

# ECONOMIC RESEARCH NOTES

## **JOBS IN NOVA SCOTIA AGRICULTURE AND RELATED SECTORS**

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*Agriculture's direct and indirect labour force numbers about 14,300 persons. At the time of the last Census, there were 8,775 members of the provincial labour force attached to primary agriculture, and 1,140 attached to agricultural service industries. There are 3,900 Nova Scotians employed by agricultural related manufacturers and another 500 employed by other agricultural based businesses. Across the 16 rural counties of the province, six per cent of the labour force is attached to agriculture and related sectors. Over the period spanning the last four Censuses (1981-96) the agricultural and related labour forces in Nova Scotia increased moderately but steadily. Growth rates surpassed those of other resource and goods producing industries and as well exceeded the increases of the overall rural and provincial labour forces. Another 56,000 members of the Nova Scotia labour force are attached to food wholesale and retail industries, to the food service industry and to other food manufacturers.*

### **Background**

The 1996 Census of Population reported the agricultural and related services labour force in Nova Scotia at 9,920. This figure represents individual members of the labour force (or "warm bodies") as compared to person years of employment. For classification purposes, industry refers to the general nature of the business carried out in the establishment where each reporting person worked. If the person did not have a job during the week prior to census enumeration, their industry attachment was based upon their job of longest duration over the previous 16 months. The agricultural labour force includes farmers, family members (working on farms) and hired labour. There were 2,690 farmers and farm managers in the province in 1996. As defined the agricultural labour force includes some seasonal workers although it would not encompass many of the most casual and transient workers. At peak months the Labour Force Survey places agricultural employment at 10-11,000. About 2,500 farm workers draw Employment Insurance each year including 1,600 frequent claimants.[3] These workers would be included within the agricultural labour force figures.

The agricultural or farm labour force (exclusive of related services) increased during the 1980s but was reported at similar levels in 1991 and 1996. Within this period all of the increases were recorded within agricultural related services. Over the longer 15 year (1981-96) period the labour force attached to primary agriculture increased by 830 persons while workers attached to related service industries increased by 580. (See Table 1.) With all of the recent growth and a sizeable share of the 15 year growth coming from the agricultural related service industries it is helpful to consider the definition of these businesses. The 1980 SIC (Standard Industry Classification) definition of Agricultural Related Service Industries splits them into three sub-groups - Services Incidental to Livestock and Animal Specialties, Services Incidental to Agricultural Crops and Other Services Incidental to Agriculture. Breakdowns of these specific sub-groups are as follows:

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**Table 1**  
**Agricultural & Related Services Labour Force**  
**Nova Scotia 1981-96**

	<b>Agricultural Industries</b>	<b>Agricultural Related Service Industries</b>	<b>Total</b>
1996	8,775	1,140	9,920
1991	8,855	735	9,595
1986	8,640	495	9,135
1981	7,945	560	8,505

Source: Statistics Canada, Census of Canada.

**Table 2**  
**Agricultural & Related Services Labour Force**  
**Nova Scotia and Canada 1981-96**

	<b>Nova Scotia</b>	<b>Canada</b>	<b>N.S. as a % of Canada</b>
1996	9,925	485,605	2.04
1991	9,595	521,335	1.84
1986	9,135	512,695	1.78
1981	8,505	481,275	1.77

Source: Statistics Canada: Census of Canada.

**Table 3**  
**Agricultural Industries Labour Force**  
**Nova Scotia and Canada 1981-96**

	<b>Nova Scotia</b>	<b>Canada</b>	<b>N.S. as a % of Canada</b>
1996	8,775	442,845	1.98
1991	8,855	489,550	1.81
1986	8,640	491,040	1.76
1981	7,945	462,475	1.72

Source: Statistics Canada: Census of Canada.

- Services Incidental to Livestock includes Veterinary Services, Farm Animal Breeding Services (Except Poultry), Poultry Services, and Other Services Incidental to Livestock and Animal Specialties.
- Services Incidental to Agricultural Crops includes Soil Preparation, Planting and Cultivating Services, Crop Dusting and Spraying Services, Harvesting, Baling and Threshing Services, and Other Services Incidental to Agricultural Crops.
- Other Services Incidental to Agriculture includes Agriculture Management and Consulting Services, and Other Services Incidental to Agriculture.

The combined agricultural and related services labour force in Nova Scotia increased in absolute terms during the 1980s and 1990s. (See Table 1.) It also increased as a proportion of the national agricultural labour force (See Table 2.) and relative to the overall rural labour force in the province. Nova Scotia's share of Canada's human resources in agriculture increased from one and three-quarter percent (1.75%) to two percent (2%) over this period. A sharp decrease in the national numbers reported after 1991 in combination with the continuing provincial gains boosted the Nova Scotia share of the overall Canadian agricultural labour force as reported for 1996. At 485,605 persons the national agricultural and related labour force almost returned to the 1981 level. It was only 0.9% or 4,330 greater as compared with 15 years earlier. The provincial and national trends were so divergent that a full third of the albeit slight increase in the Canadian agricultural and related service labour force over the 1981-96 period occurred in Nova Scotia.

Part and perhaps most of the dissimilarity in the changes in agricultural employment in Nova Scotia versus Canada as a whole arises from the differences in the commodity composition of the national and provincial industries. The most significant element in this regard relates to the greater roles of horticulture and intensive livestock production provincially versus highly mechanized grains and oilseed production nationally. Nova Scotia's share of the human resources in Canadian agriculture is significantly greater than its share of agricultural production or output. The province accounted for an average of 1.5% of Canada's agricultural GDP (Gross Domestic Product) during the 1990s. This compares with 2% of the people commercially involved in commercial agriculture across Canada.

Nova Scotia agriculture's labour intensiveness does not appear however to be fully based upon its commodity structure. For some farm businesses and sectors there likely are cases where labour productivity gains are lagging Canadian or North American levels. Another more positive factor involves the greater use of human resources (hired and entrepreneurial / profit seeking) in response to its lower cost (and greater dependability) as compared to the situation in other agricultural production regions. Hog producers in Nova Scotia for example achieve higher feed conversions and higher livestock productivity (pigs marketed per sow) as compared to their typical counterparts in the rest of Canada and the USA. These farms use of labour per unit of output, however, appears to be 15-20% higher.[5] Dairy producers in Nova Scotia similarly achieve a higher output per cow but utilize more labour per hectolitre of milk shipped. Mink producers also appear to utilize more labour per unit of output while achieving comparable or superior production efficiency - the provincial sector's share of national and global production has increased overtime. The notion that agricultural production in Nova Scotia (or some segments) is more labour using due to a more favorable labour force or supply will appear questionable to some horticultural growers. The situation for short term seasonal labour especially within the farming areas with the most concentrated production may be an exception to the industry's overall labour situation.

**Table 3**  
**Agricultural Related Manufacturing Industries**  
**Nova Scotia 1997**

<b>Industry</b>	<b>No. of Establishments</b>	<b>No. of Employees</b>
Animal Food Manufacturing <sup>a</sup>	11	216
Flour Milling	1	55
Frozen Food Manufacturing	8	532
Fruit and Vegetable Canning and Pickling	8	222
Fluid Milk Manufacturing	9	630
Other Dairy Products	8	184
Animal Slaughtering	10	39
Meat Processing and Rendering	17	625
Poultry Processing	3	700
Frozen Bakery Products <sup>b</sup>	1	150
Snack Food Manufacturing	1	185
Concentrate Manufacturing	1	40
Seasoning and Dressing Manufacturing	5	32
Other Food Manufacturers	15	80
Wineries <sup>b</sup>	5	25
Wood Container and Pallet Manufacturing <sup>b</sup>	3	49
Mixed Fertilizer Manufacturing	5	68
Non-Metallic Mineral Products Manufacturing <sup>b</sup>	1	35
Hand Tool Manufacturing <sup>b</sup>	1	3
Machine Shops and Metal Fab. <sup>b</sup>	2	15
Agricultural Implement Manufacturing	<u>3</u>	<u>22</u>
	118	3,907

Source: Derived from the *Nova Scotia Manufacturers 1998-1999*, Nova Scotia Department of Finance

a. Adjusted to include one seafood product firm producing only mink and fox feed.

b. Includes only establishments within this industry with significant linkages with the provincial agricultural industry.

## **Agricultural Related Manufacturers**

Food industries account for the largest component of the Nova Scotia manufacturing sector. Fish processors and some other food manufacturers which have little or no linkages with provincial agriculture are included in this grouping. In turn, there are a number of agricultural related manufacturers such as agricultural implement and fertilizer plants that are outside of the food industry. The Nova Scotia Directory of Manufacturers provides a basis to tabulate agricultural related manufacturers across the province. In 1997, there were 118 manufacturing operations with significant linkages to the provincial agricultural industry. These firms together employ a labour force of 3,907. (See Table 3.) The largest agricultural processing sub-sectors are milk and dairy products, fruit and vegetables (including frozen food manufacturing) and poultry products. There are a wide range of other plants. The largest manufacturing sub-sector supplying agriculture is the feed industry. Agricultural related manufacturing accounts for nine per cent of all manufacturing employment in Nova Scotia.

## **Other Agricultural Related Businesses**

There are a wide range of other agricultural related businesses in the province which are outside the officially defined agricultural and related service industries. Both the farm products trade and farm machinery sales and service businesses are included within the wholesale trade industry. The 1996 Census reported the province's farm product trade labour force at 150 while there are approximately 200 employed by farm machinery and equipment sales and service dealers across Nova Scotia. Some of the agricultural based businesses classified in other sectors include Mosher Limestone (mining), farm accountants (business services), Kings Mutual (insurance), the Halifax Grain Elevator (transportation and storage) and the two farm publications, (Farm Focus and Rural Delivery). There are a number of trucking firms particularly in the Annapolis Valley which are chiefly engaged in moving agricultural and processed products and farm supplies. Such identifiable agricultural related businesses together employ about 500 Nova Scotians. This figure does not include more generic spin-off activities and services such as banking, legal services, general insurance, fuel, building supplies and so on.

## **Rural Labour Force**

Across the sixteen rural counties of the province (excluding only the regional municipalities of Halifax and Cape Breton) agriculture, agricultural services and related manufacturing employs six per cent of the labour force. The industry's contribution of course varies from the most to the least agricultural parts of the rural countryside. The five counties stretching from Annapolis Royal around to Amherst (i.e. Annapolis, Kings, Hants, Colchester and Cumberland) account for about 70-75% of the farming activity in Nova Scotia. Across these same counties in aggregate ten per cent of the overall labour force is attached to agriculture and related sectors. Agriculture is of most importance in the Annapolis Valley and it has played a major role in the superior performance of the local economy of Kings County in comparison to the provincial economy as a whole. [4] In the remaining rural counties, agriculture plays the most prominent roles in Digby, Lunenburg, Pictou, Antigonish and Inverness counties where 3-4% of the local labour forces are involved in farm production directly or in related spin-off activities. (See Table 7.)

**Table 4**  
**Labour Forces of Resource , Goods Producing and Service Industries , Nova Scotia 1986-96**

	<b>1986</b>	<b>1991</b>	<b>1996</b>
All Industries	406,210	439,835	424,820
Agricultural and Related Service Industries	9,130	9,595	9,920
Fishing and Trapping Industries	9,225	9,960	9,685
Logging and Forestry Industries	5,785	5,380	5,185
Mining (Milling) Quarrying and Oil Wells	6,630	5,150	3,885
Manufacturing Industries	51,400	51,825	45,415
Construction Industries	28,380	29,290	26,065
Goods Producing Industries	110,550	111,180	100,155
Service Industries	295,660	328,655	324,665

Source: Statistics Canada, Census of Canada

**Table 5**  
**Labour Forces of (Non-Primary) Food Industries Nova Scotia 1986-91**

	<b>1986</b>	<b>1991</b>	<b>1996</b>
Food Manufacturing Industries <sup>a</sup>	16,720	17,160	13,215
Beverage Manufacturing Industries	1,195	1,055	745
Food, Beverage, Drug and Tobacco Wholesale Trade Industry	3,430	3,785	4,985
Food, Beverage and Drug Retail Industries	17,485	19,460	18,745
Food and Beverage Service Industries	<u>16,865</u>	<u>20,295</u>	<u>22,370</u>
	55,695	61,755	60,060

a Includes employment in the fish products industry and within other food industries (such as confectionary bakeries, etc.) that do not have significant linkage with primary agriculture in Nova Scotia.

Agriculture was the only provincial resource or goods producing industry to experience growth in its labour force over the 1991-96 period. Longer term downward trends continued in the case of forestry and mining, while the fishery's labour force dipped in 1996 after increasing in the 1980s. The slow recovery from the 1990-91 recession also left the labour forces of the other goods producing industries - manufacturing and construction below their levels of the previous two Censuses in 1986 and 1991. Agriculture's share of the overall provincial labour force attached to the resource industries and goods producing industries has increased since the 1970s.

### **Food Sector Employment**

Reports on employment in agriculture or within the "agri-food industry" often encompass the food service, food retail and food wholesale sectors. [1,6] For some purposes, it is useful to consider employment across the overall food system. The reported labour forces of these sectors in Nova Scotia are shown in Table 5. The food service sector has been the source of most of the increased employment among food industries beyond the farm gate. Excluding primary food production (agriculture and the fisheries) these other food industries including all food manufacturing (whether agricultural related, fish products or other manufacturers not related to local primary production) maintained a labour force of 60,000 in 1996. Currently there are six Nova Scotia based Financial Post 500 Companies and three of these are "food companies"- Sobeys, High Liner Foods and Scotsburn Dairy. Farmers Dairy which is ranked 557 nationally, is the next largest company based in Nova Scotia.

There is little mutual dependency between the provincial primary industries of agriculture and fishing and employment or economic activity in the provincial food service, food retail and food wholesaling sectors. Whether agricultural development in Nova Scotia advances appreciably or lags will impact upon the agricultural and related labour forces that were surveyed and discussed above. Events in agriculture and closely related sectors will not substantially affect employment trends nor investment and growth within these other parts of the food system.

**Table 6**  
**Nova Scotia Labour Force by Industry 1996**

	<b>Nova Scotia (18 Counties)</b>	<b>Rural Nova Scotia<sup>a</sup> (16 Counties)</b>
All Industries	424,820	202,230
Agricultural and Related Services	9,925	8,730
Fishing and Trapping	9,685	7,825
Logging and Forestry	5,185	4,430
Mining (Milling), Quarrying and Oil Wells	3,880	1,315
Manufacturing <sup>b</sup>	45,415	31,385
Construction	26,065	13,695
Transportation and Storage	16,245	7,565
Communication and Other Utilities	12,965	4,600
Wholesale Trade	19,560	9,025
Retail Trade	57,205	27,975
Finance and Insurance	11,900	3,625
Real Estate	6,810	2,385
Business Services	18,415	4,775
Government Services	42,225	13,465
Educational Services	32,020	14,065
Health and Social Services	46,715	20,165
Accommodation, Food and Beverage Services	28,720	13,390
Other Services	31,885	13,820

Source: Statistics Canada, Census of Canada, 1996

a. Excludes the Regional Municipalities of Halifax and Cape Breton Counties

b. Includes the agricultural related manufacturing labour force of approximately 3,900 (1997 figure)

**Table 7**  
**Agricultural and Related Labour Forces by County, 1996-97**

County	Agriculture and Related Service Industries	Agricultural Related Manufacturing	All Industries
Shelburne	25	4	7,825
Yarmouth	230	37	12,330
Digby	345	23	9,295
Queens	85	4	5,110
Lunenburg	655	94	21,315
Annapolis	640	87	9,630
Kings	2,530	1,962	28,030
Hants	1,095	79	18,465
Halifax	885	508	178,255
Colchester	920	310	23,180
Cumberland	770	571	14,775
Pictou	585	65	21,405
Guysborough	115	5	4,475
Antigonish	380	27	9,125
Inverness	245	1	9,225
Richmond	0	2	4,335
Cape Breton	305	128	44,335
Victoria	90	-	3,700
<b>Province</b>	<b>9,925</b>	<b>3,907</b>	<b>424,820</b>

Source: Statistics Canada, Census of Canada and (derived from) Nova Scotia Department of Finance, Nova Scotia Manufacturers, 1998-99

**Table 8**  
**Detailed Occupations Unique to Agriculture**  
**Nova Scotia, 1991-96<sup>a</sup>**

	<b>1991</b>	<b>1996</b>
Occupations Unique to Agriculture (Excluding Labourers)	7,665	8,030
Farmers and Farm Managers	2,640	2,690
Agricultural and Related Service Contractors and Managers	20	155
Farm Supervisors and Specialized Livestock Workers	205	190
Nursery and Greenhouse Operators and Managers	340	270
Landscaping Contractors and Managers	180	255
Supervisors, Landscape and Horticulture	305	210
General Farm Workers	3,010	3,120
Nursery and Greenhouse Workers	950	1,145

Source: Statistics Canada, Censuses of Canada 1991-96

a. The occupation data for 1991 and 1996 is not comparable to the previously published 1986-91 data.

### **References**

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