

Introduction

Prior to the introduction of the Fall Survey of Fruit and Vegetables in November of 1996, information made available through the Fruit and Vegetable catalogue was assembled from a variety of sources. Chief among these was our reliance on administrative sources of data. Principally, specialists in the various provincial ministries of agriculture, who worked in collaboration with industry contacts to produce estimates, provided the information. Statistics Canada also conducted a variety of surveys over the years, which targeted specific segments of the industry within a limited number of provinces to help fill the gaps in the data. What emerged from this system of collection was a body of information that was sometimes incomplete.

With the introduction of the Fall Survey of Fruit and Vegetables in 1996, all of the data relating to the production of fruit and vegetables was integrated into a comprehensive and consistent statistical system. While we continue to rely quite extensively on consultations with our counterparts in the various provincial ministries of agriculture (and by extension, their contacts within the industry) to validate the findings of our survey, we are now able to produce a statistical measurement of production without gaps that adheres to standardized concepts, definitions and methodologies.

The area estimates compiled by Statistics Canada, published initially in June of each year, together with import price data collected by Agriculture and Agri-Food Canada are used to initiate tariff protection under "Snapback" provisions of the "Canada – United States Trade Agreement" (CUSTA).

Historic Methodology (pre 1996)

As mentioned earlier, data compiled prior 1996 in the "Fruit and Vegetable Production" publication and its predecessor the "Handbook of Agricultural Statistics", were compiled from a variety of divergent sources. The British Columbia Department of Agriculture prepared estimates of area, production and value for fruit and vegetables. In the province of Ontario the "Ontario Fruit and Vegetable Statistics Committee" prepared similar estimates.

In the remaining provinces, the Agriculture Division conducted two annual surveys to obtain the requisite information. In June of each year a survey was conducted to estimate planted acreage. In the fall a subsequent survey, designed to gather information on yields and prices, was prepared. Thus in the Maritime Provinces, Quebec, Manitoba, Saskatchewan and Alberta the results of these surveys formed the basis of the published estimates. All of the estimates were prepared in consultation with focal points in the various provincial departments of agriculture. The main set of published estimates included in the report covered fruit and vegetables grown commercially intended for sale in the fresh market. Vegetable crops intended for processing were handled differently.

For the main vegetable processing crops, estimates were derived from the results of a processor survey conducted and compiled at Statistics Canada. Initially, data was collected for the main processing crops (Beans, Corn, Peas and Tomatoes). Over the years the list of commodities was expanded to include Asparagus, Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Carrots and Cucumbers. Statistics Canada conducted a census of vegetable processors in an attempt to compile data on contracted acreage, harvested acreage, production and value for the selected commodities.

While the processors survey was clearly intended to collect information from all known firms involved in processing vegetables, there is no indication in the literature about the comprehensiveness of the other surveys. It is conjectured that the surveys conducted were a census of vegetable farms conducted from lists obtained every five years at the conclusion of the census of agriculture. How these lists were maintained in the intervening years can not be surmised.

The literature on the processor surveys is also silent on the exact definitions of variables. We have assumed that "production" is akin to the current "marketed production" concept; while the "value" variable is certainly more analogous with the concept of "manufactures' value added" than it is with the current "farm gate value".

Survey Methodology (1996 to Present)

Currently, the major source of information for this database is the Fall Survey of Fruit and Vegetables, conducted by Statistics Canada. This survey is a sample survey for which data are collected using a computer assisted telephone interview technology (C.A.T.I.). The survey estimates the area planted, area harvested, production and farm gate value for all of the principal fruit and vegetable crops grown in Canada. Area and production for the fresh and processing markets are also estimated as are the farm gate values accruing to producers for sales into each of these markets.

Survey Frame

The survey frame includes all Canadian horticultural farms with the exception of farms producing mushrooms, potatoes or greenhouse vegetables only. These commodities are estimated through other Statistics Canada survey vehicles. Also excluded from the survey frame are farms that are on Indian reserves, community pastures and Hutterite colonies. The survey frame is retained on Statistic Canada's farm register. The farm register is refreshed every five years with the results emanating from the census of agriculture and is maintained in the interim through a process of list collection and verification.

Sample Selection

In the spring of each year a census of all known horticultural farms is conducted. Subsequently, in the fall of each year, all respondents who indicate an intention of cultivating a fruit and/or a vegetable crop through the spring survey are contacted in order to complete crop year data. In order to reduce response burden, small farms having less than two acres of vegetables under cultivation are excluded from this selection. This exclusion is accounted for in the estimation process. For the purpose of sample selection, the survey frame is stratified by province and, within each province, by land area. The farms are homogeneously grouped according to fruit and vegetable area in each province.

Edit and Imputation

A benefit of using the CATI technology for data collection is that data that exceeds certain parameters is immediately brought into question. Interviewers are notified during the course of the interview of potential data errors, which can be relayed to the respondent and corrected immediately. Imputation is used to adjust for incomplete survey answers. The imputation method used is a trend analysis of completed questionnaires to generate averages to be used to impute missing values.

Estimation

The survey data collected are weighted within each stratum in order to produce an estimate which is representative of the population. Weighted historical information is used to take into account small farms being excluded from sampling. Analysis of the most significant contributors and historical comparisons are made, and estimates are reviewed by a panel of provincial department of agriculture consultants prior to publication.

DICTIONARY

Total Area

Total area on any farm operated by a respondent (owned, rented or operated on a share basis) that was cultivated to produce a commercial fruit and/or vegetable crop. Total area would include the bearing and non-bearing portions of area cultivated for fruit production as well as the producing and non-producing area cultivated for the production of vegetables.

Fresh Market Area

That portion of the total area whose production is intended to be sold from the farm, through U-pick systems, open-air stalls, farmers' markets, to retailers, roadside stands, or in the fresh produce section of supermarkets. The cleaning, preparing for packing, packing or bagging of fruit or vegetables for fresh market sales is not considered to be processing.

Processing Market Area

This includes the area of fruit or vegetable whose production will, to some degree, be processed before being sold. Processing would include canning, freezing, pickling or any other activity that would transform the produce from its natural state.

Planted Area

In the database at the "Commercial" level, planted area is the "Total Area" equivalent.

At the "Fresh" level, planted area is the equivalent of the bearing and non-bearing area of fruit and the producing and non-producing area of vegetables intended for fresh market sales.

At the "Processed" level, planted area is the equivalent of the bearing and non-bearing area of fruit and the producing and non-producing area of vegetables intended for processing market sales.

Harvested Area

In the database at the "Commercial" level, harvested area is the total bearing (total producing) equivalent for both the fresh and processing markets.

At the "Fresh" level, harvested area is the equivalent of the bearing (producing) area intended for fresh market sales.

At the "Processed" level, harvested area is the equivalent of the bearing (producing) area intended for processing market sales.

Total Production

Total production refers to the weight equivalent of the total fruit or vegetable crop produced (whether marketed or not). Production is reported in either the imperial unit of measure (pounds) or in the metric (kilograms) and is made available on the database in either thousands of pounds or metric tonnes.

Quantity Marketed

That portion of total production that was actually sold.

At the "Fresh Market" level, the quantity sold from the farm, through U-pick systems, open-air stalls, farmers' markets, to retailers, roadside stands, in the fresh produce section of supermarkets or through some other channel where the produce is sold in its natural state is included.

At the "Processed Market" level, this includes the quantity sold of fruit or vegetables that were, to some degree, processed before being sold. Processing would include canning, freezing, pickling or any other activity that would transform the produce from its natural state.

Total Value Received

The sales value is expressed as remuneration obtained at the “Farm Gate” and is therefore concerned with gross returns to growers. An estimate is provided for each of the two markets (fresh and processing) as well at the total commercial level.

Commercial Market

This is the equivalent of the total of both the fresh and processing markets.