterly and seasonal surveys on crops, horticulture, livestock and animal products, farm finances, and aquaculture. As well, a comprehensive Census of Agriculture is conducted in close association with the Census of Population every 5 years. The Census of Agriculture provides important benchmark data for the regular survey program. Ad hoc surveys are conducted on behalf of other agencies, such as Agriculture and Agri-Food Canada (AAFC), to meet urgent information requirements that are not available through the regular survey program. Finally, administrative data integration initiatives and analysis activities complete the agriculture statistics program.

Challenges in the agricultural sector lead to increasing demand for timely, accurate and comprehensive agricultural data. These data demands impose additional survey burden on farmers who are already feeling over burdened by the number of surveys and level of effort required to respond to them. The challenges must be addressed with sensitivity, creativity and possible new ways of conducting various aspects of our survey processes, understanding burden, and educating and communicating with our unique respondent group.

2. AGRICULTURE – AN INDUSTRY IN TRANSITION

Before describing the respondent relations challenges and responses in the agricultural statistics program, it is important to understand the major issues impacting the agricultural sector. Recent reports (Easter, 2005) and newspaper headlines often convey messages about the difficult state of farmers and the agricultural industry. Although large segments of the agri-food industry are healthy, productive and generating profits, there is no question that there are difficulties on some family farms. There are many complex reasons for the difficulties being experienced, including demographic changes, decreasing farm income, the effects of catastrophic events, the

¹ Kenneth D. Korporal, Agriculture Division, Statistics Canada, Ottawa, Ontario, Canada, K1A 0T6.
Kenneth.Korporal@statcan.ca

changing rural landscape, and impacts of policies and farm protection programs. The recent reports highlighted many of the changes and issues noted below.

2.1 Farm Demographic Changes

The structure of farms is changing significantly over time. For example, the total number of farm operators decreased by 10.2% between 1996 and 2001, while the median age of farmers increased to 49 from 47 (Statistics Canada, 2001 Census of Agriculture). The number of farm operators under age 35 decreased by 34.6%, indicating sectoral difficulty in attracting young persons to farming. Although the total number of farms is decreasing, the average size of farms and the total farm output (productivity) are increasing. A transition is underway from small farm operations to larger, more complex agricultural operations composed of geographically dispersed land parcels, diverse agriculture mix, and intricate financial structures. Agricultural respondents range from very small 'hobby' type farms near urban centres, to small family run farms with long family histories, to large and complex commercial agricultural operations.

2.2 Decreasing Farm Income

Accompanying these demographic changes are downward trends in economic performance and income. The downward income trends have been described as an income crisis for family farms that is long term in duration and global in scope (Easter, 2005). As with many other industries, input costs (farm labour, feed, seeds, fertilizer, pesticides, fuel, equipment, and services) have increased faster than farm income. Farm debt is also increasing. Meanwhile, the prices farmers receive for their products have not increased, and in some cases have declined. Net cash income dropped in relation to the impact of events such as the 2002 Prairie drought and the 2003 Bovine Spongiform Encephalopathy (BSE). An increasing number of farmers and their families are resorting to sources of off-farm income – in 2002 off-farm income as a percentage of total income had increased to 87% from 72% in 1980.

2.3 Catastrophic Events

A number of recent events have had substantial impact on Canadian agriculture. These events can affect farmers across the country, but more frequently impact farmers in more concentrated geographic areas. National level events include the BSE crisis that crippled live cattle exports across the country and generated record inventory problems that continue to this day. An Avian Influenza outbreak forced widespread flock slaughter in south mainland British Columbia in 2004. Many parts of Canada suffered from severe climatic events ranging from droughts to floods to hail to extreme temperatures. The impact of these catastrophic events on farmers can be devastating, especially when they occur during key periods in crop development.

2.4 Changing Rural Landscape

The spread of urbanization continues to encroach on agricultural land and change the rural environment. Aside from the loss of land to residential and business development, greater numbers of urban dwellers are moving to the country to pursue a rural lifestyle on 'hobby' farms. Clashes arise between rural and urban lifestyles as farming can produce odours, noise, and dust. Farmers adjacent to developing areas are faced with rising land values that make it difficult to expand their operations.

In areas not adjacent to urban centres, the trend to increasing farm size and fewer farm numbers can accelerate rural decline. Insufficient numbers of children may result in local school closures and insufficient numbers of residents may lead to closure of businesses and compromise the vitality of other infrastructure. In some instances, agricultural activity can contribute to environmental and biodiversity degradation, water quantity and quality problems, and land surface and soil degradation, all of which can threaten the sustainability of rural livelihoods.

2.5 Government Policies and Regulations

In consultations conducted by the Honourable Wayne Easter in all provinces in 2005, participants noted that Canada's agricultural policy appeared more focused on agri-food than on primary producers. News reports often cite farmer concerns about government regulations and overly restrictive policies, especially in the area of environmental

farm management. Statistics Canada interviewers also report that many farmers express concerns with some government responses to farm issues.

2.6 Privacy and Confidentiality Concerns

Statistics Canada interviewers indicate that respondents frequently express concerns about the privacy and confidentiality of their information. Statistics Canada treats these concerns seriously and has developed stringent processes and policies to ensure that all information is kept strictly confidential. Interviewers are trained to convey this message to respondents. Some respondents are also questioning the validity and legality of agriculture surveys, as well as their mandatory nature in some cases. Related to these concerns are Statistics Canada's requests to share survey data with sponsors such as Agriculture and Agri-Food Canada.

2.7 Beyond The Transition and Challenges

Despite the many concerns and difficulties outlined above, there are positive examples of a healthy and financially viable agriculture and agri-food industry. In fact, in the spring of 2003, 90% of farm families believed their standard of living was as good as or better than that of people living in nearby urban centers (AAFC, 2005) – note, however, that the data was collected before the discovery of BSE in Canada in May 2003. Farmers have also become more efficient and have led almost all sectors with an annual productivity growth of 4.6% between 1984 and 1995. Not all farmers are impacted by the challenges described above. Catastrophic events, for example, are often localized or regional in nature. Although the livelihood of farmers can be affected by factors that are beyond their control, those operators that are able to adapt to the transitions and challenges can attain a good quality of life.

3. SURVEY DATA COLLECTION AND RESPONDENT RELATIONS ISSUES

The socio-economic situation of the agri-food sector noted previously, contributes to difficulties experienced in securing full respondent participation in agricultural surveys. Statistics Canada interviewers have succeeded in obtaining high levels of participation in the regular surveys. However, they have also observed more farm sector frustrations and increasing concerns about the changes affecting the industry. These frustrations and concerns present increasing challenges to maintaining the high respondent participation in agricultural surveys.

At the same time, Statistics Canada is faced with increasing demand for timely, accurate, and objective statistical data to support policy decision makers in federal-provincial-territorial government departments, industry and farm organizations, the private sector and farmers themselves. These requests for additional data impose increased response burden on already heavily-surveyed farm respondents.

3.1 Survey and Data Collection Burden

The increasing demand for farmers to respond to surveys and other data collection activities is multidimensional and includes agriculture, household and business surveys of Statistics Canada, as well as surveys administered by provincial governments and private sector seed, farm machinery, and fertilizer and pesticide companies. Industry and farm associations also often solicit feedback from their members on current conditions and issues.

As small businesses, many farm operations must complete detailed corporate tax forms during the busy spring seeding season, in addition to completing personal tax forms. Detailed information is also required when applying for support programs such as CAIS (Canadian Agricultural Income Stabilization Program). Although greater effort is now being made by Revenue Canada and CAIS to harmonize tax collection and benefit application processes, the application process is still burdensome. Burden is further compounded by the twin obligations of precision and comprehensiveness required of most application forms.

Responding to most agricultural surveys is mandatory under the Statistics Act. In practice, however, Statistics Canada does not invoke the penalties available in its legislation to compel farm operators to respond to particular surveys. Statistics Canada prefers that its respondents cooperate voluntarily to provide accurate information as a result of understanding the important uses to which the aggregate results will be used. We have had good success as

the majority of farm operators willingly participate in the survey process and provide the most accurate information possible. The April 2005 special cattle survey, for example, achieved a response rate of 95.6%.

3.2 Complaint and Refusal Trends

Challenges experienced by many farmers are having an impact on Statistics Canada's efforts to maintain farmer cooperation to respond to agricultural surveys. Unfortunately, the collection of quantitative data to support the anecdotal information about refusal and complaint trends is difficult and time-consuming to obtain. Efforts are now underway to improve reporting systems so they better measure complaint trends and ensure solutions are targeted to specific problems.

Interviewers report increased frustrations from a minority of respondents. Greater effort is being expended by the interviewers to secure cooperation of respondents in surveys. This effort can extend call times, increase call-backs, and lower overall productivity. Similar trends and experiences are being reported by other agricultural statistical agencies. In fact, the National Agricultural Statistics Service of the US Department of Agriculture (USDA NASS) names respondent relations among their highest priorities.

3.3 Data Collection Process

At Statistics Canada, Computer Assisted Telephone Interview (CATI) technology is used for most agricultural surveys. A notable exception is the 5-year Census of Agriculture. Most agriculture CATI based surveys are now conducted from call centres located in three locations: Edmonton AB, Winnipeg MB and Sherbrooke PQ. Interviewers use the CATI technology to schedule and dial respondents as well as to update contact information and record responses. During and after interviews, comments can be added to help subsequent interviewers. In speaking directly with the farmers, the interviewers are on the front-lines and hear first-hand about the concerns and difficulties experienced by farmers.

3.4 Data Collection Challenges

Although the number of absolute refusals is still relatively small, the level of effort spent to obtain full cooperation from farmers is increasing. More time is being spent by interviewers in explaining the importance and use of the data and in trying to convert reluctant respondents to participate in the survey. The issues raised by respondents are wide-ranging. Some common concerns include: the number, length and timing of phone calls; repetitive questions; number of surveys; difficult financial questions; and data privacy and caller identification issues.

Internal collection challenges also exist in areas such as interviewer training, retention, remuneration, scheduling, hours of work, and shifts. Interviewers also need background knowledge about agriculture and industry affairs through the provision of timely and relevant support tools. Insight into farm issues helps interviewers connect with respondents, diffuse frustrations, justify sensitive questions and carry reluctant interviews through to successful conclusion.

3.5 Dealing With Complaints and Refusals

Interviewers are well trained and adept at dealing with difficult respondents. Interviewers are supported by senior interviewers and program managers who are available to assess and possibly re-assign problem situations. When call centre staff are unable to resolve the situation, the matter is forwarded to the Survey Operations Division for evaluation and possible forwarding to the Agriculture Division respondent relations team. The respondent relations area coordinates subsequent action with survey managers. Queries and complaints can also be submitted via Statistics Canada's 1-800 phone number and Agriculture Division's client services 1-800 phone number, as well as by e-mail. These calls and messages are referred to the respondent relations team for action when appropriate.

Responses to written complaints are coordinated by the respondent relations team and signed off by the appropriate authority. Considerable time and effort is usually required to thoroughly understand the issues relating to the complaint and to contact the respondent to attempt to mediate and resolve the matter to everyone's mutual satisfaction. The draft written responses and proposed actions are thoroughly reviewed at the appropriate level.

4. STATISTICS CANADA'S RESPONSES AND ACTIONS

4.1 Respondent and Bilateral Relations Team

Statistics Canada and its Agriculture Division are committed to proactively addressing the challenging respondent relations and data collection issues described above. Respondent relations were identified as a high priority activity for the Division in its 2001 quadrennial programme review. It has worked closely with the Business Trade Statistics Field response burden manager to integrate new procedures. In 2004, Agriculture Division decided to dedicate resources to establish a respondent and bilateral relations team to coordinate activities at the Division level.

4.2 Respondent Burden and Data Collection Committee (RBDC)

The RBDC Committee has senior representation from each of the agriculture survey programs and the farm register in Agriculture Division, the Business Survey Methods Division, and the Survey Operations Division. The committee meets regularly to review a wide range of survey, respondent relations, burden, and data collection issues. It has the mandate to provide program direction and to monitor and control burden and data collection procedures. The respondent relations team and the RBDC Committee are championing the development of best practices in various areas of the survey process.

The committee also provides a forum for improving overall coordination of surveys and an environment for discussing problems and concerns from a broad spectrum of perspectives. When necessary, smaller working groups are established to quickly resolve specific problems.

4.3 Survey Planning and Approval

The RBDC Committee reviews the tested content of all proposed new ad hoc surveys to ensure that respondent burden and related issues are taken into account before recommending Agriculture Division support the proposal. Surveys are then reviewed by senior management before presentation to Statistics Canada's Policy Committee for final collection approval. The timing of surveys is particularly sensitive as several parts of the year are already very congested and overlap with peak busy periods for many farming operations. Both new and existing surveys are examined to see if content and/or sample consolidation is possible to better coordinate survey activity. An internal data collection and product release dates calendar has recently been developed to provide a visual tool to help in understanding the complex agriculture survey schedule.

Many specialized Statistics Canada resources provide expert support and assistance in the development of surveys. These range from content determination to focus group testing to sampling strategies to respondent relations to survey operations. There are renewed efforts to evaluate issues such as the level of detail, length of surveys, complexity and cognitive effort required for successful completion.

The survey planning process also considers other measures to reduce respondent burden, to increase efficiencies and lower costs, and to improve overall survey success. These measures include:

- Completing surveys on the Internet (Electronic Data Reporting);
- Organize special handling arrangements for the largest and most complex agricultural operations;
- Increasing the use of efficient CATI surveys, rather than postal surveys;
- Incorporating the use of administrative and other data sources wherever possible;
- Improving questionnaire clarity;
- Evaluating alternative sampling strategies and smaller sample sizes to reduce burden while maintaining quality;
- Evaluating the appropriateness of limiting the number of times a farm can be interviewed in a year.

4.4 Methodology and Sample Selection

Each agriculture survey has a methodologist assigned to work with the survey manager to develop the survey methodology and sample selection process. In support of this function, Agriculture Division maintains a Farm Register which is a repository of agricultural operations in Canada. The Farm Register maintains records of all farm operators, their contact information, and a historical record of survey activities. It is also used for many other purposes, including the maintenance of survey frames, measurement of response burden, input information for CATI operations, labels for postal surveys and mail outs, and as a tool for retrieving information and data for research and queries.

The Agriculture Division has identified the Farm Register as a valuable profiling tool that can possibly be used for more applications than is currently the case. Efforts are underway to explore the wealth of data available and to determine how they can be used to better understand our respondents and to improve sample selection to reduce burden. As well, the Farm Register is being made available as an additional tool for regional office program managers and senior interviewers to obtain more detailed background information about survey respondents than is available from the CATI system.

Greater effort is being made to improve communications between survey sections and their supporting methodologists to better understand common issues and areas where potential changes can be made to reduce respondent burden. For example, the BSE crisis necessitated a recent ad hoc survey on cattle which had the potential to significantly increase the likelihood that many respondents could be contacted two or more times during an already congested spring-time survey period. By bringing the overlap survey teams together and thoroughly reviewing the sample selection strategies and burden issues, revised sample selection criteria were developed that dramatically decreased the number of overlap respondents. In this consolidation example the burden was reduced from almost 1,000 to fewer than 250 respondents. Special handling procedures were also put into place so that all overlap respondents would be delicately handled by a senior interviewer out of just one regional office.

Extra efforts are being taken to minimize response burden on individual farms, especially small farms, in the sample selection methodology. The methodologists also dedicate resources to undertake research related to reducing respondent burden by developing new sampling strategies and other methodological changes. Recommended approaches and new research proposals are reviewed and initiated with the support of the RBDC Committee.

4.5 Special Handling of Large Agricultural Operations

The Agriculture Division has developed special handling procedures for very large farms and farms with multiple holdings. The objective of the Large Agricultural Operations Statistics (LAOS) program is to reduce the heavy response burden of these operations and to ensure their continued cooperation in Statistics Canada survey programs. These farms are specially profiled in order to establish their legal and operational structures and to assure complete coverage of their activities. Tailored questionnaires and special handling approaches are used to obtain survey responses from the LAOS farms. Each year, a number of these farms are visited by personnel from the LAOS program in order to promote good two-way communications and to obtain updated information about these special enterprises. A complete review of each profile is done on an annual basis. Profile information is obtained by visit, telephone conversations and correspondence. The profiles are maintained in a LAOS database that also provides updated information to the Farm Register. The number of enterprises in this group exceeds 350 and represents approximately 2,000 census farms.

4.6 Data Collection Process

Coordinated and improved dialogue, more frequent observation of the regional data collection operations, and ongoing improvements to the overall data collection process have been implemented and are beginning to make a difference. The survey managers are also working with the operational areas to further refine and improve the scripting dialogue used to converse with the respondents in the CATI surveys. The Farm Register database, documentation and training will soon be provided to program managers and senior interviewers in the regional offices.

The Spatial Analysis and Geomatics Applications (SAGA) group in Agriculture Division provides geospatial expertise and support to the agricultural survey program. SAGA has developed state-of-the-art applications, such as the satellite image based Crop Condition Assessment Program, that enable survey teams to better understand the geographic variability of catastrophic events so that sample allocations can be adjusted to obtain more accurate statistics. Other geospatial applications and services include the development of data validation tools, mapping applications, land-cover/land-change analysis, use of remote sensing for construction of statistical area sampling frames, and statistical and spatial data integration.

An agricultural E-news service that provides daily succinct summaries of agricultural news and issues is being developed in consultation with the Statistics Canada library and communications area. The E-news is in a trial phase but it is receiving positive reviews from over 40 test recipients who need to be aware of current issues and developments in the agricultural sector.

4.7 Use of Administrative and Tax Data

Administrative data are being used wherever possible to obtain information and reduce the burden of surveys. The farm income program has been particularly successful in compiling expense information from farmers' tax returns. There are a number of research projects underway to determine if and how administrative and tax data can be further utilized to replace or complement agricultural surveys. Agriculture Division is also actively consulting with other potential sources of administrative data, such as supply/management boards, to determine if they could be a source of data. Although there are many challenges in using most types of administrative data including timeliness issues, completeness and quality issues, definitions and historical comparability, access conditions and confidentiality issues, the achieved reduction in response burden makes these efforts worthwhile.

4.8 Post-Survey Analysis and Measurement

Tools and procedures are reviewed to better utilize the detailed profile and historical response and comment information captured by the Farm Register. Agriculture Division is also working with colleagues internally and in USDA NASS on ways to better measure, monitor and understand respondent burden, including the development of burden indices. It would also be desirable to have a complete picture of the total burden placed on an operation by having the ability to access and compile burden information from non-agricultural surveys such as health, small business and labour surveys. The methodologist team will be asked to explore this issue.

Finally, some survey teams produce and disseminate post-survey summary reports; the RBDC Committee is discussing the possible standardization of such reports and expanding this practice to all agriculture surveys.

4.9 Respondent Relations and Complaint Resolution

The respondent relations team has improved the process for managing and monitoring complaints received in headquarters and the regional offices. The improved coordination of the complaint resolution process is ensuring that they are resolved in the best interest of all concerned and that solutions are applied more uniformly. Consultations are underway to participate in the development of a complaints tracking system and to establish broader service standards for responding to complaints.

The regional offices value opportunities to work more closely with the subject matter areas, so several visits have recently been made to observe data collection in the regional offices and to have discussions with the regional program managers and interviewers. These visits resulted in a better understanding of problems and issues, while follow-up activities have resulted in a number of improvements to the survey process.

Efforts are continuing to better inform the agricultural community about the importance of collecting good quality data for sound policy decision making. Improving communication via the farm press, Internet and other media to educate and increase respondent awareness of the importance of the agriculture surveys has been identified as a critical activity. The development of supportive material is being planned, including pamphlets describing the surveys and their importance and relevance to farmers and industry. In addition, most of the survey program managers are actively consulting with industry and producer organizations to ensure that their data and information needs are being met and to determine other ways that we might be able to help.

4.10 American Tripartite Committee on Agricultural Statistics

The *North American Tripartite Committee on Agricultural Statistics* is a recent joint initiative by the lead agricultural statistical agencies of USA, Mexico, and Canada that was established in 2004 to advance the development of North American agricultural statistics. The committee fosters interaction and knowledge about each agricultural statistical agency and their processes by:

- Sharing knowledge and training in various statistical components including methodology, standards, systems, and technologies;
- Understanding each country's agricultural statistical system and constraints;
- Promoting the standardization of outputs;
- Promoting the adoption of common classification systems and standards;
- Sharing information on technologies, use of information systems, and analytical tools and processes.

Several working groups have been established to deal with specific issues and objectives, including a working group on respondent relations. The interaction between the countries has already proved to be beneficial resulting in the sharing of best practices, a cooperative review of new technologies, and the initiation of several cooperative projects.

5. FUTURE CHALLENGES

There are numerous longer term challenges related to respondent relations and the collection of agricultural data. In this regard, the various oversight mechanisms, including the Respondent Burden and Data Collection Committee and the North American Tripartite Committee on Agricultural Statistics, are particularly beneficial for identifying the principal issues, and providing forums to discuss and identify the best course of action for specific response burden issues.

Improved awareness and respondent relations will remain a key priority in the future. In coordination with other Statistics Canada and government on-line initiatives, increased effort will be made to improve the information available on the Internet, including development of a respondent relations module. The module will include documentation about the importance of agricultural surveys and provide examples of how the information is being used. There will also be sections on frequently-asked-questions (FAQs) and survey specific fact sheets. The module will also provide direct links to the agricultural data and analysis tools, analytical reports and studies, relevant data modules and other agricultural related information available from Statistics Canada.

The development of respondent burden tracking, management and reporting tools will continue to receive high emphasis in the future. An exploration of data mining and modeling will be undertaken to better understand our respondents and to develop various farm type profiles that might lead to improved respondent relations. Further exploration of the agricultural databases will be encouraged to help facilitate data mining and improved access and understanding of these data holdings. At the data collection phase, there will also be studies to determine how surveys might be conducted more efficiently, with less burden, through techniques such as the pre-completion of some repetitive questions (verifying data), the possible customization and personalization of surveys, and exploring the possibility of informing respondents of upcoming surveys for the year.

Finally, there will be continued efforts to expand the use of administrative data whenever possible. Farm income stabilization programs, for example, offer much potential as a new comprehensive source of financial data. In close collaboration with the relevant federal and provincial authorities, efforts will be devoted to access and make use of this source of information.

ACKNOWLEDGEMENTS

The author thanks Denis Chartrand, Paula Thomson, Mike Trant, Ross Vani and Julie Paquette for their appreciated comments and feedback.

REFERENCES

Agriculture and Agri-Food Canada (2005), *Farm Income Issues Data Source Book*, Ottawa, Canada.

Easter, W. (2005), "Empowering Canadian Farmers in the Marketplace", *A Report Prepared for the Minister of Agriculture and Agri-Food*, Ottawa, Canada.

Statistics Canada (2005), "Estimates of Compliance Costs to Business Respondents, 2003", unpublished report, Ottawa, Canada.

Statistics Canada , 2001 Census of Agriculture, Ottawa, Canada.