

Survey Methods and Questionnaires

The Nursery Grower survey was sent to the USDA, NASS, Michigan Field Office list of nurseries and herbaceous ornamental growers. This list was supplemented by the Michigan Department of Agriculture (MDA) list of licensed nursery growers and plant growers. To qualify, an operation had to have grown at least 0.1 acre of woody ornamentals or herbaceous perennials in 2004 and have planned to sell them either retail or wholesale. There were 1,235 such places. The principal Christmas tree list was the NASS List Sampling Frame. Additional names were provided by the Michigan Christmas Tree Association. To qualify, an operation had to have grown at least 5 acres of trees for sale as Christmas trees. There were 780 operations that met the criteria for Christmas

tree farms.

The data were collected on the attached Nursery Grower and Christmas Tree questionnaires. These forms were developed with input from industry representatives.

Questionnaires were mailed in late December, 2004, with cover letters from the Michigan Nursery and Landscape Association and the Michigan Christmas Tree Association. Two weeks later, those who had not responded were sent a second questionnaire. Telephoning of non-respondents began the last week of January 2005. This was followed by personal enumeration of operators who could not be reached by phone.

The following table is a summary of responses:

Nurseries and Christmas Trees: Response Summary, 2004

Response Category	Nurseries	Christmas Trees
Mail	490	310
Telephone	465	290
Personal Interview	65	25
Refusal	130	105
Inaccessible	85	50
Total	1,235	780

For plant material grown in containers, both the number of containers and the acres used for growing were asked. When respondents provided only the number of containers, the acres were estimated based on the average containers per acre from respondents who gave both.

Estimates of total acres were made for refusals and inaccessibles. Expansion factors were computed for each of the seven MDA regions for both surveys:

(Ac. on Usable Reports+Estimated Ac.)/(Ac. on Usable Reports). These expansion factors were applied to data to account for missing reports.

Some respondents provided acreage but refused to provide income data. Regression and ratio estimators were used to expand missing income data on the Nursery and Christmas Tree surveys, respectively.