# Canadian Agricultural Safety Net Programs and Pressures for Change

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*Paper presented at the Joint AAEA/CAEA Annual meetings, Chicago, Illinois, 5–8 August 2001.*

*This paper contains the views of the authors and does not necessarily reflect those of Agriculture and Agri-Food Canada and the Government of Canada.*

## INTRODUCTION

Recent developments on the agricultural policy front in Canada suggest that we are entering a new stage of agricultural support in Canada. While policy makers continue to work on improving the design and coverage of safety net programs to help producers manage risk, increasingly, policy discussions center around the longer-term competitiveness and strength of the sector and the importance of science, new technology, skills and innovation for success. Important to the discussions are environmental issues and food safety concerns as well as new products and technology that are altering the shape of the agriculture and agri-food sector (e.g. GMOs and fuel from biomass).

The purpose of this paper is to briefly describe current agricultural safety net programs in Canada and to present issues that are creating pressures for change in future policy directions. The paper begins with a description of current safety net programs and objectives[1] and the environment in which they were developed. It then continues with a discussion of current pressures for change in agricultural policy.

## CURRENT SAFETY NET POLICIES

The safety net policies that are currently in place in Canada were introduced during a period of deficit fighting and increasingly globalized trade in the 1990s. During this decade, domestic inflation was brought under control, federal and provincial fiscal deficits disappeared and several important international trade agreements were signed (Canada-U.S. Free Trade Agreement, North American Free Trade Agreement, World Trade Organization Agreement) that introduced new trade disciplines, including a dispute settlement mechanism and measures to improve market access for agriculture and agri-food products. Canadian support to agriculture fell relative to that of other OECD countries, especially compared to the United States and the European Union (Figure 1) where objectives of agriculture policy developed along different lines than those in Canada,[2] and particularly for wheat (Figure 2).

Federal support to agriculture is delivered through five safety net programs that fall under the *Farm Income Protection Act* (FIPA). This Act, introduced in 1991, encouraged a more "market-oriented" and "self-reliant" philosophy that was at the same time intended to

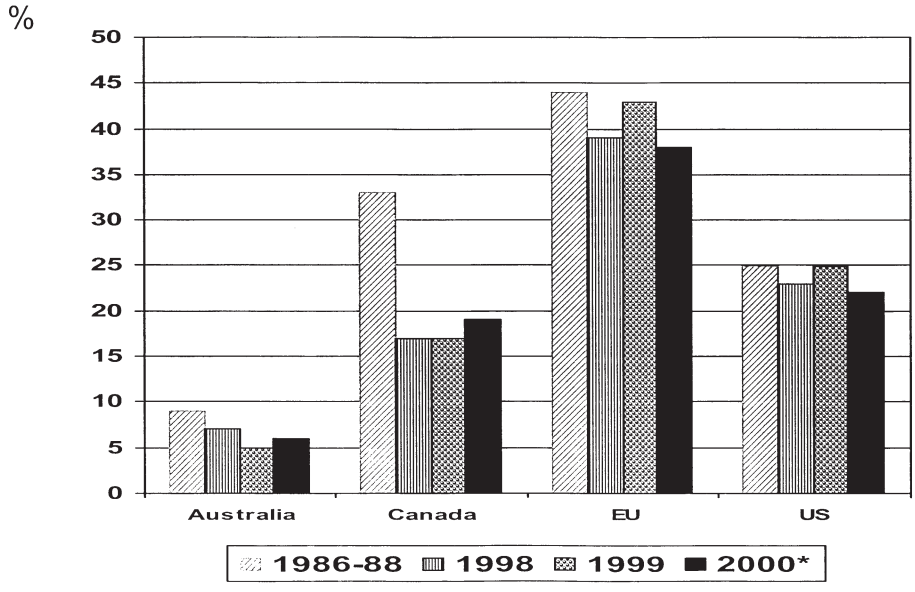



Figure 1. Producer subsidy equivalents by country, 1986–88, 1998, 1999 and 2000
Source: OECD, Monitoring and evaluation 2001, May 2001.

be trade- and production-neutral (decoupled), equitable across provinces and environmentally sustainable with minimum overlap or duplication of purpose. Labeled a "whole farm approach," FIPA governs programs that stabilize income from all commodities rather than on a commodity-by-commodity basis.

Funding for safety nets is negotiated between the federal and provincial governments every three years and outlined in a federal–provincial Safety Net Agreement Framework. The objectives of safety net programs, as stated in the most recent Safety Net Agreement Framework (July 2000), include "encouraging risk management by producers" and "stabilizing income" (Richardson 2000).

The five current safety net programs include:

- Net Income Stabilization Account (NISA)
- crop insurance
- provincial companion programs
- cash advance programs
- Agriculture Income Disaster Assistance (AIDA)/Canadian Farm Income Program (CFIP)

The **Net Income Stabilization Account** (NISA), helps producers achieve long-term farm income stability on an individual basis. Producers may deposit money annually into their NISA accounts based on eligible net sales and receive matching government contributions. In lower-income years, producers may make withdrawals from the funds they have set aside. Withdrawals are triggered when gross margins fall below a three-year average (gross margin trigger) or when family income falls below a minimum family income level (minimum income trigger) (Gellner and Rattray 2001). NISA covers most commodities except

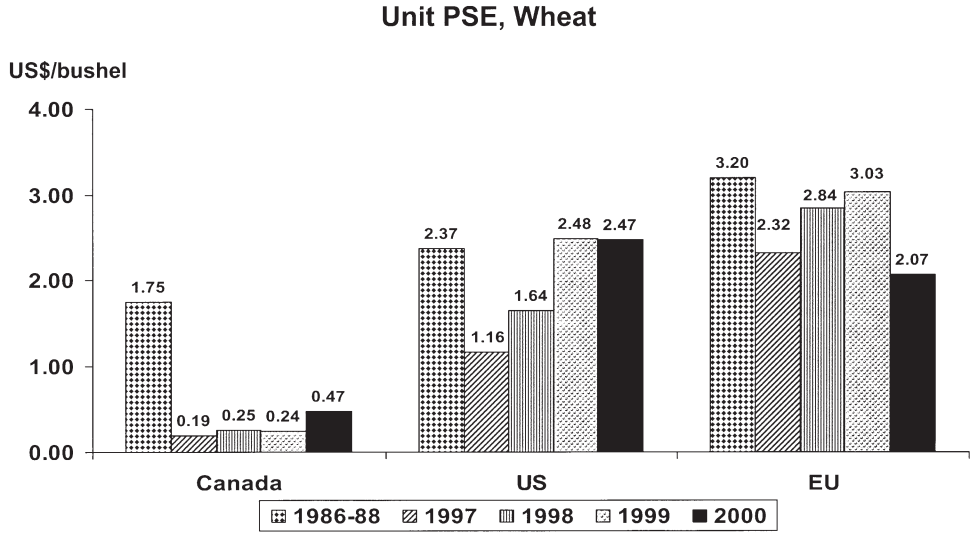



Figure 2. Producer subsidy equivalents for wheat in Canada, the United States and the European Union
Source: OECD, Agricultural policies in OECD countries: monitoring and evaluation 2001, and estimates by Agriculture and Agri-Food Canada.

nonhorticulture products in Quebec and supply-managed commodities such as chicken, turkey, eggs and fluid and industrial milk. The federal government contributed $230 million to match individual NISA accounts in 2000–01.

**Crop insurance** is a provincially delivered program to which the federal government contributes, on a cost-shared basis, according to FIPA guidelines. Producers, provincial governments and the federal government contribute to premiums and administrative costs in insuring crops against natural hazards such as drought, flood, hail, frost, excessive moisture and insects. Payments are triggered when a producer's yield falls below 70–80% of the farm's average historical yield. Crop insurance is a voluntary program that covers most crops across the country. In 2000–01, federal contributions to the crop insurance program amounted to $273 million.

**Provincial companion programs** provide safety net funding to the provinces to design programs that address unique provincial differences in agricultural structure. A wide gamut of programs are funded under this program. Federal funding of companion programs amounted to $192 million in 2000–01.

Fall and spring **cash advance programs** provide interest-free loans to crop producers to help with spring seeding or fall harvesting. Marketing can then be done gradually to protect producers against lower prices at harvest time. The loans are repaid as the crops are marketed. The federal government spent $39 million on interest-free loans in 2000–01.

With the dramatic decline in hog and grain prices in 1998 and 1999, a federal-provincial cost-shared program was introduced called the **Agriculture Income Disaster Assistance** (AIDA) program, to provide disaster relief. This program was initially funded for two years and was similar to disaster programs already in place in British Columbia, Alberta, and Prince Edward Island. Under AIDA, producers were compensated for up to 70% of their previous

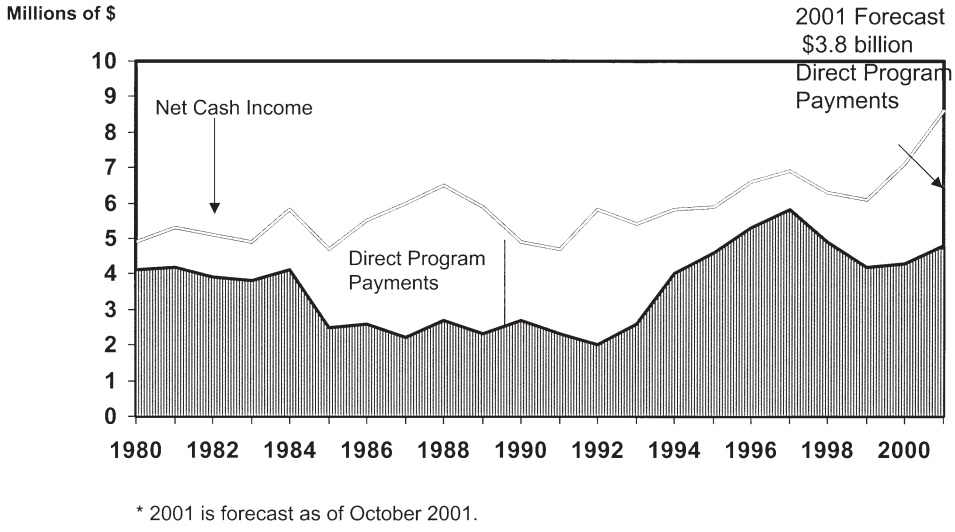



Figure 3. Net cash income and direct program payments, Canada, 1989–2004
Source: Estimates by Statistics Canada and Agriculture and Agri-Food Canada.

(three years or Olympic-average middle three out of five years) average gross margin if the gross margin for the current year fell below this average. AIDA was designed to be integrated with NISA in many provinces in an effort to eliminate duplication of payments. Federal funding for AIDA was $196 million in 2000.

AIDA has been replaced by the Canadian Farm Income Program (CFIP), a second-generation disaster program that works on the same principals as AIDA. Minor adjustments were made to the program such as better integration with NISA and a redefining of gross margin to allow for the inclusion of all labor (family and nonfamily) as an allowable expense. The federal and provincial governments spent $635 million for CFIP in 2000–01.

As a result of these programs under the federal–provincial Safety Net Agreement Framework, direct program payments to Canadian producers are expected to rise to $3.8 billion in 2001 from $1.1 billion in 1997 (Figure 3).

## CURRENT ISSUES THAT WILL IMPACT FUTURE SAFETY NET PROGRAMS

While the budget constraints, trade environment and disciplines of the WTO agreement will no doubt continue to drive agricultural policy and program design in Canada, there are a number of domestic factors within the agriculture and nonagriculture sectors that are putting pressure on governments to alter safety net programs in Canada. These pressures are also present in a number of other member countries of the Organisation for Economic Co-operation and Development and are presented below. These include:

- structural change in agriculture
- the diverse needs of farm operators and their families
- the decrease in uniqueness of the agriculture sector
- environmental and food safety issues.

The following sections will discuss each of these issues in turn and outline implications for future safety net policy in Canada.

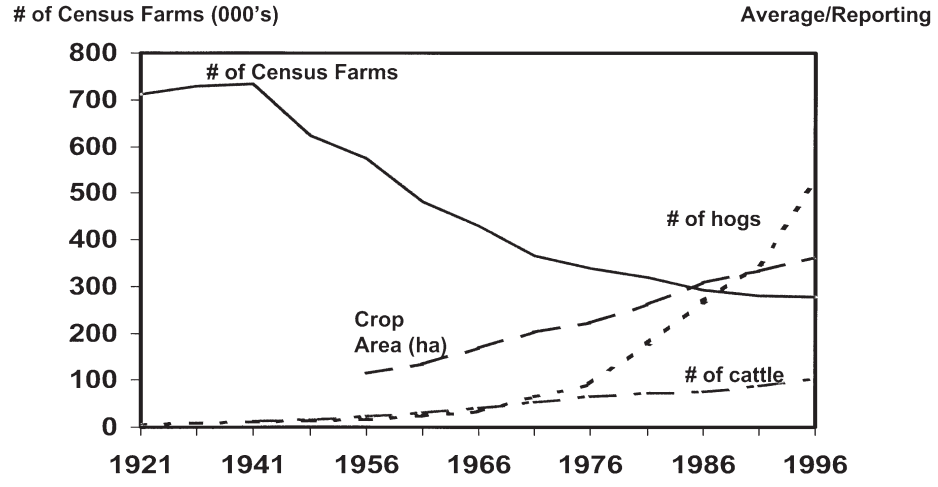



Figure 4. Number of census farms in Canada and average crop area and herd size[a], 1921–96
Source: Statistics Canada, Census of Agriculture.
[a] Averages are calculated on per reporting basis for crop area and herd size.

## STRUCTURAL CHANGE IN AGRICULTURE

### Increased Concentration and Specialization of Production

The agriculture sector has undergone significant structural change in the post-war period. Since World War II, the number of census farms in Canada has declined, while the average farm size, crop area and herd size has increased (Figure 4). These changes occurred as a result of productivity improvements in agriculture and the migration of rural farm families to the cities. Productivity improvements occurred as a result of technological advancements that transformed Canadian agriculture, from early developments in seed breeding and farm mechanization to more recent developments in biotechnology and precision farming. These advancements continue to improve farm productivity, giving farmers the opportunity to expand while reducing their labor requirements per acre and per head. The hog sector in particular witnessed significant gains in economies of size since 1976, with the average farm reporting increases in hog numbers from 100 hogs in 1976 to 525 hogs in 1996.

Technological advancements also encouraged increased specialization. Operators on more specialized farms are more adept at capturing economies of size and scale, thereby lowering their production costs. But with increased specialization come increased risks. The extent to which a farm is specialized affects the operator's ability to respond to changing market conditions. More specialized farms, which depend to a greater extent on a particular commodity, are much more vulnerable to price risk. To offset this risk, an increasing number of farm operators use risk management tools such as production contracts, hedging strategies and forward pricing in addition to traditional safety net programs. In 1999, a large percentage of fruit and vegetable farms and greenhouse and nursery farms were highly specialized[3] (Figure 5). These farms must make use of risk management tools to offset the risks associated with a high degree of specialization.

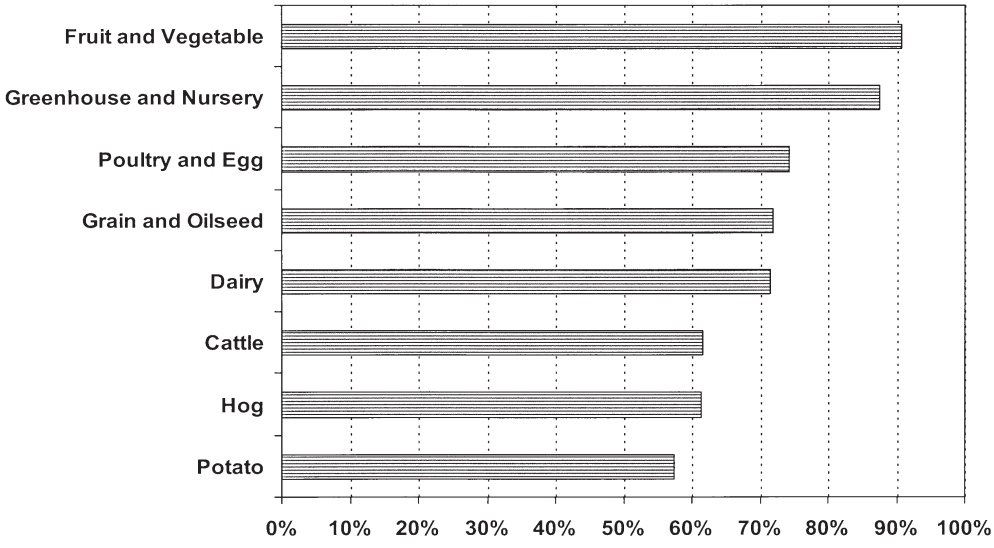



Figure 5: Percentage of highly specialized farms[a] by farm type, 1999
Source: Statistics Canada, Whole Farm Database, 2001.
[a] Farm type is determined by the commodity whose sales represent 51% or more of total agricultural sales of the farm. A farm is highly specialized when 90% or more of sales are derived from that commodity.

With farms becoming larger and more specialized, farm production is increasingly concentrated on large and very large farms. In 1981, large farms represented 22% of farms and accounted for 64% of total agricultural production in Canada (Figure 6). In 1996, they represented 40% of farms, but accounted for 84% of production. Very large farms ($500,000 and over), in particular, grew in both importance and contribution to production, moving from 19% to 36% of total production while representing 1% of farms in 1981 and 4% in 1996.

**Large Farms: The Beneficiaries of Safety Net Funding**

The increase in concentration and specialization of production over time has had an impact on the distribution of direct program payments.[4] In line with their objectives (i.e., risk management and farm business income stabilization), safety nets go to those who produce and those facing significant financial risk. As a result, large and very large farms are the main beneficiaries of safety net policies and receive a share of farm payouts commensurate with their contribution to farm production.

In 1999, large and very large farms ($100,000 and over) received 80% of direct program payments yet represented only 31% of census farms (Figure 7). (NISA withdrawals are also concentrated on large and very large farms, Figure 7a). They did, however, at the same time account for 87% of production.

Small and medium farms (revenues $10,000 to $99,999), on the other hand, which represented 35% of census farms, accounted for only 12% of production and received 19% of the direct program payments. Farms of this size generally are smaller in terms of assets and

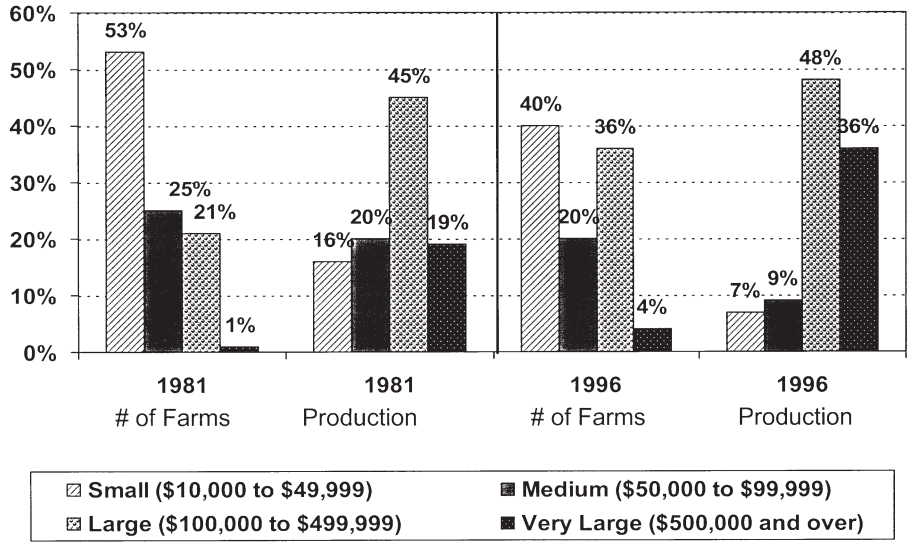



Figure 6. Change in Concentration of production[a], 1981 and 1996
Source: Statistics Canada, Census of Agriculture.
[a] Revenue classes and production are adjusted to constant 1995 dollars.

are less likely to support a family based solely on income from the farm. Many of these census farms are unprofitable (28% reported operating losses in 1999 compared with 14% of larger farms) and families on these farms rely heavily on off-farm income sources.

The remaining 34% of farms were "hobby" farms with gross farm revenues under $10,000. They accounted for only 1% of production and received only 1% of direct program payments. Being small in size, these farms are generally operated by families and individuals with full-time jobs outside agriculture who are not reliant on agricultural safety net programs.

**The Diverse Needs of Farm Operators and Their Families**

From the discussion above, it is clear that agriculture is a diverse sector with diverse needs. For example, not all farms are large, commercially viable operations that can support a full-time farm operator. Farms and their operators differ by size, type, resources, skills, experience and business attitudes and entrepreneurship. Safety net programs do not address all of the needs a farm operator might have to successfully operate a farm. For example, young farmers just starting out have unique capital requirements and may lack business experience. They require policies that help with training or farm loans. Retiring farmers, on the other hand, who are in the process of downsizing and planning to pass the farm on, require programs that help in succession planning. For those operators with small and medium-sized farms, with limited resources, low levels of education and few off-farm employment opportunities, training and extension programs may best serve their needs. Given the technological developments that have made primary production increasingly complex, a farm operator requires expertise in marketing, investment, financial management, production and cost control, as well as managing people (Trant 1976). With only half (51%) of young farmers (under 35 years) in Canada having some post-secondary education, there is an increasing concern that

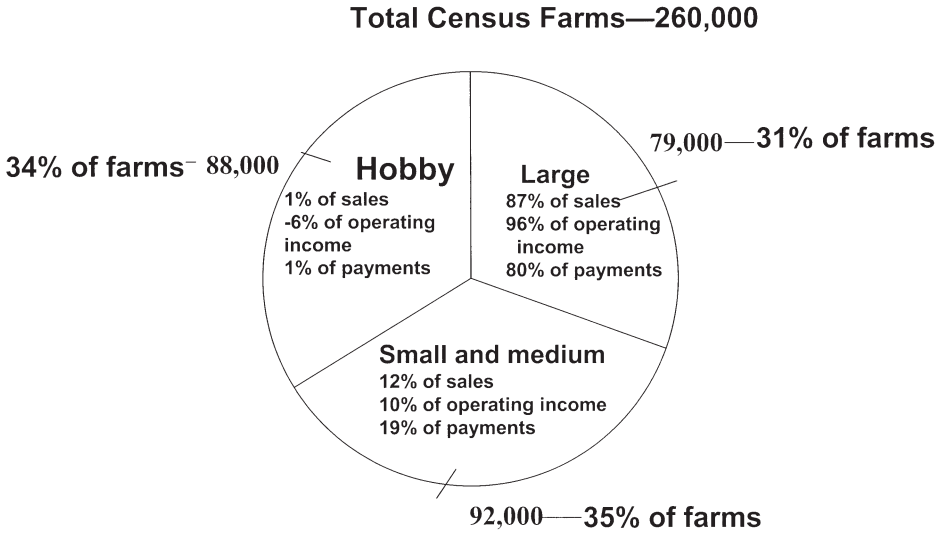



Figure 7a. Distribution of census farms, production and program payments, 1999
Source: Farm Financial Survey, 1999, and estimates by Agriculture and Agri-Food Canada.

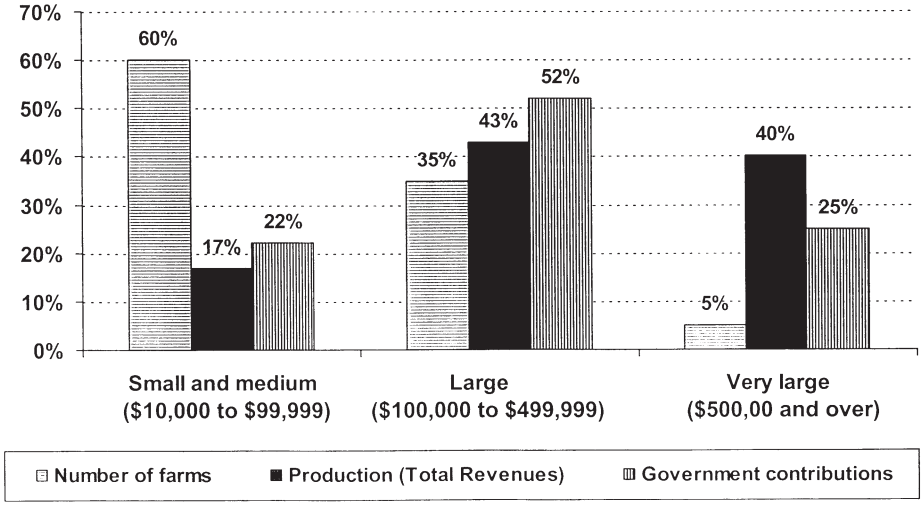



Figure 7b. Distribution of farms participating in NISA, production and government contributions, 1999
Source: Estimates by Agriculture and Agri-Food Canada, and NISA Database.

more training will be required, since research shows that formal training in agriculture improves a farmer's chances of succeeding. The farm typology framework, discussed below, helps identify some of the diverse needs of farm operators and their families that require alternative policies and programs outside of the current safety net framework.

**Farm Business – Farm Family Typology Framework**

A farm business and farm family typology, developed at Agriculture and Agri-Food Canada, and similar to that introduced by the Economic Research Service (ERS) of the U.S. Department of Agriculture (USDA, ERS 2000) provides a framework with which to analyze the diverse needs of the agriculture sector. This typology takes into account five factors:

- the farm's size
- the stage in the farm (operator's) life cycle, career or age
- the degree to which a farm (family) depends on off-farm employment income
- the farm family's economic well-being (income)
- the farm's asset base
- the farm's organizational structure (i.e., nonfamily corporation).

As with the ERS, Agriculture and Agri-Food Canada found that the groups differ in terms of their contribution to agricultural production, product specialization, program participation and benefits and dependence on farm income. Table 1 shows the eight mutually exclusive types of farm businesses and farming families (retirement, lifestyle, low income, small, medium, large and very large business focused, and nonfamily farms)[5] as well as their distribution by number, sales, and direct program payments. Table 2 shows these farm businesses and farming families and their sources of income by typology.

In 1999, some 16% of farms were classified as retirement farms because the operator was over 60 years of age and receiving pension income with no children directly involved in the day to day management of the farm. These farms generally have high net worth yet are in the process of downsizing as the operator prepares to pass the farm on to successors. However, a considerable percentage of these farms are large and receive substantial direct program payments.

Table 1. Distribution of farms and families associated with farms by typology, Canada, 1999

| Typology of farm businesses and farm families | Number of farms | | Market revenue | Program payments |
|---|---|---|---|---|
| | (actual) | (%) | (%) | (%) |
| Retirement | 27,928 | 16 | 6 | 8 |
| Lifestyle | 13,601 | 8 | 1 | 2 |
| Low income | 18,885 | 11 | 3 | 4 |
| Business focused: | | | | |
| Small farms | 14,686 | 9 | 1 | 2 |
| Medium farms | 21,632 | 13 | 5 | 7 |
| Large farms | 69,952 | 37 | 42 | 52 |
| Very large farms | 10,521 | 6 | 39 | 23 |
| Hutterite colies, etc. | 514 | 0 | 2 | 2 |
| Total | 170,719 | 100 | 100 | 100 |

Note: The *Farm Financial Survey* includes farms with gross farm revenues of $10,000 and above.
Source: Statistics Canada, *Farm Financial Survey*, 1999.

Table 2, Sources of family income for families associated with farms by farm typology, Canada 1999

| Typology of farm businesses and farm families | Farm income | Off-farm income | Family income |
|---|---|---|---|
| | ($ per farm) | ($ per farm) | ($ per farm) |
| Retirement | 14,140 | 24,830 | 38,960 |
| Lifestyle | (690) | 85,500 | 85,110 |
| Low income | (2,240) | 7,900 | 5,670 |
| Business-focused: | | | |
| Small | 7,380 | 27,830 | 35,210 |
| Medium | 19,410 | 32,110 | 51,530 |
| Large | 49,620 | 18,410 | 68,030 |
| Very large | 174,210 | 30,030 | 204,240 |

Note: Farm family income data from the *Farm Financial Survey* includes the operator's share of net operating income and the nonfarm income of the operator filling out the survey.
Source: Statistics Canada and Agriculture and Agri-Food Canada.

Lifestyle farms, which accounted for 8% of farms in 1999, are generally operated by "hobby" farmers who rely almost exclusively on off-farm income. They generally receive relatively few program payments because of their small contribution to total agricultural production.

Low-income farming families, with total family income under $20,000,[7] operated farms that represented 11% of farms in 1999. They earned little from either farm or off-farm sources. Despite program payments of $2,500 per family, these farms still reported losses of $2,200 (Table 2). Off-farm income of $7,900 was relatively small and helped offset farm losses. However, because of their relatively large net worth (average $367,000), low-income farming families are not generally eligible for other government (nonagricultural) social transfers. Current safety net support is therefore not particularly effective for these families, given their low farm revenues.

The remaining farms in the farm typology are "business-focused" in their approach, generally profitable, and more dependent on farm income. These farms represented 65% of census farms in Canada in 1999. They can be divided further by farm size, which influences both program needs and benefits. As seen in Table 1, large and very large business-focused farms contribute the most to agricultural production in Canada and are the major beneficiaries of Canadian agricultural safety net funding. Since safety net programs are designed to stabilize the returns to farm production, these larger farms are the major consumers of safety net programs because they produce the bulk of farm production. The unique needs of farming families operating small and medium-sized farms who are less dependent on farm income will have to be addressed through alternative policies, such as transition or skill development policies, for example. Increasingly, agricultural policy discussions are centered around these types of issues arising from the diverse needs of the sector.

**Decrease in Uniqueness of the Agriculture Sector**

*Family Income: Farm and Nonfarm*

One of the main reasons for support to agriculture in the past was to address the income disparity between farm and nonfarm families and in particular, to eliminate low income (poverty)

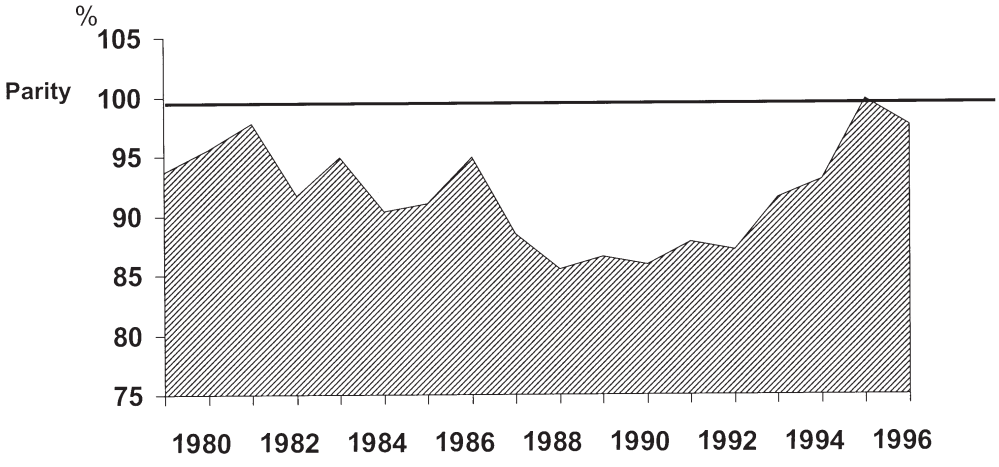


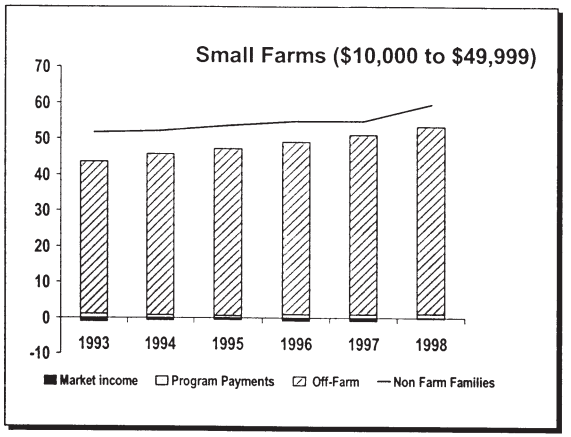

Figure 8. Farm family income as a share of all family income[a], 1971–97
Source: Statistics Canada, Survey of Consumer Finances.
[a] Farm families are those husband–wife families (excluding unattached individuals) where one individual reports some net farm income.

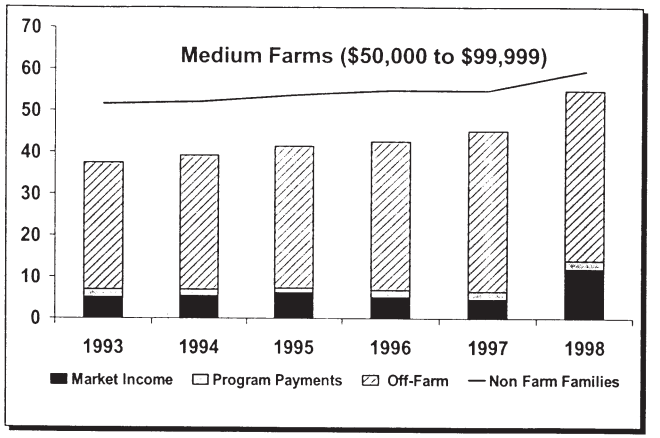
in agriculture relative to the general population. Over time, however, farm family income has approached that of nonfarm families and low income among farm families has become less of a problem.

Figure 8 shows how the ratio of farm family income to all family income has increased over time from 94% in 1980 to 98% in 1997 (Figure 8).[8] Farm family income includes net farm self-employment income as well as off-farm income.

When farm family income is broken down by farm size, the gap between farm and nonfarm family income becomes a function of farm size. Figure 9 shows how families on medium-sized farms reported total family income that was below that of nonfarm families in 1998.[9] Many medium farms are too small to generate substantial income from the farm, yet are too large for farm operators and their family members to earn substantial off-farm income. This compares with families on large farms who generate higher farm income and small farms who report substantial off-farm income. The result is that families on medium farms earn less family income than do nonfarm families. In 1998, some 21% of farm families operated medium farms and earned a total family income of $54,796, compared with the $59,398 earned by nonfarm families.

The difference between farm and nonfarm families has narrowed when the incidence of low income is taken into consideration. In the 1969 "Task Force on Agriculture in the Seventies," almost one-third of farms were living in poverty, a major concern among policy makers, requiring a policy response. However, developments in social policy in Canada during the 1960s and 1970s, such as the introduction of Medicare and Canada–Québec Pension Plans (CPP/QPP), helped address some of these concerns and the incidence of low income declined over this period as a result.



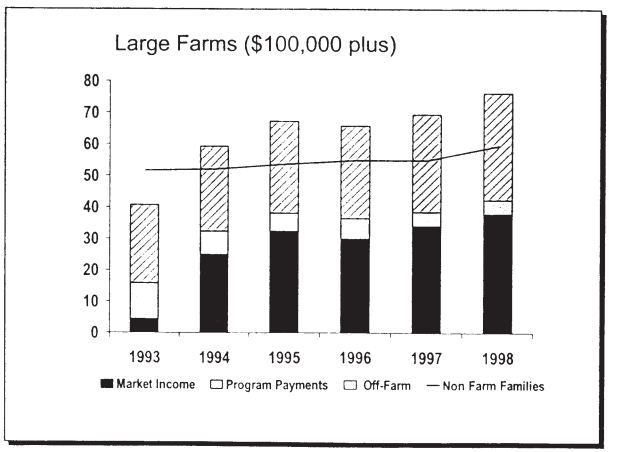




Figure 9. Farm family income[a] relative to all Canadian families' income
Source: Statistics Canada, Whole Farm Database and Small Area Administration Data.
[a] Farm income is after depreciation (CCA).

Table 3. Incidence of low income[a] among farm and all families, Canada, 1961–98

| Year | Farm families | All families |
|---|---|---|
| | (%) | (%) |
| 1961 | 33 | n.a. |
| 1975 | 20.5 | 11.8 |
| 1985 | 16 | 14.4 |
| 1996 | 14.7 | 14.8 |
| 1998 | 12.8 | 13.1 |

[a] As determined by Statistics Canada's low-income cut-offs for various years.
Source: Statistics Canada, *Survey of Consumer Finances* and *Survey of Labour Income Dynamics*.

The incidence of low income is measured by the share of (farm) families with income below a low income measure such as the low-income cut-off or LICO.[10] Estimates from the 1970s show that improvement was made on this front since the share of farm families[11] with low income fell from 21.8% in 1973 to 12.8% by 1978 (Table 3). This compares with only a modest improvement made by all Canadian families with low income from 13.4% in 1973 to 10.3% in 1978 (Darcovich, Gellner and Piracha 1977).

More recent data show that between 1985 and 1995, there was a continued improvement in the incidence of low income for farm families relative to nonfarm families[12] (Table 3) as the share of farm families with income under the LICO fell from 16% to 9% and rose from 14% to 14.4% for nonfarm families. More recently (1996 to 1998) it has continued to decline.

*The Increasing Importance of Off-farm Income*

One reason for the narrowing in the gap between farm and nonfarm family income is the growing contribution of off-farm income. Off-farm income includes income from wages and salaries earned off the farm as well as nonfarm self-employment income, investment income, pension income, government (social) transfer income (employment insurance, CPP/QPP, Child Tax Benefit, etc.) and other income. It has grown in importance over time for most farm families (Figure 10). In 1975, off-farm income represented 53% of total farm family income. By 1997, this share rose to 76%. And while all components of off-farm income have increased, wages and salaries from off-farm employment and government social transfers have contributed the most.

By farm size, off-farm income is most important for families on small farms, providing more than 100% of total family income in most cases. Families on larger farms, on the other hand, are less reliant on off-farm income, but it continues to grow in importance over time as well (Figure 9).

Data from the Census of Agriculture confirm the extent to which farm operators rely on off-farm income and how this has changed over time. Forty-six percent of (both male and female) farm operators reported some off-farm work in 1995. This compares with earlier censuses, when a smaller percentage of "first-listed" operators worked off the farm: 28% in 1951, 31% in 1961 and 35% in 1971 reported some days of off farm work (Bollman 1979a).

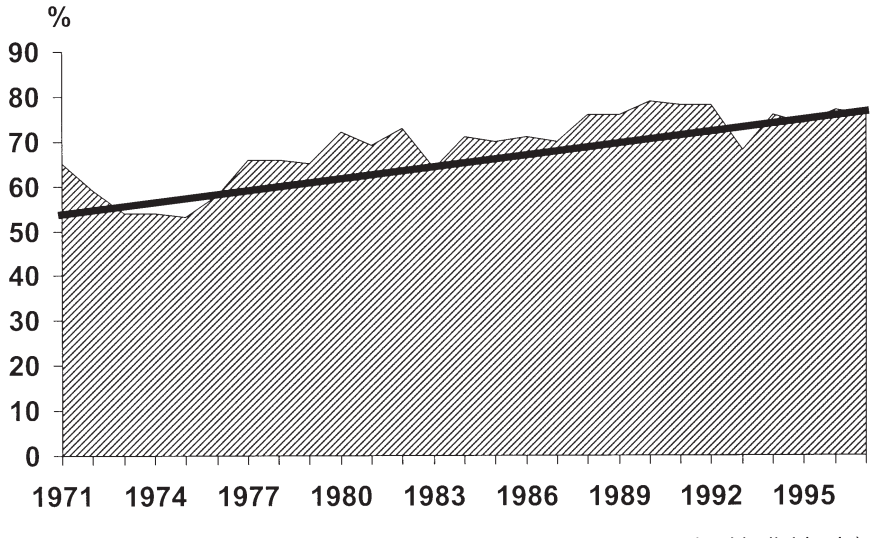



Figure 10. Off-farm income as a share of total family income[a] for farm families, 1971–97
Source: Statistics Canada, Survey of Consumer Finances.
[a] Farm families are those husband–wife families (including unattached individuals) where one individual reports some (positive or nonzero) net income from farming after depreciation (CCA).

The tendency toward more off-farm work may be a function of several factors:

- increasing off-farm employment opportunities
- technological and productivity improvements on the farm and within the household that resulted in the "freeing" of farm family labor to work off the farm (operators are working more days off-the-farm than previously)
- an increase in relative wages of off-farm employment relative to returns to the farm
- better transportation (better roads, better vehicles) and a relatively lower cost of commuting longer distances than previously
- a desire (or need) to diversify income sources as a means of managing risk
- an incentive for family members to work in off-farm jobs in order to qualify for social benefits such as pension and health benefits.

Regardless of the reason, the increasing reliance on off-farm income of farm families has resulted in greater diversification of income sources and less risk associated with variations in farm income.

*Farm Versus Nonfarm Household Wealth*

While income comparisons are the traditional means of comparing farm families' economic well-being relative to that of nonfarm families, wealth comparisons are also an important indicator. Wealth, as measured by net worth, is a longer-term indicator of a household's economic well-being, since it is less subject to the dramatic variations in income that can take place from one year to the next. Based on recent data on wealth and net worth, most farm families are doing better than nonfarm families in this regard.

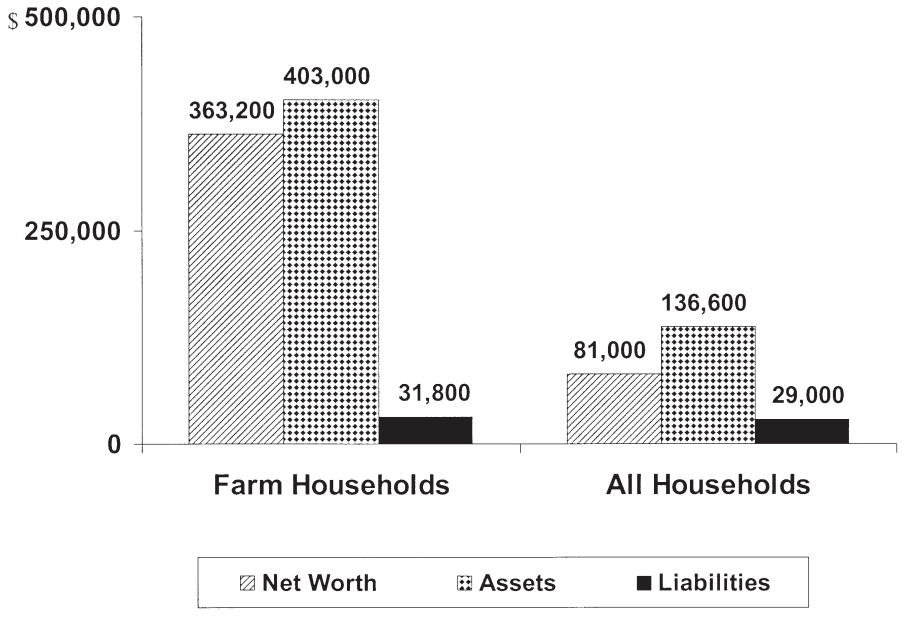



Figure 11. Median net worth[a] of farm and all Canadian farm households, 1999
Source: Statistics Canada, Survey of Financial Security, 1999, custom calculations.
[a] Median net worth measures the midpoint net worth below and above which there are the same number of households. When medians are used, net worth does not equal assets minus liabilities.

Data on wealth or net worth for farm and nonfarm households are available from the 1999 Survey of Financial Security (SFS), which sampled all households in Canada and collected data on business and personal assets and liabilities. Figure 11 present the results from the SFS with comparisons between all Canadian households and farm households.

The survey sampled 290 farm households[13] and 12,000 nonfarm households in 1999. Farm households reported a median net worth of $363,200 while all households in the survey reported $81,000. Net worth is higher for farm households than all Canadian households primarily due to the importance of business equity for farm households. The majority of major income earners in farm households are self-employed on sole proprietorship farms. Business equity represented about 44% of total household net worth for farm households compared with 18% for all households. Median business equity was $142,000 for the average farm household compared to $10,000 for all households. It is often difficult for self-employed individuals to separate farm business assets from the personal assets of the household, especially if personal assets, such as cars or residences are also used for business purposes.

The relatively high median net worth of farm households compared to all households may have implications for future safety net policy. It is becoming increasingly difficult to justify the large amount of support that is being paid out to large commercial farm operators when the average Canadian household, with substantially lower net worth, receives less support. On the other hand, the relatively high net worth of low-income farm households prevents them from access to certain nonagricultural social safety net programs that might oth-

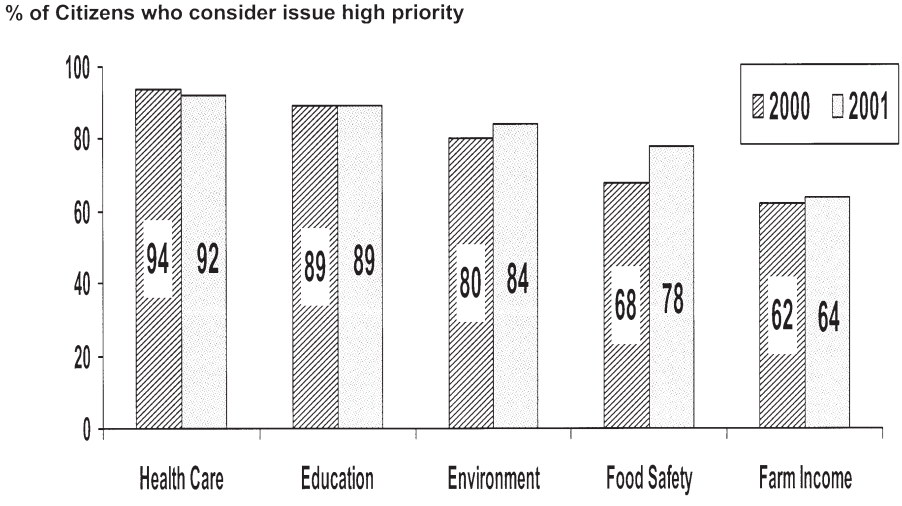



Figure 12. Consumer attitudes toward various issues, 2000 and 2001
Source: Eckos, 2000, 2001.

erwise benefit them substantially. However, differences in net worth may reflect the differences in investment to income ratios and the rate at which wealth accumulates for farm households versus nonfarm households, as well as the relative age of farm operators versus the average household head. In addition, farmers, more than any other group, count on the sale of their assets upon retirement to provide them with retirement income. This probably influences capital accumulation and net worth levels on the farm as well.

**Environmental and Food Safety Issues**

Over the 1990s and perhaps culminating in the WTO talks in Seattle, Washington, in December 2000, we have seen the rise of "consumer sovereignty". Consumers speak loudly and their voices are being heard on several fronts affecting the agriculture and agri-food sector. For example, they are increasingly demanding clean water, a safe food supply, and non-genetically modified crops. They want an environment that is clean and sustainable and water that is free of contaminants and safe to drink. A recent survey of consumer attitudes towards the priority of various issues shows that the environment and food safety rank high in terms of priority for Canadian citizens, and are becoming more important over time (Figure 12).

Much of this interest stems from recent events in Europe and Canada. In May 2000, a deadly strain of *E. Coli* bacteria was distributed by the water utility in a small town in Ontario, Canada (Walkerton). Seven people died and 2,300 other people were infected. With the source of the *E. Coli* believed to be from local livestock operations, the public concern over agricultural production practices, particularly intensive livestock production, has been significantly increased as a result. Water safety and environmental concerns in the post Walkerton period will not be taken for granted.

In addition to Walkerton in Canada, foot and mouth disease and mad cow disease in Europe have increased consumers' awareness of food safety issues. Food safety issues stemming from pesticide residues and genetically modified foods are also of major concern for

consumers. Governments and farmers increasingly recognize that risk management must extend beyond the traditional (financial) risk management tools associated with agricultural safety nets to risk management tools for environmental and food safety risks. In other words, there are increasingly market risks associated with assuring market access against border closures due to food safety issues. Increasingly, HACCP (Hazard and Critical Control Path) programs for farms, environmental farm plans, regulations governing intensive livestock operations and nutrient management regulations are being introduced by provincial governments in Canada (e.g., Ontario, Alberta and Prince Edward Island). As a result, there is pressure to extend agricultural support beyond the traditional safety net funding to provide income protection to producers against risks associated with these new consumer concerns for the environment, water and food safety. These pressures will influence the future policy directions in Canada and in other countries around the world.

## SUMMARY

Agricultural safety net programs are in place to help producers manage the financial risk of their farm businesses arising from variations in prices, production and income. However, new pressures are evident arising from structural change in the agriculture sector, a recognition of the diversity of farm operators and farm businesses and their policy needs, increasingly demanding consumers and greater risks associated with the impact of farming on the environment, water and food safety. The government is aware of its expanded role in the area of risk management beyond that covered by traditional safety net funding and is venturing into new areas governing food safety and the environment. This, at a time when structural change is leading to a smaller, more concentrated sector that is increasingly diverse, with diverse policy needs, yet increasingly comparable to other sectors based on income and low income gaps. All of these factors will continue to press for change in the future of safety net policies in Canada.

## APPENDIX

### A Move Away from a "One-Size-Fits-All" Approach

Not all farms and farm families share the same goals, opportunities and challenges. Policies aimed at improving the well-being of farmers should recognize the diversity that exists among farm families. To address this problem, a farm typology was developed by Agriculture and Agri-Food Canada similar in many respects to the typology developed by the Economic Research Service (ERS). Factors such as age, business intentions, and sales class were used to classify farm businesses and farming families into eight mutually exclusive groups. As with the ERS typologies, the groups differ in their contributions to agricultural production, product specialization, program participation and dependence on farm income.

One of the main differences between the Agriculture and Agri-Food Canada and the ERS farm typology groupings is the order in which farms are selected. The Agriculture and Agri-Food Canada typology selects retirement age operators first, rather than second. In addition, the small farms and large farms have different revenue cut-off points: $10,000 to $99,999 for small farms in Canada and $1,000 to $249,999 in the United States.

There are eight groups identified in the Agriculture and Agri-Food Canada typology:

- retirement farms: farms managed by operators 60 years of age or older, receiving pension income with no children involved in the day-to-day operation of the farm.

- lifestyle farms: Farms managed by families with total household off-farm income of $50,000 or more and where gross revenues from farming are between $10,000 and $49,999.
- low-income farms: farms managed by families with total household income less than $20,000 and gross farm revenues of $10,000 to $99,999.
- business-focused farms: all other family farms sorted by size.
  - small (total revenues of $10,000 to $49,999)
  - medium (total revenues of $50,000 to $99,999)
  - large (total revenues of $100,000 to $499,999)
  - very large (total revenues of $500,000 and over)
- nonfamily farms. Hutterite colonies, communal operations and other nonfamily organizational arrangements such as a nonfamily cooperative and corporation.

## NOTES

[1]For a more detailed discussion of the historical objectives of agricultural policy in Canada, the changing trade and macroeconomic environment, and the leading pressures for change in the agriculture and agri-food sector see Ndayisenga et al, forthcoming.

[2]In the EU, agricultural support objectives relate to maintaining a rural lifestyle and rural economies and other "multifunctionality" objectives.

[3]A farm is considered highly specialized when 90% or more of its agricultural sales are derived from one commodity or commodity group.

[4]Direct program payments on the Farm Financial Survey include revenues from provincial stabilization programs (e.g., ASRA, FIDP, ADIP, MRP), crop insurance net of premiums, AIDA, dairy subsidies and certain input and fuel tax rebates, but exclude NISA withdrawals, which are collected separately).

[5]Farm typology definitions are included in the appendix.

[6]Farms are determined based on census definition, i.e., those operations producing agricultural products.

[7]Low-income cut-offs (LICOs) are published by Statistics Canada every year and averaged $22,000 for a family of four in rural areas. It was this amount on which the low-income cut-off for the typology was based.

[8]Farm families include those economic families (husband-wife families with children related by blood or adoption) whose "head" reported earning "some" (positive or nonzero) net farm self-employment income, after depreciation. Data are from the Survey of Consumer Finances.

[9]Data used for this comparison are derived from Small Area Administration Data (for nonfarm families) and Taxfiler (for farm families). The family is defined as husband-wife economic families and lone parent families, excluding unattached individuals.

[10]There are several measures of low income. The most common measure is called the "low-income cut-off" (LICO) calculated by Statistics Canada and based on the Family Expenditure Survey. The LICO is based on the amount of money the average Canadian family spends on basic necessities such as food, shelter and clothing. The cost of basic necessities is adjusted for family size and area of residence (such as rural or urban large city). This share is then inflated by 20 percentage points and also adjusted for inflation relative to the base year. In 1996, for example, the LICO for an average four-person family living in rural Canada was $22,849 while the LICO for the same-sized family living in a large Canadian city was $33,008. Other measures of low income are also available such as the low income measure (LIM) developed for the OECD and the Market Basket Measure used by Human Resources Development Canada. However, results indicate the same trends showing that the extent of low income among farm families has improved relative to the general population over the 1970s, 1980s and 1990s.

LIMs are calculated as 50% of the average median income of a particular country. The OECD makes use of this measure because it allows international comparisons among countries that do not have sophisticated income data.

The Market Basket Measure has been developed by Human Resources Development Canada to take account of the cost of daycare and other expenses important to lower-income families, and that not captured as well as in the Family Expenditure Survey.

[11]In Darcovich, Gellner and Piracha (1977), farm families were defined as those economic families whose head reported farming as their main occupation. Data were from the Survey of Consumer Finances.

[12]In Waithe, Zafiriou and Niekamp (2000), farm families were defined as those (economic) families with the household "head" reporting some (positive and nonzero) net farm income. Data used were from the Survey of Consumer Finances. The difference in definition of farm families can explain differences in low income incidence over the two periods.

[13]Farm households are defined as those where the major income earner is classified as having an agricultural occupation.

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