

## **Introduction**

Statistics Canada has conducted an annual survey of the greenhouse industry since 1955, the nursery industry since 1956 and the sod industry since 1982. The surveys were designed to provide insight into the general economic situation of each industry, and are therefore focused on the structure, production inputs, production and disposition of outputs for each industry.

The information provided for the greenhouse and nursery trades industries illustrates the provincial character and distribution for each of the industries. Information on the sod industry, on the other hand, is published at a higher level of aggregation. Data for this industry is available at a regional level for both the maritime and prairie provinces, and provincially for each of the central provinces (Quebec and Ontario).

## **Greenhouse Industry**

Prior to 1986, the target population included all commercial greenhouse growers. In 1986, after extensive consultation with greenhouse industry representatives, the target population was redefined to include only commercial greenhouse operations with a growing area of 7,500 square feet or more. These changes were initiated in order to eliminate hobby farms and non-commercial operations.

Currently (beginning with the 1992 Greenhouse Survey) the target population has been redefined to include all commercial greenhouse operations as identified each five years through the most recently completed Census of Agriculture. The frame is maintained and updated throughout the inter-censal period from lists provided through external sources.

The user is advised that, due to the changed methodology, published estimates between 1986 and 1991 are not directly comparable to those published subsequent to 1992.

Specific exclusions from the survey frame are conservatories maintained for non-commercial purposes, institutional farms, farms on Indian reservations, Hutterite colonies as well as operations from the Yukon and North West Territories. Area under glass or plastic that is intended for the production of plants to be set out on the owners' farm is also excluded. The intention is to collect information from farms that produce greenhouse products. For that reason, those establishments that derive their revenues primarily from either the retailing or wholesaling of greenhouse products are excluded from the universe.

## **Concepts and Definitions**

A greenhouse is defined as an operation where plants are grown under glass, plastic or similar type of protection.

The concept of investment as used in the survey means the present market value of land, buildings and machinery and equipment. In essence, it is the current market value if one wished to acquire the whole range of facilities available. It is not intended to represent the "book" or depreciated value of fixed assets.

All sales figures represent revenues accruing to growers. Published values are net of wholesale and retail trade margins. The breakdown of sales by channel of distribution is intended to help determine market structures.

### **Data on production inputs is collected for:**

Area operated under glass and plastic

Months of operation

Purchases of plant materials

Expenditures on labour (number of employees, gross yearly payroll)

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Expenditures on fuel

Other greenhouse operating expenses (includes production-related inputs such as fertilizers, insecticides etc.)

Other operating expenses (generally expenses on business related activities such as interest expense, taxes and other non-production related expenditures)

Total current market value of assets

**Data on the area, production and value of greenhouse vegetables is collected for:**

Tomatoes

Cucumbers

Lettuce

Peppers

Other (the respondent is asked to specify)

**Data on the number of potted plants produced is collected for:**

Azaleas

Potted Geraniums

Lilies

Poinsettias

Potted Chrysanthemums

Tropical foliage and green plants (includes ferns)

Hanging pots (foliage)

Hanging pots (outer)

Other (the respondent is requested to specify)

**Data on cuttings and propagating material is collected for:**

Chrysanthemums

Poinsettias

Geraniums

Tree Seedlings

Others (e.g. cuttings)

**Data on bedding plants is collected for:**

Ornamental bedding plants

Vegetable bedding plants

**Data on cut flowers is collected for:**

Alstroemeria

Carnations (miniatures or sprays)

Chrysanthemums (standard)

Chrysanthemums (sprays)

Daffodils

Freesia

Gerbera

Irises

Lilies

Roses

Roses (sweetheart)

Snapdragons

Tulips

Others

**A breakdown for the value of sales for flowers and plants is requested for each of the following channels:**

Retail Florists (flower shops, garden centres)

Domestic wholesalers

Mass market chain stores

Other Greenhouses

Direct Exports

Direct sales to the public

Sales to governments and other public institutions

**Sample Selection**

In order to account for the entire survey population, the survey frame is stratified by province and by area. Three strata are created in each province on the basis of the square footage of the operation. Operations with 15,000 square feet under glass or plastic are all surveyed (assigned to a "take-all" stratum). One of every two greenhouses with between 7,500 and 15,000 square feet under glass or plastic is sampled at random, and one of every four operations with an area of less than 7,500 square feet under glass or plastic is selected.

**Edit and Imputation**

A benefit of using the CATI (computer assisted telephone interview) 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.

Apart from being subjected to a series of automated checks, the data are further reviewed by a subject matter specialist for historic consistency. The most significant contributors for each data point in each of the provincial jurisdictions are also individually reviewed.

### Estimation

The survey data are compiled and weighted within each stratum in order to produce estimates representative of the population.

### Sod and Nursery Industries

The survey focuses on operations that grow some or all of the commodity they sell. Firms that only distribute sod or nursery stock or provide landscaping or sod laying services are excluded. Essentially, the survey is designed to provide an indication of state of the primary sod and nursery producing industries.

Prior to 1992, survey estimates were simply tabulated for all commercial operations that responded to the survey and met some basic conditions; reporting firms had to have some sod or nursery growing area and gross annual income in excess of \$75,000.

The current methodology is designed to account for all nursery and sod operations enumerated in the most recently completed Census of Agriculture with the exception of farms that report less than 40 acres of sod (10 acres in the Maritimes) and 5 acres of nursery. Institutional farms, farms on Indian reserves, Hutterite colonies and farms from the Yukon and Northwest Territories are also excluded. The survey frame is continuously supplemented with lists from producer organisations, provincial registries and similar external sources.

### Sample Selection

The survey frame is stratified into 5 regions (Maritimes, Quebec, Ontario, Prairies and British Columbia). The frame is further stratified into homogeneous groups based on the acreage of the operation. Sod and nursery farms with superior productive capacity (significant area) comprise the "take-all" stratum. A random sample is selected from the remaining strata. The survey sample size varies from year to year.

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